Request: **COE-EWSI-1.a**

Topic: **Cost of Debt**

Sub-Topic: **Short Term Interest**

Reference: **Water Services Application MFR Financial Schedule 17-2, 18-1**

i) Please provide the basis and terms upon which short term debt is provided to EWSI by EUI. Is EUI's short term debt interest rate mirrored down to EWSI and if so please explain how the EUI short term interest rate is determined.

ii) Please provide the basis and calculation of the $0.9 million of short term interest expense in Schedule 17-2 forecasted for 2022 to 2026. Is the $0.9 million based on the forecasted short term debt rate and the mid-year short term debt balances? Or is the $0.9 million based on the actual short term interest expense incurred in prior years which would be driven by the monthly short term debt balances throughout the year? What is the basis for forecasting the mid-year short term debt balances for 2022-2026?

EWSI RESPONSE:

i) EUI lends to EWSI using its cash-on-hand or its current borrowings and provides this at a market rate, based on the Canadian prime rate, to EWSI. Market rates for short-term notes are established according to EUI's Short Term Inter-Company Interest Procedure Policy (effective January 1, 2006). According to EUI's Short Term Inter-Company Interest Procedure Policy, interest will be calculated using the market rates that are reported on the last business day of each month, and as published by the Royal Bank of Canada or other such source as may be determined from time-to-time. Interest is based on the month end balance and will be applied to each Canadian Affiliate on an interest-bearing basis. Interest will be charged at the Canadian prime rate for Canadian denominated balances. The Canadian prime rate is 2.45% currently.

EUI's short term debt is issued in accordance with EUI's Short Term Debt Policy and may consist of borrowings under bank credit facilities and/or promissory notes issued under a commercial paper program. The borrowings are actively managed to ensure adequate

liquidity to support all of EUI's ongoing business activities. Interest rates for short-term debt are at rates under bank credit facilities or at current market rates and quoted at the time of transaction by participating banks. EUI's short term debt is utilized as a whole to fund all of its subsidiaries and to support their ongoing business activities, including EWSI. Rates obtained by EUI for short term debt are not mirrored to EWSI.

ii) The basis and calculation of the $0.9 million of short term interest expense forecasted for 2022 to 2026 is provided in Table COE-EWSI-1.a ii)-1. EWSI utilizes a forecast statement of cashflows, which takes into consideration opening (prior year) short term debt balance, and operating, investing, financing activities during the year to calculate an interim short term debt balance (rows 1 to 18 of Table COE-EWSI-1.a ii)-1). An average of the opening short term debt balance and interim short term debt balance is then used to calculate the annual short term interest expense (rows 19 to 23 of Table COE-EWSI-1.a ii)-1).

Table COE-EWSI-1.a ii)-1
EWSI Water – Forecast Statement of Cashflows
2022-2026
($ millions)

		A **2022F**	B **2023F**	C **2024F**	D **2025F**	E **2026F**
	Operating Activities					
1	Net income (before short term interest)	48.9	55.2	63.0	72.4	79.2
2	Depreciation and amortization	58.9	62.7	66.6	69.6	71.7
3	Gains/(loss) on PP&E, net of proceeds of disposal	-	-	-	1.4	-
4	Deferred revenue-customer deposits recognized	(13.1)	(14.2)	(14.8)	(15.4)	(16.0)
5	Deferred revenue-customer deposits received	19.1	14.7	8.1	8.3	8.5
6	Change in non-cash working capital	(1.6)	(1.6)	(1.1)	(1.0)	(1.0)
7	Net cash flow from operating activities	112.2	116.8	121.8	135.3	142.5
	Investing Activities					
8	Purchase of PP&E	(110.6)	(115.6)	(109.6)	(77.5)	(74.8)
9	Net cash flow from investing activities	(110.6)	(115.6)	(109.6)	(77.5)	(74.8)
	Financing Activities					
10	Intercompany long term debt issues	45.0	50.0	95.0	80.0	25.0
11	Interco debt repayments / maturities	(20.9)	(19.4)	(60.4)	(72.0)	(20.5)
12	Dividends paid	(25.0)	(30.0)	(45.0)	(65.0)	(70.0)
13	Net cash flow from financing activities	(0.9)	0.6	(10.4)	(57.0)	(65.5)
14	Change in cash	0.7	1.8	1.8	0.8	2.1
15	Opening loans and borrowings	38.2	38.4	37.5	36.6	36.7
16	Interim loans and borrowings (before short term interest)[(1)]	37.5	36.6	35.7	35.8	34.6

		A **2022F**	B **2023F**	C **2024F**	D **2025F**	E **2026F**
17	Short term interest	0.9	0.9	0.9	0.9	0.9
18	**Final loans and borrowings[(1)]**	**38.4**	**37.5**	**36.6**	**36.7**	**35.4**
	Short Term Interest Calculation					
19	Opening loans and borrowings	38.2	38.4	37.5	36.6	36.7
20	Interim loans and borrowings	37.5	36.6	35.7	35.8	34.6
21	Average loans and borrowings	37.8	37.5	36.6	36.2	35.6
22	Short term interest rate	2.45%	2.45%	2.45%	2.45%	2.45%
23	**Short term interest**	**0.9**	**0.9**	**0.9**	**0.9**	**0.9**

(1) The interim loans and borrowing balance is the annual short term debt balance before short term interest. This balance is used to calculate the annual short term interest expense. The short term interest expense is then added to the interim loans and borrowing balance to calculate the final (ending) loans and borrowings or final short term debt balance for the year.

Request: **COE-EWSI-1.b**

Topic: **Cost of Debt**

Sub-Topic: **Historical Forecast Versus Actual Debt Interest Rates**

Reference: **Water Services Application MFR Financial Schedule 17-3**

i) Please provide a table for each of the debt issues (include description, issue date, maturity date, principal issued) listed in schedule 17-3 for the years 2012 to 2019 that compares the actual interest rate for EWSI against the actual interest rate for EUI debt issuances as well as the interest rate forecasted and approved in the 2012-16 and 2017-2021 EWSI Water Services PBR applications.

ii) Please provide an explanation for how debt issuances for EUI are mirrored down to EWSI, and explain any differences between the EWSI and EUI interest rates.

iii) Please provide an explanation for differences between the EWSI actual and forecasted interest rates for the 2012-2016 and 2017-2021 PBR terms.

EWSI RESPONSE:

i) Table COE-EWSI-1.b i)-1 provides a summary of actual and forecast debt issuances for EWSI over the 2012-2019 period. Columns A to E provide details on actual debt issuances for EWSI, Column F to G provide the forecast interest rates that were included in the EWSI 2012-2016 PBR Application, and Columns H to I provide the actual and forecast rates that were included in the EWSI 2017-2021 PBR Application.

Table COE-EWSI-1.b i)-1
EWSI Historical Forecast Versus Actual Debt Interest Rates
2012-2019
($ millions)

		A	B	C	D	E	F	G	H	I
		Actual Debt Issuances					2012-2016 PBR Application		2017-2021 PBR Application	
	Year	Description	Issue Date	Maturity Date	Principal Issued	Interest Rate	Interest Rate	Type[1]	Interest Rate	Type[1]
1	2012	IC-EUI-80-0070	01-08-12	01-08-42	110	4.62%	5.89%	F	4.62%	A
2	2013	IC-EUI-80-0075	01-12-13	01-12-43	60	4.73%	5.89%	F	4.73%	A
3	2014	IC-EUI-80-0076	01-12-14	30-11-44	40	4.12%	5.89%	F	4.12%	A
4	2015	IC-EUI-80-2015	01-12-15	01-12-45	45	4.41%	5.89%	F	4.41%	A
5	2016	IC-EUI-80-2016	01-12-16	01-12-46	45	4.01%	5.89%	F	4.52%	F
6	2017	IC-EUI-80-2017	01-12-17	01-12-47	65	3.72%	N/A	N/A	4.82%	F
7	2018	IC-EUI-80-2018	03-12-18	01-12-48	55	4.16%	N/A	N/A	4.82%	F
8	2019	IC-EUI-80-2019	17-12-19	17-12-49	80	3.23%	N/A	N/A	4.82%	F

[1] F – Forecast Rate
A – Actual Rate

For reference, Table COE-EWSI-1.b i)-2 provides a summary of actual interest rates on EUI debt issuances over the 2012-2019 period. Caution should be used when comparing the EWSI and EUI interest rates over this period. EWSI and EUI have different requirements and timelines on when debt needs to be issued, this results in EWSI and EUI issuing debt at different times throughout the year. As market interest rates fluctuate throughout the year the timing of EWSI and EUI debt issuances will impact the interest rates received by each entity.

Table COE-EWSI-1.b i)-2
EUI Historical Interest Rates
2012-2019*

	Year	A Issue Date[(1)]	B Interest Rate
1	2012	28-02-12	4.55%
2	2013	N/A	N/A
3	2014	N/A	N/A
4	2015	N/A	N/A
5	2016	N/A	N/A
6	2017	27-11-17	3.55%
7	2018	26-11-18	3.95%
8	2019	08-07-19	3.11%

*Due to the sale of Capital Power Shares, over the 2013-2016 period EUI did not require debt issuances to fund operations.

ii) EUI long-term debt issuances are not mirrored down to EWSI. EUI may or may not issue long-term debt in any given year depending on the overall cash position of EUI and the needs and requirements of all of EUI's operating subsidiaries. For example, from 2013 to 2016 EUI did not require any long-term debt issuances as a result of the Capital Power Corporation transaction and was able to fund EWSI long-term debt issuance requirements through cash on hand. The amount and timing of EUI long-term debt issuances are driven by many factors, in addition to long-term debt funding requirements of EWSI, which will result in EUI having variable timing of debt issuances during any fiscal year (and may result in EUI not requiring long-term debt issuances in a given fiscal year).

EWSI requires regular, annual long-term debt issuances to fund its annual capital expenditure program, and will utilize short-term borrowings throughout the fiscal year and typically do long-term debt issuances late in each fiscal year in order to lock-in long-term cost of financing to match against its long-lived assets. As a result, consistent with other regulated-utility subsidiaries, EWSI follows the stand-alone approach for calculating the cost of long-term debt.

EUI interest rates are determined based on the relevant market conditions on the day that long-term debt is issued. EUI's interest rate for a long-term debt issuance will be based on the relevant market data for the Government of Canada yield and credit spread for the term of debt being issued by EUI. Thus all relevant interest rates for any EUI long-term debt issuance will be based on the current market conditions at the point in time when the debt is issued.

EWSI interest rates are determined based on obtaining relevant market information from banks as to the current Government of Canada yield and EUI's current credit spreads for 30-year long-term debt as of the date of issuance of long-term debt financing for EWSI, and adding a 5 basis points transaction cost. Thus, the relevant interest rate for EWSI's long-term debt issuance will be based on current market conditions at the point in time when long-term debt financing is issued to EWSI. A small risk premium is added to debt issued to the EWSI legal entity to account for the difference in risk profile for EWSI to reflect a BBB+ credit rating for the EWSI legal entity (refer to explanation in EWSI's response to COE-EWSI-1.c iii) below). The calculation of EWSI's most recent debt issuance is shown in Table COE-EWSI-1.c iii)-1.

iii) Two factors contribute to differences between EWSI's actual and forecast interest rates for the 2012-2016 and 2017-2021 PBR terms:

a. **Timing differences**. PBR forecasts are prepared one to one and one-half years in advance of each PBR term. The factors determining the cost of EWSI debt issuances, including: Government of Canada 30-year bond yields; EUI's indicative credit spread; and the EWSI risk premium (if any), are likely to vary between the time the forecast is prepared and the time at which new debt is issued. Over the 2012-2016 and 2017-2021 PBR terms, historically low bond yields were sustained far longer than had been anticipated in EWSI's PBR forecasts which, as noted in Section 4.3.1 of the Water PBR Application, were based on published Government of Canada bond yields and indicative credit spreads from major Canadian banks. Although the risk of forecast to actual differences in interest costs on debt issued during each PBR term is borne by EWSI, the special rate adjustment for rebasing described in Section 12.2.2.1 of the

Water PBR Application ensures that actual to forecast differences in interest costs are incorporated into rates in the subsequent PBR term; and

b. **EWSI Risk Premium**. The cost of EWSI's regulated debt is based on the "standalone" principle, where the cost of debt for regulatory purposes reflects the credit rating for EWSI's regulated Edmonton operations (i.e. a combined rating for Water, Wastewater and Drainage Services), rather than the credit rating for the legal entity EWSI, which has both regulated and non-regulated operations, or its parent company, EUI. This principle is intended to ensure that ratepayers have cost responsibility commensurate with the risks of the utility.

Since 2012, the forecast cost of debt in EWSI's PBR applications has been based on an indicative credit rating for EWSI's regulated Canadian operations from DBRS of A(low). When preparing this response, EWSI found that although interest rates on intercompany notes issued to EWSI in 2012 and 2013 were based on an A- credit rating (equivalent to A(low)), commencing in 2014, interest rates on new long-term debt issuances have reflected a BBB+ credit rating. The difference in credit rating has arisen because EUI issues long-term debt to the EWSI legal entity, rather than to EWSI's regulated Canadian operations. Besides its regulated Canadian operations in the regulated business units, the EWSI legal entity includes commercial operations, which, because of their higher business risk, results in an indicative credit rating for the EWSI legal entity of BBB+.

EWSI has summarized the differences in interest rates on debt issuances from 2014 to 2021 in Table COE-EWSI-1.b iii) b-1 below. This table compares the actual interest rate on intercompany loans from EUI to the EWSI legal entity (column A) to the A(low) interest rate (column B). The difference in interest rates (column C) is the credit spread adjustment or "risk premium" between A(low) and BBB+. This premium varies from year-to-year in response to market conditions.

Table COE-EWSI-1.b iii) b-1
Adjustment to Interest Rates on Long Term Debt Issuances
2014 to 2021

		A	B	C
		Interest Rate on Long Term Debt Issues		
	Year	Per Application	A (low)	Difference
1	2014	4.12%	4.04%	0.08%
2	2015	4.41%	4.20%	0.21%
3	2016	4.01%	3.82%	0.19%
4	2017	3.72%	3.58%	0.14%
5	2018	4.16%	4.03%	0.13%
6	2019	3.23%	3.13%	0.10%
7	2020	2.73%	2.69%	0.04%
8	2021	3.10%	3.00%	0.10%

Because the PBR forecasts are based on an A(low) credit rating, issuance of BBB+ debt has no impact on the PBR term in which it is issued; the increased cost of BBB+ debt only affects the calculation of the average cost of debt when the revenue requirement is rebased for the subsequent PBR term. Therefore, higher cost BBB+ debt issued between 2014 and 2016 has no effect on PBR rates prior to 2017.

EWSI has calculated that the effect of repricing BBB+ debt issued between 2014 and 2016 to A(low) would reduce Water and Wastewater's 2017-2021 requirements by less than $0.3 million annually ($90 thousand annually for Wastewater and $190 thousand annually for Water), differences that would have negligible impacts on customers.

The effect of repricing BBB+ debt to A(low) has more of an impact on 2022-2024/2026 revenue requirements. Table COE-EWSI-1.b iii) b-2 shows that repricing this debt reduces revenue requirements by approximately $0.5 million per year over the 2022-2026 PBR term for In-City Water and Fire Protection and $0.4 million per year over the 2022-2024 PBR term for Wastewater. Therefore, EWSI proposes to adjust the average cost of debt for the 2022-2024/2026 PBR term to reflect the A(low) credit ratings on long term debt issued between 2014 and 2021. This adjustment will be incorporated into EWSI's compliance filing.

Table COE-EWSI-1.b iii) b-2
Reduction in 2022-2024/2026 Revenue Requirements
from Repricing 2014 to 2021 Debt Issuances
($ millions)

		A 2022	B 2023	C 2024	D 2025	E 2026
	In-City Water and Fire Protection					
1	Average Cost of Debt per PBR Application	4.22%	4.15%	3.91%	3.74%	3.75%
2	Adjusted Average Cost of Debt	4.16%	4.09%	3.85%	3.68%	3.70%
3	Reduction in average cost of debt	0.06%	0.06%	0.06%	0.06%	0.06%
	Rate Base Funded by Debt					
4	In-City	711.3	736.5	761.6	771.8	773.9
5	Fire Protection	85.2	87.7	89.9	91.6	93.3
	Reduction in Debt Return					
6	In-City	0.4	0.4	0.4	0.4	0.4
7	Fire Protection	0.1	0.1	0.1	0.1	0.1
8	**Reduction in Forecast Debt Return**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**
	Wastewater					
9	Average Cost of Debt per PBR Application	3.88%	3.80%	3.89%		
10	Adjusted Average Cost of Debt	3.76%	3.70%	3.79%		
11	Difference	0.11%	0.11%	0.10%		
12	Mid-Year Debt Capital	327.7	330.3	360.5		
13	**Reduction in Debt Return**	**0.4**	**0.3**	**0.4**		

EWSI is not proposing to adjust the pre-2022 Drainage debt costs for the following reasons:

- Prior to the release of DBRS's indicative rating letter (Appendix C to the 2022-2024/2026 PBR Applications), Drainage did not have an indicative credit rating and some debt was issued at rates that EUI considered appropriate given its assessment of the risks of Drainage operations;

- Between 2018 and 2021, EUI provided Drainage with one-time financing in the form of $510 million of short-term notes at preferential rates of 1.75% to 3.01%. These rates are less than A(low) rates at the date of issuance and were intended to enable Drainage to improve its ROE as it transitions to the same PBR framework as Water and Wastewater. As shown in Financial Schedule 17-3, the short-term notes will be rolled into long-term debt with terms of 27 to 29 years, prior to the beginning of the 2022 to 2024 PBR period. The forecast interest rates on the 27 to 29 year debt issuances are at rates determined

prior to the issuance of the DBRS indicative rating for EWSI's regulated operations (including Drainage), at the same time that the short-term notes were issued; and

- Over the 2018-2021 PBR period, approximately $511 million of debt assumed from the City of Edmonton was rolled into EUI notes at City of Edmonton rates which were based on AA or AA+ credit ratings. Rate payers will continue to benefit from these low rates over the next PBR term.

Request: **COE-EWSI-1.c**

Topic: **Cost of Debt**

Sub-Topic: **2022-2026 Forecast Debt Interest Rate**

Reference: **Section 4.3.2 of Water Services Application**

Preamble: *As noted in paragraph 230 of the Water Services Application, "This 2022 forecast cost of debt for EWSI is determined as follows: the 2022 average yield on 30-year Government of Canada bonds of 1.83% based on the average forecasts from three Canadian banks published in October 2020; plus EUI's indicative 30-year credit spread of 1.62% based on the average forecasts from six Canadian banks published Q4 2020; plus a 0% risk premium for EWSI over EUI's cost of debt reflecting that EWSI and EUI have the same credit rating; plus a transaction cost of 0.05%".*

As noted in the footnote of paragraph 230 of the Water Services Application "Historically EWSI's cost of new debt calculation relied on 20-year Government of Canada bond yields and 20-year EUI credit spreads. For this PBR term, EWSI has adjusted the methodology to use the 30-year yields to calculate the stand-alone cost of debt which is more appropriate given that its long-term debt is used to fund assets with lives that generally far exceed 30 years".

i) Please provide a chart showing the breakdown of the three Canadian bank forecasts and the calculation of the 1.83%.

ii) Please provide a chart showing the breakdown of the six Canadian bank forecasts and the calculation of the 1.62%.

iii) Please provide a chart comparing the most recent actual debt issuance for EUI/EWSI in 2020 against the 3.5% forecast, broken down between the Government of Canada bond yield, the credit spread, and the transaction fee. Please explain the reason for any differences.

iv) As noted in the application, EWSI has adjusted its methodology for calculating the forecasted debt rate from 20 year to 30 year debt. Please provide the forecasted debt rate for 2022-2026 based on 20 year debt.

v) Please explain the conditions under which EPCOR would issue 20 year versus 30 year debt. Does it depend in part on the demand of the financial markets and the spread in interest rates between 20 year and 30 year debt? Please comment if it would be more appropriate to forecast the debt rate for 2022-2026 based on an average of the forecasted 20 year and 30 year debt rates.

EPCOR RESPONSE:

i) Refer to Table COE-EWSI-1.c i)-1

Table COE-EWSI-1.c i)-1
30 Year Government of Canada Long-Term Bond Yield for 2022
Average of Three Bank Forecasts
(%)

		A **Q1**	B **Q2**	C **Q3**	D **Q4**	E **2022**
1	Scotia Bank (October 14, 2020)	1.70	1.75	1.85	1.90	
2	CIBC (October 21, 2020)		1.60		1.65	
3	TD Bank (October 19, 2020)	1.80	1.90	2.00	2.10	
5	Average	1.75	1.75	1.93	1.88	1.83

ii) Refer to Table COE-EWSI-1.c ii)-1

Table COE-EWSI-1.c ii)-1
30 Year Indicative Credit Spread for EUI
Average of Six Bank
(%)

		A **EUI 30-year Indicative Credit Spread**
1	Scotia Bank (November 2, 2020)	1.57
2	CIBC (November 2, 2020)	1.68

	A **EUI 30-year Indicative Credit Spread**
3 TD Bank (November 2, 2020)	1.60
4 Royal Bank (November 2, 2020)	1.60
5 National Bank (November 2, 2020)	1.62
6 Bank of Montreal (October 30, 2020)	1.65
Average	1.62

iii) Refer to Table COE-EWSI-1.c iii)-1.

Table COE-EWSI-1.c iii)-1

Most Recent Debt Issuances for EWSI and EUI in 2020	A EWSI	B EUI
1 Issuance Date	December 2, 2020	May 19, 2020
2 Term	30 Years	30 Years
3 Amount	$35M	$300M
4 Government of Canada 30-year Yield	1.20%	1.11%
5 EUI 30-year Credit Spread	1.44%	1.79%
6 EWSI Risk Premium	0.10%	-
7 Transaction Fee	0.05%	0.05%
8 Effective Interest Rate	2.79%	2.95%

The difference in Government of Canada 30-Year Yield and Credit spreads is due to regular market fluctuations for both of these factors. Both the Government of Canada 30-Year Yield will fluctuate on a daily basis and will only be locked into EUI or EWSI's long-term borrowing rates when a long-term debt issuance is undertaken.

iv) EWSI was able to find only one of the Canadian banks providing indicative credit spreads for 20-year debt. All of the other banks provide only 10-year or 30-year indicative credit spreads. Due to these limitations, EWSI has estimated the 20-year credit spreads based on averaging the 10 and 30-year credit spreads as indicated in Table COE-EWSI-1.c iv)-1 below.

Table COE-EWSI-1.c iv)-1
EWSI Forecast Cost of New Debt Issues
Based on 20-year Debt
2022-2026
(%)

		A **2022 F**	B **2023 F**	C **2024 F**	C **2025 F**	C **2026 F**
1	Cost of Debt for New Debt Issues	3.22%	3.22%	3.22%	3.22%	3.22%

v) EWSI selected the 30-year Government of Canada yields as the basis for calculating its stand-alone cost of debt because the 30-year term most closely matches with the average asset lives for which that debt is used to fund. The composite average asset life for all of EWSI's Drainage assets is 53.0 years (per Table 5.4-1 of the Drainage Application). The composite average asset life for all of EWSI's Wastewater Treatment assets is 32.9 years (per Table 4.4-1 of the Wastewater Treatment Application). The composite average asset life for all of EWSI's Water assets is 49.4 years (per Table 4.4-1 of the Water Application).

The selection of 30-year debt instead of 20-year debt is not dependent on either the demand of the financial markets nor the spread in interest rates between 20-year and 30-year debt. The banks generally do not provide indicative spreads on debt that is longer than 30-years, so the 30-year debt provides quoted by the banks provides the closest term matching EWSI's asset lives.

It would not be more appropriate to forecast the debt rate for 2022-2026 based on the average of the forecasted 20-year and 30-year debt rates because the composite average asset lives for the Water, Wastewater Treatment and Drainage operations all exceed 30 years.

Request: **COE-EWSI-1.d**

Topic: **Cost of Debt**

Sub-Topic: **Deferral Account for Interest Rate Risk**

Preamble: *As noted in paragraph 229 of the Water Services Application, "Under EWSI's PBR Framework, the risk of interest rate fluctuations is entirely borne by EWSI and is not passed on to its customers. Acceptance of the interest rate risk is another significant risk factor that differentiates EWSI's PBR approach from the AUC PBR approach. Under the AUC PBR, Alberta electric and gas utilities pass on interest rate risk to their customers through rate adjustments. As such, this risk factor represents another component of the EWSI risk premium above the AUC's Generic Cost of Capital as further discussed in Section 9.2 to the Application".*

i) Please clarify the justification for and approach used under the AUC PBR methodology to pass on the interest rate risk to customers. Is this a deferral account for the difference between the PBR approved forecast versus actual debt interest rates? Is this approach applied to all AUC PBR electric and gas utilities and for which PBR terms has it been applied?

ii) Please explain why it is appropriate for EWSI to bear the risk of interest rate fluctuations for the 2022-26 PBR term whereas this interest rate risk is passed onto customers for Alberta electric and gas utilities under AUC approved performance based regulation?

iii) Please comment on both the benefits and implications if EWSI's interest rate risk was passed onto customers for the 2022-2026 PBR term through a deferral account.

iv) Deferral accounts may be warranted in limited circumstances where items are material, cannot be reasonably forecasted and are outside the control of the Corporation. Please comment on whether a deferral account for interest rate risk is warranted for the EWSI 2022-26 PBR term given the historical differences between the actual and forecasted interest rates for the 2012-2016 and 2017-2021 PBR terms, as well as the current and forecast economic environment.

v) Please explain and quantify the impact on the requested return on equity of 9.95% for EWSI if the interest rate risk was passed onto customers through a deferral account.

EPCOR RESPONSE:

i) Under the AUC PBR approach, the utility's debt cost rates are estimated using placeholder values which reflect the most recently available debt cost rates rather than a forecast of future costs. These placeholder debt cost rates are used to establish the distribution tariffs in the utility's PBR application. When actual debt cost rates become known, the utility can then flow through into its future tariffs the difference between the actual and placeholder debt cost rates.

To illustrate, suppose that the utility files a distribution tariff application in 2020 with a 2021 test year. The forecast debt cost rate placeholders would be developed from the utility's 2019 Rule 005 filing. Thus, the distribution tariff in 2021 would reflect 2019 debt cost rate (i.e., a two-year lag). Once actual debt cost rate is known for 2021, the utility will then either collect or refund the difference between actual debt cost rate and placeholder debt cost rate in its future tariffs. This is essentially a deferral account treatment for the difference between the PBR approved forecast versus debt cost rate.

EWSI cannot comment on what was the AUC's justification for this approach.

It is EWSI's understanding that this approach is currently applied to all AUC-regulated electric and gas distribution utilities under PBR regulation. This approach has been applied to capital expenditures eligible for capital tracker treatment for the period 2013 to 2017 based on AUC's initial PBR framework as set out in Decision 2012-237. In AUC Decision 20414-D01-2016 (Errata), the AUC set out the framework for the second generation PBRs for the 2018 to 2021 PBR period. For this time period, the same approach on debt cost rates has been applied to all capital expenditures which includes capital expenditures under capital tracker treatment and those under k-bar.

Alberta's electric transmission utilities are under cost of service regulation and do not include the same adjustments for differences between actual and placeholder debt cost

rates in their tariffs. Electric transmission utilities bear the risks of differences in the debt cost rates similar to EWSI. However, test periods for electric utilities have historically been one to three year periods so the risk associated with differences in debt cost rates is lower compared to EWSI's risk.

ii) Regulators have approved many different and acceptable variations of performance-based regulation. Some include deferral account mechanisms for certain items and others, such as EWSI's PBR, do not include any deferral accounts. In EWSI's view, it is entirely appropriate for EWSI to continue to bear the risk of interest rate fluctuations for the 2022-2026 PBR term and adding deferral accounts to EWSI's PBR structure to pass on these risks to customers is undesirable and problematic for the following three reasons:

1. **The incentives and objectives of Performance-Based Regulation (PBR) are philosophically inconsistent with cost of service/deferral account regulation.**

   The essence of "performance-based regulation" is that utilities should be placed at risk and should reap the rewards or suffer the losses for superior or inferior performance. Philosophically and practically, the use of deferral accounts blunts the very purpose and incentives for which PBR was created in the first place. The danger in departing from these overarching goals and selectively instituting deferral accounts is that parties to the regulatory process are then encouraged to "cherry pick" based on whether they believe that outcomes will benefit utilities or customers; and utilities will be encouraged to spend fewer resources on superior performance in areas where deferral accounts exist and focus instead on superior performance in areas where they are placed fully at risk. In short, the use of deferral accounts for all but the most extraordinary risks is philosophically antithetical to the goals and objectives of performance-based regulation.

2. **Transferring forecast risk to customers erodes the stability and predictability of rates.**

   EWSI – and not its customers - bears forecast risk by having no deferral accounts. This approach ensures that rates charged to customers remain stable and predictable

throughout the PBR term and do not require annual rate adjustments to pass cost variances to customers. Rate stability and predictability is an important principle of rate setting noted by the American Water Works Association and other rate setting guidelines (AWWA Principles of Water Rate Setting M1 Manual). This PBR framework has been in place for EWSI's water operations since 2002 when the PBR was first established. EWSI considers that this PBR framework provides a reasonable and straightforward approach and has been successful for both EWSI's customers and the utility. EWSI considers that its proposed 9.95% return on equity for the 2022-2024 and 2022-2026 PBR Applications fairly compensates EWSI for this risk.

3. **Adding deferral accounts to EWSI's PBR structure may require adjustments to the equity risk premium and it is difficult to reliably estimate the individual risk factors reflected in the equity risk premium.**

EWSI's approach to determining the appropriate risk premium above the GCOC was not based on a quantification of the individual risk factors identified in Appendix D. As explained in Appendix D, discussions with the cost of capital experts revealed that quantifying the individual risk factors to derive a risk premium is problematic as there is no basis to adequately do so. Thus, a more reliable approach to estimating an appropriate risk premium is to consider the difference between a fair return for EWSI (supported by traditional cost of capital methods) and the AUC's GCOC. This was the approach used by Grant Thornton in its 2016 Report to derive EWSI's risk premium.

EWSI has attempted to derive an approximation of the risk premium associated with the debt cost rate forecast risk in its response to COE-EWSI-1.d v) below; however, this same method could not be easily applied to quantify other risk factors such as consumption forecast risk or the risk associated with higher contributed capital. Even if the other risk factors could be quantified, there may be overlapping or offsetting components of each risk (i.e., covariances among risks) which would need to be quantified on some basis to derive an appropriate risk premium. Indeed, this is a shortcoming of EWSI's studies of debt cost rate forecast risk (in response to COE-EWSI-1.d v)); but there is no reliable way to avoid the problem.

iii) Please refer to EWSI's response to COE-EWSI-1.d ii) above.

iv) Please refer to EWSI's response to COE-EWSI-1.d ii) above.

v) Introduction

If the risks associated with inaccurate forecasting of short- and long-term interest costs were to be "passed on to customers through a deferral account," then the downward adjustment to the 9.95% common equity rate of return for EWSI's Water Services operations to reflect lesser debt cost forecasting risk is 10 – 15 basis points. Similarly, the downward adjustment to EWSI's Wastewater Treatment common equity rate of return for the same purpose is 15 – 20 basis points. These conclusions rest on an analysis of *Decision 22570-D01-2018* (the 2018 GCOC Decision)[1] and statistical studies using 1999 – 2020 Treasury bill yields and yields on long-term bonds.

The risk faced by the common shareholder is that actual debt costs will exceed forecast debt costs so that the achieved common equity rate of return will be less than the authorized common equity rate of return. The appropriate downward adjustment to the common equity rate of return if a deferral account is instituted therefore depends on: (i) the potential magnitude of a forecast error on the common equity rate of return in the absence of the deferral account; (ii) the length of time between when the forecast is made and when any "true up" takes place; (iii) whether or not the "true up" is prospective or retrospective; and (iv) the degree to which investors are risk averse and therefore value the risk transfer.

It is not possible to establish all of these parameters with certainty; however, it is possible to determine reasonable orders of magnitude and translate these into indicators of an appropriate downward adjustment.

Three Debt Cost Recovery Methods

[1] *Decision 22570-D01-2018* was handed down on August 2, 2018.

In this part of the Response, EWSI describes debt cost recovery methods for EWSI, EPCOR Transmission Inc. (ETI) and EPCOR Distribution Inc. (EDI).

EWSI's rates are currently established by the City under a five-year PBR plan. Short- and long-term debt cost forecasts are prepared for the City's consideration; and these forecasts are used to establish annual interest costs. On the assumption that the City's EWSI decision is handed down in, say, 2021 prior to the commencement of a five-year 2022 – 2026 PBR period, there is a "One-Year Forecast Risk" that the 2022 actual cost rate will exceed the forecast cost rate. There is a "Two-Year Forecast Risk" that the 2023 actual cost rate will exceed the forecast cost rate. There is a "Three-Year Forecast Risk" that the 2024 actual cost rate will exceed the forecast cost rate and so on.

In the final year of the PBR period, EWSI will prepare a new application and develop new forecasts for the next PBR period. EWSI is not, however, permitted to recover or "true up" past differences between actual and forecast costs. Thus, EWSI is fully exposed to the forecast risks described above for the duration of the PBR period.

With one notable difference, the AUC applies a debt cost forecast regime to ETI similar to what the City currently applies to EWSI. The AUC establishes forecast short- and long-term debt costs for ETI during the year before the commencement of ETI's test period. These forecasts remain in place during the test period and may only be changed in the next test period. As with EWSI, there is no retrospective recovery of any differences between actual and forecast debt costs. The notable difference is that ETI's test periods have historically been two- or three-year periods, whereas EWSI's PBR periods have been five-year periods. Thus, EWSI is qualitatively exposed to somewhat greater risk than ETI, because EWSI faces a "Four-Year Forecast Risk" and a "Five-Year Forecast Risk" whereas ETI does not.

The shareholders of both EWSI and ETI face debt cost forecasting risks, because there is no retroactive "true up" of forecast to actual costs. The situation facing EDI is, however, different. EDI's debt costs are estimated using placeholder values which reflect the most recently available cost rates rather than a forecast of future cost rates. When actual costs

become known, EDI flows through its past differences between the actual and placeholder cost rates into future customer rates.

To illustrate, suppose that EDI files a rate application in 2020 with a 2021 test year. The debt cost placeholders are developed from EDI's 2019 Rule 005 filing. Thus, rates for distribution service in 2021 will reflect 2019 debt cost rates (i.e., a two-year lag). Once actual debt cost rates are known for 2021, EDI will then either collect or refund the difference between actual debt cost rates and placeholder debt cost rates. In short, EDI faces less risk in this respect than either EWSI or ETI, because EDI retroactively collects (refunds) differences between actual and placeholder debt cost rates.

The qualitative inference from this comparison is that, all things equal, EWSI should be awarded a higher rate of return than either ETI or EDI. In the next part of this Response, various aspects of the AUC's 2018 Generic Cost of Capital Decision are considered.[2]

Analysis of the 2018 Generic Cost of Capital Decision

In the 2018 GCOC Decision, the AUC considered the appropriate deemed common equity ratios and rates of return on common equity for a variety of transmission and distribution utilities including EDI and ETI. The Commission states:

> *In satisfying the fair return standard, the Commission is required to determine a fair ROE for the affected utilities. In Decision 2009-216 (2009 GCOC Decision), Decision 2011-474 (2011 GCOC Decision), Decision 2191-D01-2015 (2013 GCOC Decision) and the 2016 GCOC Decision, the Commission established an ROE that uniformly applied to all of the affected utilities and accounted for particular business risks faced by the affected utilities by incorporating any required adjustments into their respective approved deemed equity ratios, either collectively or on an individual basis. The Commission adopted the same approach in this decision.*[3]

[2] *Decision 22570-D01-2018*, August 2, 2018.

[3] *Decision 22570-D01-2018*, August 2, 2018, pages 4-5.

Thus, any risk differences between EDI and ETI would have been reflected in the equity ratios awarded to the companies and not in the generic rate of return on common equity.

In its consideration of the relative business risks of the various utilities in the 2018 GCOC Decision, the AUC states:

> *In this decision, the Commission will balance the financial risks as examined in the credit metric calculations, and its analysis of business risks, including utility sector business risks, in arriving at its final deemed equity ratio determinations. The Commission notes that no parties identified any significant business risk differences between the distribution utilities and the transmission utilities that would justify different deemed equity ratios for the two sectors.*[4]

In short, none of the parties to the proceeding considered that there were business risk differences between EDI and ETI that would be sufficient to justify differences in deemed equity ratios. Moreover, there is no business risk justification for differences in rates of return on common equity given the AUC's decision to reflect risk differences in equity ratios only.

The AUC states:

> *The Commission has determined that a deemed equity ratio of 37 per cent for both distribution and transmission utilities, with the exception of AltaGas, including those which pay income tax and those which currently are income tax exempt or do not currently pay income tax satisfies the fair return standard when combined with an 8.5 per cent approved ROE for 2018 to 2020, and will enable the affected utilities to maintain a credit rating in the A-range.*[5]

[4] *Decision 22570-D01-2018*, August 2, 2018, pages 160-161.

[5] *Decision 22570-D01-2018*, August 2, 2018, page 165.

Thus, the Commission concluded that any business risk differences which might arise between transmission and distribution utilities were not sufficient to justify material differences in either deemed common equity ratios or common equity rates of return. Moreover, the 2018 GCOC Decision does not even contain a discussion of differences in how debt cost rates are forecast and "trued up" or otherwise at some future time.

The inference from this analysis of the 2018 GCOC Decision is that the risk difference between a utility whose shareholders must absorb debt cost rate forecasting risk for up to three years (ETI) and a utility whose customers absorb that risk (EDI) is not sufficient to justify a material rate of return difference. This inference assumes that there are no other offsetting business risk considerations.[6] It is possible, however, that a meaningful risk difference could arise when the forecast period is extended to five years in the circumstances of EWSI.

The balance of this Response deals with statistical estimates of the common equity rate of return adjustment if debt cost rate forecasting risks are transferred to EWSI's customers.

Statistical Estimates of the Common Equity Rate of Return Adjustment

Table COE-EWSI-1.d v)-1 sets out annual average auction yields on new one-year treasury bills (i.e., Short-Term Yields) and new 30-year Government of Canada bonds (i.e., Long-Term Yields) reported by the Bank of Canada.7 The One-Year Short-Term Differences and One-Year Long-Term Differences show the year-to-year changes in the relevant yield series.

On the assumption that the current year's yield constitutes the "best forecast" of next year's yield, the year-to-year changes in yields constitute a reasonable estimate of

[6] For example, EDI has a lower proportion of fixed revenue than ETI. Thus, EDI, all things equal, is exposed to greater revenue forecast risk than ETI.

[7] Each year's annual value is the simple average of the yields at auction for each of the issues during the year. The last full year for which the Bank provides auction yield data is 1999.

experienced forecast errors in a regulatory regime where debt cost differences are "trued up" after one year. These errors are positive if the forecast yield exceeds the actual yield and negative if the actual yield exceeds the forecast yield. Risk-averse investors are naturally more concerned about the negative values (hereafter, Shortfalls), because Shortfalls are associated with a failure to forecast a rise in interest rates and result in a diminished rate of return, all things equal.[8] The probability with which a Shortfall arises is referred to as its Shortfall Probability.

Table COE-EWSI-1.d v)-1
Differences Between One-Year Actual and Forecast Debt Costs

	Year	A Short-Term Yields (%)	B One-Year Short-Term Differences (%)	C Long-Term Yields (%)	D One-Year Long-Term Differences (%)
1	1999	5.17		5.76	
2	2000	5.93	(0.76)	5.67	0.09
3	2001	3.99	1.94	5.86	(0.19)
4	2002	3.04	0.95	5.64	0.22
5	2003	3.05	(0.01)	5.35	0.29
6	2004	2.57	0.48	5.18	0.17
7	2005	3.09	(0.52)	4.57	0.61
8	2006	4.17	(1.08)	4.31	0.26
9	2007	4.33	(0.16)	4.30	0.01
10	2008	2.65	1.68	3.96	0.34
11	2009	0.65	2.00	3.92	0.04
12	2010	1.06	(0.41)	3.75	0.17
13	2011	1.17	(0.11)	3.14	0.61
14	2012	1.08	0.09	2.49	0.65
15	2013	1.06	0.02	2.78	(0.29)
16	2014	0.99	0.07	2.83	(0.05)
17	2015	0.56	0.43	2.24	0.59
18	2016	0.55	0.01	2.12	0.12
19	2017	0.98	(0.43)	2.24	(0.12)
20	2018	1.83	(0.85)	2.42	(0.18)

[8] To illustrate, the 2012 Long-Term Yield is 2.49%; and the 2013 Long-Term Yield is 2.78%. If the 2012 yield were used to predict 2013 bond yields, then that prediction would create an error of *negative* 29 basis points (= 2.49% *less* 2.78%), with the 2013 bond yield having been *understated* by 29 basis points. This would be of concern to a common equity investor, because the 29 basis points debt cost rate understatement would diminish the achieved rate of return on common equity.

	Year	A Short-Term Yields (%)	B One-Year Short-Term Differences (%)	C Long-Term Yields (%)	D One-Year Long-Term Differences (%)
21	2019	1.73	0.10	1.66	0.76
22	2020	0.43	1.30	1.18	0.48

As described in the previous section of this Response, EWSI is currently exposed to one-year, two-year, three-year, four-year and five-year debt cost forecast risks; and Table COE-EWSI-1.d v)-2 shows the full array of actual/forecast differences for the 2000 – 2020 period based on short-term yields.[9]

Table COE-EWSI-1.d v)-2
One- to Five-Year Differences in Actual and Forecast Short-Term Debt Costs

	Year	A One-Year Forecast %	B Two-Year Forecast %	C Three-Year Forecast %	D Four-Year Forecast %	E Five-Year Forecast %
1	2000	(0.76)				
2	2001	1.94	1.18			
3	2002	0.95	2.89	2.13		
4	2003	(0.01)	0.94	2.88	2.12	
5	2004	0.48	0.47	1.42	3.36	2.60
6	2005	(0.52)	(0.04)	(0.05)	0.90	2.84
7	2006	(1.08)	(1.60)	(1.12)	(1.13)	(0.18)
8	2007	(0.16)	(1.24)	(1.76)	(1.28)	(1.29)
9	2008	1.68	1.52	0.44	(0.08)	0.40
10	2009	2.00	3.68	3.52	2.44	1.92
11	2010	(0.41)	1.59	3.27	3.11	2.03
12	2011	(0.11)	(0.52)	1.48	3.16	3.00
13	2012	0.09	(0.02)	(0.43)	1.57	3.25
14	2013	0.02	0.11	0.00	(0.41)	1.59
15	2014	0.07	0.09	0.18	0.07	(0.34)
16	2015	0.43	0.50	0.52	0.61	0.50
17	2016	0.01	0.44	0.51	0.53	0.62
18	2017	(0.43)	(0.42)	0.01	0.08	0.10
19	2018	(0.85)	(1.28)	(1.27)	(0.84)	(0.77)
20	2019	0.10	(0.75)	(1.18)	(1.17)	(0.74)
21	2020	1.30	1.40	0.55	0.12	0.13

[9] The One-Year Forecast values in Table COE-EWSI-1.d v)-2 correspond to the One-Year Short-Term Differences in Table COE-EWSI-1.d v)-1.

The average and standard deviation of the 95 differences in Table COE-EWSI-1.d v)-2 are 0.56% and 1.36% respectively.

The results of a similar analysis using long-term bond yields is presented in Table COE-EWSI-1.d v)-3.

Table COE-EWSI-1.d v)-3
One- to Five-Year Differences in Actual and Forecast Long-Term Debt Costs

	Year	A One-Year Forecast %	B Two-Year Forecast %	C Three-Year Forecast %	D Four-Year Forecast %	E Five-Year Forecast %
1	2000	0.09				
2	2001	(0.19)	(0.10)			
3	2002	0.22	0.03	0.12		
4	2003	0.29	0.51	0.32	0.41	
5	2004	0.17	0.46	0.68	0.49	0.58
6	2005	0.61	0.78	1.07	1.29	1.10
7	2006	0.26	0.87	1.04	1.33	1.55
8	2007	0.01	0.27	0.88	1.05	1.34
9	2008	0.34	0.35	0.61	1.22	1.39
10	2009	0.04	0.38	0.39	0.65	1.26
11	2010	0.17	0.21	0.55	0.56	0.82
12	2011	0.61	0.78	0.82	1.16	1.17
13	2012	0.65	1.26	1.43	1.47	1.81
14	2013	(0.29)	0.36	0.97	1.14	1.18
15	2014	(0.05)	(0.34)	0.31	0.92	1.09
16	2015	0.59	0.54	0.25	0.90	1.51
17	2016	0.12	0.71	0.66	0.37	1.02
18	2017	(0.12)	0.00	0.59	0.54	0.25
19	2018	(0.18)	(0.30)	(0.18)	0.41	0.36
20	2019	0.76	0.58	0.46	0.58	1.17
21	2020	0.48	1.24	1.06	0.94	1.06

The average and standard deviation of the 95 differences in Table COE-EWSI-1.d v)-3 are 0.62% and 0.49% respectively.

The positive averages of the differences in Tables COE-EWSI-1.d v)-2 and COE-EWSI-1.d v)-3 indicate that investors have, on balance, benefitted from forecast errors.

Nevertheless, the standard deviations of the differences are not immaterial – especially in respect of the short-term interest rate differences – so that the positive averages should not be taken as a certainty that can be confidently relied upon in the future.

On the assumption that the differences in Tables COE-EWSI-1.d v)-2 and COE-EWSI-1.d v)-3 are random drawings from a normal distribution with zero covariance, the averages and standard deviations may be used to estimate a risk margin that is required to ensure with a specified probability that Shortfalls are avoided.[10] This required risk margin may, in turn, be translated into a downward adjustment to the common equity rate of return for the absence of this risk given the financial parameters of 2022 – 2026. Such an adjustment would be appropriate if this forecasting risk were assumed by customers.

The analysis assumes that investors are risk averse and will therefore require returns at levels which reduce the Shortfall Probability to, say, 5%.[11] Using a table of statistical Z values, the 5% Shortfall Probability in a one-tailed distribution is associated with 1.65 standard deviations.12 Stated differently, at 1.65 standard deviations below the average value, the probability area under the normal curve in the left tail of the distribution is 5%.

In respect of short-term forecast errors, the required risk margin is 1.67%. The easiest way to visualize what takes place is to consider the average difference of 0.56%. The peak of the normal curve is at 0.56%; however, the location on the X axis where there is 5% probability under the curve to the left (i.e., the area where interest rates are underestimated) is negative 1.67% (= 0.56% - (1.36% x 1.65)). Thus, in order to move the 5% probability area just to the left of zero, the distribution would have to slide to the right by a positive 1.67%. That rightward "slide" is the required risk margin.

[10] Recall that investors are concerned with negative differences.

[11] The 5% is a standard significance level for traditional hypothesis testing.

[12] Z is a normally-distributed random variable with a mean of zero and a standard deviation of 1.0. Shortfalls occur in the left side of the distribution only – hence, the 5% probability is associated with the area under the normal curve on the left side of the distribution.

In respect of the long-term debt cost forecast errors, the X-axis location where there is a 5% Shortfall Probability is a negative 0.18% (= 0.62% - (0.49% x 1.65)). The required risk margin is therefore a positive 0.18%.

Table COE-EWSI-1.d v)-4 shows the required risk margins and the impact of their absence on common equity rates of return for Water Services in each of the years in the 2022 – 2026 PBR period and the five-year average.

Table COE-EWSI-1.d v)-4
Impact of Short- and Long-Term Debt Cost Forecasting Errors · Water Services
Short-Term Debt Cost Rate Required Risk Margin = 1.67% · Long-Term Debt Cost Rate Required Risk Margin = 0.18%

		A **2022**	B **2023**	C **2024**	D **2025**	E **2026**	F **Average**
1	Short-Term Debt Mid-Year Balance ($) · Schedule 17-2, Line 5	38.3	38.0	37.1	36.7	36.1	37.2
2	New Long-Term Debt Issues ($) · Schedule 17-3	45.0	50.0	95.0	80.0	25.0	59.0
3	Short-Term Interest Required Risk Margin ($)	0.6	0.6	0.6	0.6	0.6	0.6
4	Cumulative Long-Term Interest Required Risk Margin ($)[13]	0.1	0.2	0.4	0.5	0.5	0.3
5	Total Interest Required Risk Margin ($)	0.7	0.8	1.0	1.1	1.1	0.9
6	In-City Mid-Year Rate Base ($) · Schedule 14-1, Line 5	1,185.4	1,227.5	1,269.3	1,286.3	1,289.9	1,251.7
7	In-City Deemed Common Equity at 40% of Rate Base ($)	474.2	491.0	507.7	514.5	516.0	500.7
8	Total Interest Required Risk Margin ($)	0.7	0.8	1.0	1.1	1.1	0.9
9	*Divided by:* In-City Deemed Common Equity at 40% of Rate Base ($)	474.2	491.0	507.7	514.5	516.0	500.7
10	Downward Adjustment for Absence of Required Risk Margin (%)	0.15%	0.16%	0.20%	0.21%	0.21%	0.19%

[13] The calculation is cumulative, because each year's error is carried forward to the end of the PBR period when forecast cost rates are adjusted to actual rates that are then used to develop debt costs in the next PBR period.

The data in Table COE-EWSI-1.d v)-4 indicates that a downward adjustment to the Water Services common equity rate of return of approximately 19 basis points should be made if Water Services debt cost forecasting risks are transferred to customers.[14]

Table COE-EWSI-1.d v)-5 provides a similar analysis in respect of Wastewater Treatment Services, which has applied for a three-year PBR period. The average and standard deviation of the 60 One-Year, Two-Year and Three-Year short-term debt cost differences from Table COE-EWSI-1.d v)-2 are 0.41% and 1.26% respectively; and the average and standard deviation of the One-Year, Two-Year and Three-Year long-term debt cost differences from Table COE-EWSI-1.d v)-3 are 0.42% and 0.41% respectively. Thus, the required risk margin for short-term debt is 1.67% (= - (0.41% - (1.26% x 1.65))); and the required risk margin for long-term debt is 0.26% (= - (0.42% - (0.41% x 1.65))).

[14] EWSI conducted a similar analysis using data from the 2017 – 2021 Water Services PBR application. This study indicates that the appropriate downward adjustment to the Water Services common equity rate of return would have been approximately 20 basis points if these risks had been transferred to customers.

Table COE-EWSI-1.d v)-5
Impact of Short- and Long-Term Debt Cost Forecasting Errors · Wastewater Treatment Services
Short-Term Debt Cost Rate Required Risk Margin = 1.67% · Long-Term Debt Cost Rate Required Risk Margin = 0.26%

		A **2022**	B **2023**	C **2024**	D **Average**
1	Short-Term Debt Mid-Year Balance ($) · Schedule 17-2, Line 5	38.4	36.2	35.2	36.6
2	New Long-Term Debt Issues ($) · Schedule 17-3	30.0	40.0	10.0	26.7
3	Short-Term Interest Required Risk Margin ($)	0.6	0.6	0.6	0.6
4	Cumulative Long-Term Interest Required Risk Margin ($)[15]	0.1	0.2	0.2	0.2
5	Total Interest Required Risk Margin ($)	0.7	0.8	0.8	0.8
6	Mid-Year Rate Base ($) · Schedule 14-1, Line 5	546.2	550.6	600.9	565.9
7	Deemed Common Equity at 40% of Rate Base ($)	218.5	220.2	240.4	226.4
8	Total Interest Required Risk Margin ($)	0.7	0.8	0.8	0.8
9	*Divided by:* Deemed Common Equity at 40% of Rate Base ($)	218.5	220.2	240.4	226.4
10	Downward Adjustment for Absence of Required Risk Margin (%)	0.32%	0.36%	0.33%	0.35%

[15] The calculation is cumulative, because each year's error is carried forward to the end of the PBR period when forecast cost rates are adjusted to actual rates that are then used to develop debt costs in the next PBR period.

The data in Table COE-EWSI-1.d v)-5 indicates that a downward adjustment to the Wastewater Services common equity rate of return of approximately 35 basis points should be made if Wastewater Services debt forecasting risks are transferred to customers.[16]

Conclusions

The analysis of the 2018 GCOC Decision indicated no capital structure ratio or common equity rate of return differences between utilities that faced debt cost rate forecasting risks similar to EWSI (e.g., ETI) and utilities that were able to retroactively recover (refund) such differences (e.g., EDI). This conclusion is particularly meaningful in the circumstances of Wastewater Treatment Services, because Wastewater's three-year PBR period is similar to ETI's three-year test period. This conclusion is less meaningful in the circumstances of Water Services, because Water Services' five-year PBR period exposes investors to risks over a longer period than ETI's three-year test period.

The statistical analyses indicate that a downward adjustment to the common equity rate of return for transferring debt cost forecasting risks to customers is approximately 20 basis points for Water Services and 35 basis points for Wastewater Treatment Services. A significant reason for the difference in these results is that both Water and Wastewater Treatment have similar dollar amounts of short-term debt financing; however, the Wastewater rate base is considerably smaller than the Water rate base. Thus, a somewhat higher risk margin in percentage terms is required for Wastewater vis-à-vis Water.

Is there a way to reconcile the inference of "no adjustment" from the 2018 GCOC Decision and the results of the statistical analyses? The statistical analyses are based, in part, on the assumption that risk-averse investors will not tolerate more than a 5% Shortfall Probability. But that assumption may be unduly aggressive; and the AUC may have had in mind that investors are less risk averse.[17] There is no straightforward way to precisely measure investor

[16] EWSI conducted a similar analysis using data from the 2017 – 2021 Wastewater Services PBR application. This study indicates that the appropriate downward adjustment to the Wastewater Services common equity rate of return is approximately 30 – 35 basis points if these risks are transferred to customers.

[17] To illustrate, a 0% common equity rate of return adjustment in respect of Water Services would result from the alternative assumption of a 15% Shortfall Probability.

risk aversion. Therefore, EWSI considers both the 2018 GCOC Decision and the statistical analyses in arriving at its final conclusions.

Considering both the 2018 GCOC Decision and the statistical analyses, the appropriate adjustment to Water Services' common equity rate of return if debt cost forecast risk is transferred to customers is in the range of 10 – 15 basis points.[18]

Similarly, the appropriate adjustment to Wastewater's common equity rate of return if debt cost forecast risk is transferred to customers is in the range of 15 – 20 basis points.[19]

[18] Inasmuch as Water Services has a five-year PBR period, this conclusion gives greater weight to the results of the statistical analyses and less weight to the inference of no material adjustment arising from the 2018 GCOC Decision.

[19] This conclusion gives approximately equal weight to the results of the statistical analyses in respect of Wastewater Treatment Services and the inference of no material adjustment arising from the 2018 GCOC Decision. Greater weight is given to the GCOC Decision in the circumstances of Wastewater Treatment Services *vis-à-vis* Water Services, because Wastewater's PBR period is three years and is therefore similar in length to ETI's test period.

Request: **COE-EWSI-2.a**

Topic: **Return on Equity**

Sub-Topic: **Common Equity Rate of Return**

Reference: **Appendix D of the Applications, Table 4-4.1**

Preamble: *As noted in paragraph 19 of Appendix D of the Applications, "as a result of these conclusions, both consultants concluded that a risk premium above the AUC generic was warranted. Even though the risks were not specifically individually quantified in the 2017-2021 proceeding, Sussex concluded a 2.2% premium was warranted, while Grant Thornton concluded a 1.83% premium was warranted, both using transition cost of capital studies".*

Administration notes that for the 2017-2021 EWSI PBR applications, Grant Thornton recommended a cost of equity between 10.12% to 10.42% (page 5 of Grant Thornton's EPCOR Performance Based Regulation 2017-2021 Filing Review report dated September 16, 2016), with the Utility Committee and City Council concluding a return on equity of 10.175% is appropriate.

i) For purposes of calculating the requested return on equity of 9.95% in Table 4-4.1, please clarify the reference to the 1.83% premium in the EPCOR Performance Based Regulation 2017-2021 Filing Review report prepared by Grant Thornton.

ii) Please explain why the 10.175% approved return on equity for the 2017-2021 PBR term is not the appropriate starting point for updating the requested return on equity for the 2022-2026 PBR term in Appendix D, resulting in a requested return on equity of 9.80% based on the 0.38% change in the common equity rate of return due to bond yield changes as noted in Table 4-4.1 (10.175% - 0.38% = 9.80%).

EPCOR RESPONSE

i) Grant Thornton's conclusions on the proposed 2017-2021 EWSI return on equity are stated as follows on page 145 of its September 22, 2016 report (EPCOR Performance Based Regulation 2017-2021 Filing Review):

> *Several factors point to an overstatement in the cost of equity. These include the usage of methodologies inconsistent with those commonly accepted in Canadian regulatory hearings as well as trends which are inconsistent with other regulatory jurisdictions in Canada. Differences noted range from a low of 8 bps to a high of 66 bps.*

On the basis of this statement, EWSI understands that Grant Thornton concluded that an appropriate risk premium is within a range of 0.08% to 0.66% lower than EWSI's 2017-2021 applied-for risk premium of 2.20%. Based on Grant Thornton's conclusions, EWSI deducted 0.08% from 2.20% to derive a maximum risk premium of 2.12% and similarly deducted 0.66% from 2.20% to derive a minimum risk premium of 1.54%. The mid-point of this range is 1.83%.

As such, for its 2022-2024 and 2022-2026 PBR Applications, EWSI has used a risk premium of 1.83% which is derived from Grant Thornton's three methods of adjusting the traditional return on equity study EWSI completed by Sussex Economic Advisors in 2016.

EWSI believes that the risk of the overall business has increased since the 2017-2021 period and a 1.83% risk premium represents the low end of an acceptable range. The inclusion of the Drainage business in the 2022-2026 PBR period with the same 40% common equity ratio as the Water and Wastewater businesses implies that EWSI's investment risks are higher today than they were in 2016. Thus, the appropriate premium vis-à-vis the Commission's generic cost of capital is no less than 1.83% today.

The Drainage business has a longer capital recovery period, a greater proportion of non-productive contributed assets (i.e., not paid for by rate payers) and higher operating leverage (cash operating costs to total revenue) than the Water and Wastewater businesses. Thus, the addition of the Drainage business to the EWSI portfolio increases EWSI's overall business risk profile. If the Drainage assets are financed with the same 40% common equity ratio as the Water and Wastewater businesses, it then follows that the investment risks – the combination of business and financial risks – have increased. The assumption of a 40%

common equity ratio for EWSI's overall operations is consistent with the September 3, 2020 DBRS rating report (see Appendix C – EWSI Credit Rating Report) that states: "Over the long-term, DBRS Morningstar expects leverage for EWSI to be at the approved capital structure of 60% debt."

ii) When past regulatory determinations such as the City's 10.175% common equity rate of return are formally used as the basis for future regulatory decisions, then the analysis is subject to the criticism of being circular. Use of the risk premium in the 2016 Grant Thornton Report avoids this criticism. Moreover, the City's 10.175% approved rate of return was not decomposed into the underlying bond yield, risk premium and financing cost allowance. Without having the constituent parts, the adjustments in Appendix D of the present application are problematic.

The circularity inherent in using awarded rates of return as the basis for establishing current or prospective rates of return is widely recognized. Consider the views of the AUC and the National Energy Board.

> *With respect to awarded returns for other Canadian utilities, a number of the utilities argued that taking into consideration awards from regulators employing an adjustment mechanism similar to that used by the Commission would be circular. Accordingly, they recommended that the Commission place no weight on these awards…CAPP took the position that awards by other regulators, in both Canada and the U.S., should not be considered…The Commission agrees with CAPP that the better approach is to examine the direct evidence of the experts in this proceeding, particularly because the awards of other regulators were established on the basis of a different record.*[1]
>
> *…the Commission will not take any guidance from the evidence presented about approved utility ROEs in other Canadian and U. S. jurisdictions. The*

[1] Alberta Utilities Commission, *Decision 2009-216*, November 12, 2009, pages 76-77.

objective of the GCOC is to consider the market expectation for the affected utilities and not what other regulators are allowing.[2]

On the question of whether litigated Canadian utility returns are similar because of problems of circularity, or whether they provide a valid signal because they represent independent conclusions reached on similar questions, the Board finds that there was no evidence that conclusively supported either view. Faced with contrasting opinions on the matter, and with the option of relying on returns from other submitted comparables, the Board placed no weight on Canadian litigated returns.[3]

The problem is described in *The Regulation of Public Utilities* by Dr. Charles F. Phillips, Jr.

…returns of regulated firms must always be used with extreme caution. At best, they reflect what the informed judgments of regulatory commissions have permitted such utilities to earn and may not be indicative of what could have been earned in the competitive market.[4]

And perhaps the most colourful and widely-quoted statement respecting this proposition was articulated by the U. S. Federal Power Commission in *Re Union Electric*:

…this Commission has never advocated basing allowed rates of return solely on what other regulated companies have been allowed to earn in the past. Such a process, rather like observing an endless series of duplicate images in multiple mirrors, would be hopelessly circular.[5]

[2] Alberta Utilities Commission, *Decision 22570-D01-2018*, August 2, 2018, page 99.

[3] National Energy Board, *Decision RH-1-2008*, March 2009, page 69.

[4] Phillips, Charles F., Jr., *The Regulation of Public Utilities*, (Public Utilities Reports: Arlington, Virginia), 1993, page 398.

[5] Federal Power Commission in *Re Union Electric Company*, 94 PUR 3d 87, 1972.

Request: **COE-EWSI-2.b**

Topic: **Return on Equity**

Sub-Topic: **Capital Structure**

Reference: **Appendix D of the Applications**

Preamble: *As noted in paragraph 48 of Appendix D of the Application, "the deemed capital structure of EWSI and Alberta gas and electric utilities are generally within the same range, with AUC regulated utilities carrying slightly more debt (gas and electrics average 37% equity compared to EWSI at 40% equity). On an equivalent basis, investors would view these higher debt levels as carrying greater risk. It is noted, however, that the AUC process adjusts the capital structure to recognize risk differences among the utilities, as opposed to changing the return on equity awarded, and investors would not assess capital structure and returns on equity separately".*

As noted in AUC Decision 22570-DO1-2018 (2018 Generic Cost of Capital), paragraph 16, "The Commission established an ROE that uniformly applied to all of the affected utilities and accounted for particular business risks faced by the affected utilities by incorporating any required adjustments into their respective approved deemed equity ratios, either collectively or on an individual basis".

The AUC sets one generic return on equity for provincially regulated utilities (currently 8.5%), and then adjusts the amount of deemed equity allowed in the capital structure for each utility to reflect the corresponding business risk. Please comment on the justification for EWSI to request a higher return on equity than the AUC benchmark of 8.5% given it is also requesting a higher equity percentage of 40% relative to 37% approved for most provincially regulated gas and electric utilities. Wouldn't the additional risks identified by EWSI in Appendix D be incorporated into the requested 40% common equity percentage?

EPCOR RESPONSE:

The investors' required rate of return reflects investment risks, and investment risks are the combination of business risks and financial risks. Business risks affect the ability of the company's assets to generate a cash return and include physical, economic, competitive, technological, obsolescence, legal and market-related risks. Financial risks arise from the way in which the assets are financed – i.e., using debt or equity with varying terms and conditions. There is a tendency for companies in industries that involve substantial business risk (e.g., oil and gas exploration) to finance their operations with less debt and more equity than companies in industries with less business risk (e.g., regulated pipelines) so that the greater business risks are mitigated, in whole or in part, by lesser financial risks.

The Grant Thornton risk premium (i.e., the 183 basis points) and the City's 10.175% authorized rate of return are predicated on the financial risks inherent in EWSI's 40% common equity ratio. If the approach taken in 2021 to analyzing the appropriate rate of return is one which uses these data as the point of departure and if the thought is to award a 2022 – 2026 rate of return based on a 37% common equity ratio, then the Grant Thornton historical risk premia and the City's 10.175% rate of return decision must first be adjusted *upward* to reflect the greater financial risks inherent in a 37% common equity ratio compared to the 40% common equity ratio on which they were originally based. Failure to make such an adjustment would result in an understatement of the 2022 – 2026 appropriate rate of return.

In risk terms, the Grant Thornton risk premia and the City's 10.175% authorized rate of return both reflect the combination of business and financial risks (i.e., investment risk) that existed in 2016. The use of these risk premia and the 10.175% as the point of departure for analyzing the appropriate rate of return for 2022 – 2026 presupposes a similar level of investment risk. That assumption is tenuous at best, because the addition of Drainage Operations has increased EWSI's overall business risk (see paragraph 69 of Appendix D).[6] Therefore, unless there is an offsetting

[6] EWSI had no drainage operations in 2016 and was therefore not compensated for the higher business risks of these operations in either the equity ratio or the common equity rate of return applied-for by EWSI, recommended by Grant Thornton or awarded by the City. The 2021 applied-for equity ratio of 40% and the common equity rate of return 9.95% were developed from the 2016 Grant Thornton recommendations and the City's equity ratio and

reduction in financial risk arising from a higher than 40% equity ratio, it follows that EWSI's investment risks have increased; and this investment risk increase leads to a higher required risk premium for 2022 – 2026 compared to 2016.

rate of return awards. Thus, *the 2021 applied-for 40% equity ratio and the 9.95% common equity rate of return do not include any compensation for the higher business risks associated with drainage operations.*

Request: **COE-EWSI-2.c**

Topic: **Return on Equity**

Sub-Topic: **Risk Comparison of EWSI vs AUC**

Reference: **Appendix D of the Applications, Section 3.0**

A number of major risk factors have been identified in Appendix D that contribute to EWSI bearing more risk than Gas and Electric utilities regulated by the AUC. Is EWSI aware of any other material risk factors that Gas and Electric utilities would have that would not apply to EWSI (e.g. stranded assets?)

EPCOR RESPONSE:

The list of "major risk factors" identified in Appendix D is reasonably comprehensive, although the addition of Drainage operations to EWSI's portfolio has resulted in a business risk increase since 2016.[7] In contrast, the AUC has confirmed that the business risks of the electric and gas utilities have not changed materially. As a result, the deemed common equity ratios for the electric and gas utilities are the same as they were in 2016.[8]

The Information Request refers specifically to stranded asset risks and states that such risks "would not apply to EWSI." Stranded asset risks are a special form of regulatory risk in which the regulator concludes that a rate base asset is no longer used or required to be used and excludes the value of that asset, *in whole or in part*, from rate base. The result is a diminished revenue requirement and, all things equal, diminished earnings. EWSI acknowledges and agrees with the City's statement in this Information Request that EWSI is not exposed to stranded asset risk under the City's method of regulation. This conclusion applies in 2021 just as it did in 2016.

In 2016, the totality of the business risk differences between EWSI and the Alberta electric and gas utilities – including any stranded asset risk differences – were considered by Grant Thornton and the City as sufficient to justify a 3% difference in equity ratio (= 40% - 37%) and differences

[7] As noted in the Response to Information Request 2(b)(i), the 2021 applied-for 40% equity ratio and the 9.95% common equity rate of return do not include any compensation for the higher business risks associated with Drainage Operations.

[8] *Decision 22570-D01-2018*, August 2, 2018, page 165.

in rates of return on common equity of 1.83% and 1.675% respectively. If EWSI had been exposed to stranded asset risks, then presumably the equity ratio difference, the rate of return difference or both would have been greater than 3% and 1.83%/1.675% respectively.

To summarize, the 2016 and 2021 deemed common equity ratios and applied-for and awarded rates of return on common equity do not reflect compensation for stranded asset risks. If, hypothetically, EWSI were to now be exposed to such risks, then this increase in regulatory risk would require an upward adjustment to EWSI's common equity ratio or common equity rate of return or both.

As an aside, the potential impact of exposing EWSI to stranded asset risk would be greater than the impact of stranded asset risks on the major electric and gas utilities, because the longer the period over which the cost of the assets is recovered, the greater the risk that assets will be stranded due to unforeseen circumstances. Table 3.1.4-1 on page 10 of Appendix D displays the average number of years over which asset costs are recovered for each of the three EWSI business units and the major electric and gas utilities regulated by the AUC. The data show that the EWSI business units contain assets that are generally more long-lived than the AUC electric and gas utilities. Thus, in the hypothetical situation where EWSI is exposed to stranded asset risks, the EWSI business units would face higher stranded asset risks than the gas and electric utilities.

Request: **COE-EWSI-3.a**

Topic: **Water Consumption Volume and Customer Count**

Sub-Topic: **Consumption Volume and Customer Count**

Reference: **Water Services Application, Tables 4.7.2-1, 4.7.3-1, 4.7.4-1**

Preamble: *Administration notes various references included in the Water Rates Application regarding the ability to accurately forecast water consumption volume and number of customers, and that this forecast risk is borne entirely by EWSI. Administration notes a number of changes and potential enhancements to the forecast methodology for the 2022-2026 PBR application but also notes significant variations in the historic and forecast percentage increases or decreases for customer count and volume per customer in tables 4.7.2-1 and 4.7.3-1 largely due to the impact of the pandemic.*

Given the potential impact of the pandemic and other economic factors on the ability to accurately forecast consumption volume and customer count for a five year PBR term, Administration wishes to explore possible alternatives for minimizing the forecasting risk.

Paragraph 137 - "The total annual water demand varies with changing weather conditions, which are very difficult to predict."

Paragraph 262 - "The second change to the methodology for the Commercial class forecast relates specifically to incorporating expectations of the COVID-19 pandemic impact, which results in the need for more weight placed on judgement about the future rather than historical trending."

Paragraph 139 - "Under EWSI's PBR structure, the consumption forecast risk is entirely borne by EWSI and variations from forecast within the 5-year PBR term are not passed on to EWSI's customers."

Paragraph 140 - "In the long-term, as consumption per customer continues to decline, there will be upward pressure on rates with each PBR renewal to ensure

the utility can recover its operating and capital expenses which are generally fixed in nature and do not vary with consumption."

Paragraph 251 - "EWSI's forecast anticipates a general return to pre-pandemic trends by 2023, as supported by external forecasts".

Paragraph 252 - "As further described in the sections below, EWSI is forecasting a return to long term trends in customer count and consumption per customer for all rate classes by 2023. The exception is commercial consumption per customer, which is forecast to return to the long term trend line by 2024."

Paragraph 270 - "Although residential consumption per customer is higher during the COVID-19 pandemic as Edmontonians spend more time in their residences, EWSI is predicting a return to normal once the restrictions are lifted. As EWSI expects the pandemic restrictions to be fully lifted by April 2022, no COVID-19 impacts were incorporated into the forecast of residential consumption per customer.

Paragraph 272 - "Commercial Consumption per Customer Forecast – Historically over the years 2009-2019 commercial consumption per customer has been declining at a rate of 3.10% annually. Based on observations of the impact of the COVID-19 pandemic on EWSI's commercial customer base, EWSI's forecast reflects a decline in 2020 of 24.05% in commercial consumption per customer.

i) Please provide a table similar to table 4.7.2-1 that shows the residential, multi-residential, and commercial actual average monthly customer count for each of the individual years of 2012 to 2016 and 2017 to 2021. Please include the 2020 actual results and the 2021 forecast. Also for each of these individual years and residential, multi-residential and commercial customer classes, please show the forecast included in the approved 2012-2016 and 2017-2021 PBR applications.

ii) Please provide a table similar to table 4.7.3-1 that shows the residential, multi-residential, and commercial actual average monthly consumption per customer for each of the individual years of 2012 to 2016 and 2017 to 2021. Please include the 2020 actual results and the 2021 forecast. Also for each of these individual years and residential, multi-

residential and commercial customer classes, please show the forecast included in the approved 2012-2016 and 2017-2021 PBR applications.

iii) Please provide a table similar to table 4.7.4-1 that shows the residential, multi-residential, and commercial actual total consumption volume by customer class for each of the individual years of 2012 to 2016 and 2017 to 2021. Please include the 2020 actual results and the 2021 forecast. Also for each of these individual years and residential, multi-residential and commercial customer classes, please show the forecast included in the approved 2012-2016 and 2017-2021 PBR applications.

EPCOR RESPONSE:

Consumption Volume and Customer

i) Table COE-EWSI-3.a i)-1 provides 2012 to 2020 actual and 2020 to 2021 forecast average monthly customer counts by customer class. Table COE-EWSI-3.a i)-2 provides the forecast average monthly customer counts by customer class, that were included in the 2012 to 2016 and the 2017 to 2021 Water PBR Applications.

Table COE-EWSI-3.a i)-1
Actual & Forecast
Average Monthly Customer Count
2012-2021

	A	B	C	D	E	F	G	H	I	J	K
Customer Class	**2012A**	**2013A**	**2014A**	**2015A**	**2016A**	**2017A**	**2018A**	**2019A**	**2020A**	**2020F**	**2021F**
1 Residential	221,444	226,226	232,194	240,522	248,904	259,335	264,485	269,842	272,538	271,555	275,045
2 Multi-Residential	3,407	3,470	3,522	3,573	3,666	3,752	3,765	3,779	3,779	3,774	3,781
3 Commercial	17,597	17,917	18,014	18,279	18,692	19,438	20,474	19,896	19,846	19,821	19,827
4 Total Customers	**242,448**	**247,613**	**253,730**	**262,374**	**271,262**	**282,524**	**288,724**	**293,517**	**296,163**	**295,149**	**298,652**

Table COE-EWSI-3.a i)-2
2012-2016 & 2017-2021 PBR Application
Forecast Average Monthly Customer Count
2012-2021

		A	B	C	D	E	F	G	H	I	J
		2021-2016 PBR Application					2017-2021 PBR Application				
	Customer Class	**2012D**	**2013D**	**2014D**	**2015D**	**2016D**	**2017D**	**2018D**	**2019D**	**2020D**	**2021D**
1	Residential	224,213	228,137	232,130	236,192	240,325	256,306	261,176	266,138	271,195	276,347
2	Multi-Residential	3,414	3,439	3,465	3,491	3,517	3,746	3,791	3,837	3,883	3,929
3	Commercial	17,774	17,996	18,221	18,448	18,679	19,257	19,508	19,761	20,018	20,278
4	**Total Customers**	**245,400**	**249,572**	**253,815**	**258,131**	**262,521**	**279,310**	**284,475**	**289,736**	**295,096**	**300,555**

iv) Table COE-EWSI-3.a ii)-1 provides 2012 to 2020 actual and 2020 to 2021 forecast average monthly consumption per customer by customer class. Table COE-EWSI-3.a ii)-2 provides the forecast average monthly consumption per customer by customer class, that were included in the 2012 to 2016 and the 2017 to 2021 Water PBR Application.

Table COE-EWSI-3.a ii)-1
Actual & Forecast
Average Monthly Consumption per Customer
2012-2021
(m3 per customer per month)

		A	B	C	D	E	F	G	H	I	J	K
	Customer Class	**2012A**	**2013A**	**2014A**	**2015A**	**2016A**	**2017A**	**2018A**	**2019A**	**2020A**	**2020F**	**2021F**
1	Residential	16.3	16.1	16.1	16.3	15.2	14.6	14.4	13.8	14.7	14.9	14.9
2	Multi-Residential	413.4	412.1	418.7	421.5	408.9	396.0	390.4	391.8	407.9	410.2	410.0
3	Commercial	136.2	133.3	132.2	132.3	125.4	118.1	110.8	109.5	89.9	85.1	85.6

Table COE-EWSI-3.a ii)-2
2012-2016 & 2017-2021 PBR Application
Forecast Average Monthly Consumption per Customer
2012-2021
(m3 per customer per month)

		A	B	C	D	E	F	G	H	I	J
		2012-2016 PBR Application					2017-2021 PBR Application				
	Customer Class	**2012D**	**2013D**	**2014D**	**2015D**	**2016D**	**2017D**	**2018D**	**2019D**	**2020D**	**2021D**
1	Residential	17.3	17.1	17.0	16.8	16.6	14.6	14.4	14.2	13.9	13.7
2	Multi-Residential	410.0	405.9	401.8	397.8	393.8	408.6	408.6	408.6	408.6	408.6
3	Commercial	134.0	134.0	134.0	133.2	133.2	123.5	121.9	120.3	118.7	117.2

v) Table COE-EWSI-3.a iii)-1 provides 2012 to 2020 actual and 2020 to 2021 forecast consumption by customer class. Table COE-EWSI-3.a iii)-2 provides the forecast consumption by customer class, that were included in the 2012 to 2016 and the 2017 to 2021 Water PBR Application.

Table COE-EWSI-3.a iii)-1
Actual & Forecast
Total Consumption Volume by Customer Class
2012-2021
(ML)

		A	B	C	D	E	F	G	H	I	J	K
	Customer Class	**2012A**	**2013A**	**2014A**	**2015A**	**2016A**	**2017A**	**2018A**	**2019A**	**2020A**	**2020F**	**2021F**
1	Residential	43,317	43,622	44,876	46,920	45,421	45,478	45,832	44,603	48,105	48,438	49,160
2	Multi-Residential	16,900	17,162	17,696	18,071	17,987	17,829	17,639	17,767	18,498	18,575	18,605
3	Commercial	28,768	28,662	28,572	29,017	28,131	27,537	27,228	26,133	21,407	20,233	20,369
4	**Total Consumption**	**88,985**	**89,445**	**91,144**	**94,008**	**91,539**	**90,843**	**90,699**	**88,503**	**88,011**	**87,246**	**88,135**

Table COE-EWSI-3.a iii)-2
2012-2016 & 2017-2021 PBR Application
Forecast Total Consumption Volume by Customer Class
2012-2021
(ML)

		A	B	C	D	E	F	G	H	I	J
		2021-2016 PBR Application					**2017-2021 PBR Application**				
	Customer Class	**2012D**	**2013D**	**2014D**	**2015D**	**2016D**	**2017D**	**2018D**	**2019D**	**2020D**	**2021D**
1	Residential	46,552	46,893	47,236	47,582	47,931	45,057	45,134	45,215	45,350	45,459
2	Multi-Residential	16,794	16,751	16,708	16,665	16,622	18,370	18,590	18,814	19,039	19,268
3	Commercial	28,582	28,939	29,301	29,483	29,851	28,539	28,534	28,529	28,525	28,520
4	**Total Consumption**	**91,928**	**92,583**	**93,245**	**93,730**	**94,404**	**91,966**	**92,259**	**92,558**	**92,914**	**93,247**

Request: COE-EWSI-3.b

Forecast Risk for Consumption Volume and Customer Count

i) Please comment on both the benefits and implications of EWSI updating its forecast of the consumption volume and customer count on an annual basis over the 2022-2026 PBR term (e.g. as an annual rate adjustment in EWSI's Annual Rate Filing to set new customer rates each year in accordance with the approved PBR methodology).

ii) Alternatively, please comment on both the benefits and implications if EWSI's consumption volume (and potentially customer count) risk was passed onto customers for the 2022-2026 PBR term through a deferral account.

iii) Deferral accounts (or other similar regulatory mechanisms) may be warranted in limited circumstances where items are material, cannot be reasonably forecasted and are outside the control of the Corporation. Please comment on whether an annual update to the forecast in (i) above or a deferral account in (ii) for consumption volume and potentially customer count risk is warranted for the EWSI 2022-26 PBR term given the historical differences between the actual and forecasted consumption volume and customer count for the 2012-2016 and 2017-2021 PBR terms, as well as the current and forecast economic environment.

vi) Please explain and quantify the impact on the requested return on equity of 9.95% for EWSI if the consumption volume and potentially customer count risk was passed onto customers through either an annual update to the forecast in (i) or a deferral account in (ii).

EPCOR RESPONSE:

Forecast Risk for Consumption Volume and Customer Count

i) An annual update of the forecast for both consumption and customer counts could be incorporated into the annual rate filing completed by EWSI early each year. This would result in the forecast for these factors being completed in January or February for a billing cycle that would begin April 1 of that same year. In effect, the forecast would be based on more recent actual and projected data.

The assumed benefit of such an update would be an increase in forecast accuracy. Given that the timing of the PBR application requires forecasts 6 or more years into the future from the time the application is developed, is appears logical that a forecast based on more recent data would provide a more accurate forecast. However, there are noted limitations to this assumption as there are number of variables that could not be forecast any more accurately in the near term. In particular, weather is a significant determinant for residential forecast variation and near term forecasts would not be any more accurate. General economic trends may also be more apparent in near term forecasts, but their impact, particularly on the commercial class, may be no more discernable. Historically, EWSI's commercial forecast has been impacted by the small number of very large commercial accounts and their level of activity. Many of the underlying factors determining their consumption are unique to the sector in which they operate rather than the general economy, imply there is still forecast risk.

EWSI has not completed annual forecasts in the manner described, so cannot specifically comment on whether forecast accuracy would increase, or if the remaining risk factors would continue to impact the accuracy to the degree they do today.

The central implication of this change in forecast approach is that it transfers forecast risk from EWSI to ratepayers and erodes the stability and predictability of rates. Under the current approach, EWSI – and not its customers - bears the forecast risk. This approach ensures that rates charged to customers remain stable and predictable throughout the PBR term and do not require annual rate adjustments to pass forecast variances to customers.

As noted in other IR's, rate stability and predictability are important principles of rate setting noted by the American Water Works Association and other rate setting guidelines (AWWA Principles of Water Rate Setting M1 Manual). This has been one of foundational principles that has underpinned the PBR framework that has been in place for EWSI's water operations since 2002 when the PBR was first established. EWSI considers that this PBR framework provides a reasonable and straightforward approach to provide EWSI's customers with stable and predictable rates.

ii) A deferral account approach to addressing forecast risk has the same general outcome as the approach proposed in question i) although the impact to ratepayers would be even greater. As the variance in the deferral account would be determined on an actual to forecast basis, it would include all of the variables that would continue to present forecast risk on a new term basis. For example (and as noted above), a near term basis forecast approach would not remove weather related forecast risk, so that would continue to be borne by EWSI. Under a deferral account approach, the actual impact of weather, and any other similar factors, would be known and accounted for in determining the level of the deferral to be collected in a subsequent period. The end result would be even greater variability and thus less predictability in customer rates.

Depending upon the time period over which the deferral account balance is collected, it could potentially have an even greater impact on customers. An annual collection of deferral balances would moderate the impact versus the aggregation of balances over an entire PBR term with the collection of those balances in the subsequent term. This latter approach could markedly increase rates in the new term, resulting is significant and unexpected costs to ratepayers.

iii) EWSI would argue that the incentives and objectives of Performance-Based Regulation (PBR) are philosophically inconsistent with cost of service/deferral account regulation. The essence of "performance-based regulation" is that utilities should be placed at risk and should reap the rewards or suffer the losses for superior or inferior performance, including that related to forecasting. Philosophically and practically, the use of deferral accounts blunts the very purpose and incentives for which PBR was created in the first place. The danger in departing from these overarching goals and selectively instituting deferral accounts is that parties to the regulatory process are then encouraged to "cherry

pick" based on whether they believe that outcomes will benefit utilities or customers; and utilities will be encouraged to spend fewer resources on superior performance in areas where deferral accounts exist and focus instead on superior performance in areas where they are placed fully at risk. In short, the use of deferral accounts for all but the most extraordinary risks is philosophically antithetical to the goals and objectives of performance-based regulation.

In EWSI's experience, deferral accounts generally result from requests from the applicant for costs where they have limited control. Further, the understanding in making such a request is that the risk to the utility will be reduced and there would be a corresponding adjustment to the awarded return on equity. The potential proposition of having deferral accounts imposed on a select basis appears unusual.

iv) In EWSI's view, adding deferral accounts to EWSI's PBR Structure to reduce the return on equity is undesirable and problematic because it is difficult to reliably estimate the individual risk factors reflected in the equity risk premium. EWSI's approach to determining the appropriate risk premium above the GCOC was not based on a quantification of the individual risk factors identified in Appendix D. As explained in Appendix D, discussions with the cost of capital experts revealed that quantifying the individual risk factors to derive a risk premium is problematic as there is no basis to adequately do so. Thus, a more reliable approach to estimating an appropriate risk premium is to consider the difference between a fair return for EWSI (supported by traditional cost of capital methods) and the AUC's GCOC. This was the approach used by Grant Thornton in its 2016 Report to derive EWSI's risk premium.

Question: **COE-EWSI-4.a**

Topic: **2017-2021 Special Rate Adjustments for Environmental Initiatives**

Sub Topic **North Saskatchewan River Monitoring Project**

Preamble: *Two special rate adjustments for environmental initiatives were approved by City Council as part of EWSI's 2017-2021 Water Services PBR Application.*

Paragraph 47 of 2017-2021 Water Application - "New for the 2017-2021 PBR term are Special Rate Adjustments for the EWSI's Environmental Initiatives which include the North Saskatchewan River Monitoring Project and the Green Power Initiative. The River Monitoring Project is a $1.0 million per year program to regularly monitor, evaluate and report on a number of water quality variables from several sampling sites in the river for 2018-2021. The Green Power Initiative is intended to align with the City's "The Way We Green" strategy to increase the proportion of EWSI's energy from locally produced renewable sources. Under this initiative, EWSI will obtain 1 MW, approximately 10% of its total power volumes, from a renewable energy source for an estimated $1.9 million per year. In setting rates for EWSI's 2017-2021 PBR term, the incremental cost of these initiatives is separately charged to EWSI's customers through a special rate adjustment for environmental initiatives beginning in 2017".

i) Please provide a reconciliation by year of the actual costs incurred versus the $1.0 million included as a special rate adjustment for 2017 to 2021 for the North Saskatchewan River Monitoring Project.

ii) Please provide a description of the work and accomplishments completed in 2017 to 2021 under this program relative to the intended objectives.

iii) Please explain if the project is continuing to be included in the 2022-2026 PBR application, and if so the dollar amount for each year.

EPCOR RESPONSE

i) The financial reconciliation for the North Saskatchewan River Monitoring (WaterSHED) Program for the years 2018 to 2021 is detailed in Table COE-EWSI-4.a i)-1 below. Actual expenses for the program are provided for 2018-2020 and forecast amounts for 2021 compared to the 2017-2021 PBR approved amounts. Program costs were below forecast in each year. The Program was executed through the Alberta Environment and Parks (AEP) Monitoring and Science Division. The AEP staff installed and maintained the necessary sample station and continuous monitoring equipment, and carried out grab sampling at the sample stations and according to the sampling plan. EWSI funding was used to purchase the necessary monitoring equipment and related infrastructure, and to pay for specialized services necessary for sample station installation and for analytical lab services for samples collected by AEP. The pace of the work, therefore, and the resulting expenses was limited by AEP's capacity to complete the necessary field work. This was especially evident in 2020 when AEP staff were restricted from completing field work for several months of the year. EWSI is confident this issue will be resolved once COVID restrictions are lifted in the province.

Table COE-EWSI-4.a i)-1
North Saskatchewan River Monitoring Project
Cost Variances
2017-2021

		A	B	C	D	E	F
	Expense Category	**2017**	**2018**	**2019**	**2020**	**2021**	**Total**
1	Contractors and Consultants	-	0.5	0.5	0.3	0.6	**1.9**
2	Chemicals	-	-	-	-	-	**-**
3	Equipment	-	0.2	0.3	0.2	-	**0.6**
4	Other	-	-	-	-	-	**-**
5	Total Costs (Actual/Forecast Results)	-	0.7	0.8	0.5	0.6	**2.6**
6	Total Costs (PBR Approved Forecast)	-	1.0	1.0	1.0	1.1	**4.1**
7	**Variance (Actual – PBR Approved)**	**-**	**(0.3)**	**(0.3)**	**(0.6)**	**(0.5)**	**(1.6)**

ii) In 2016, the need for a scientifically defensible, sustainably funded, long-term water quality and aquatic ecosystem health monitoring program for the North Saskatchewan River (NSR) and its major tributaries was identified. The North Saskatchewan River Monitoring Program was designed in 2018 by Alberta Environment and Parks working together with EWSI, the North Saskatchewan Watershed Alliance and the City of Edmonton. Monitoring and flow station installation began in 2019. Nineteen sampling

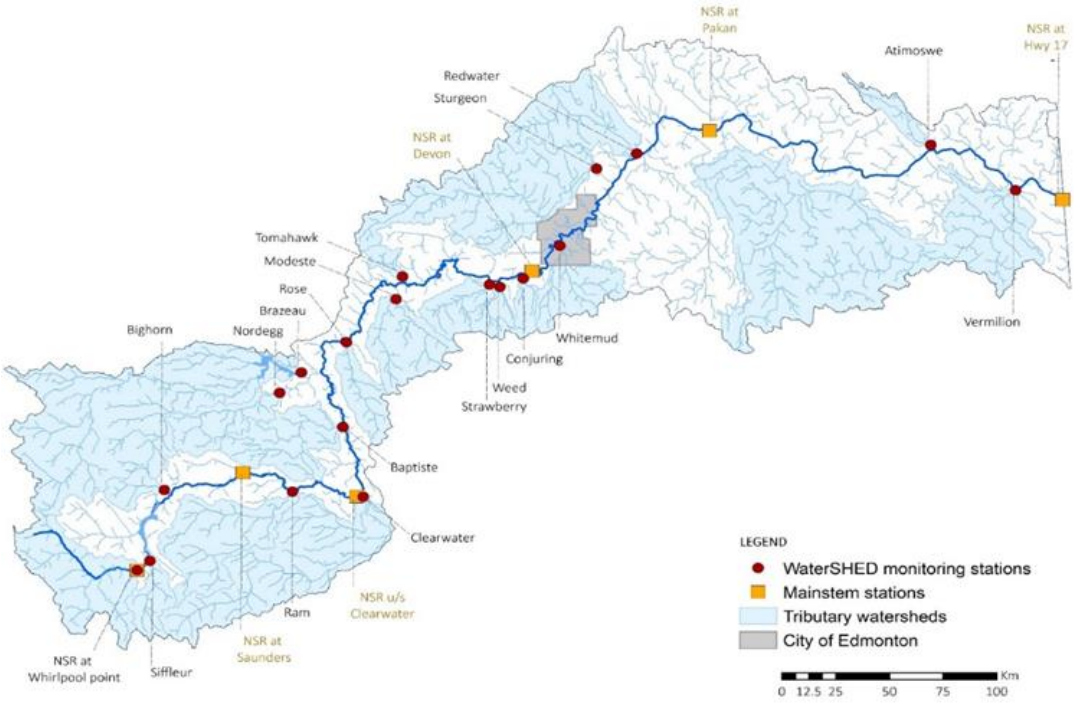
and continuous monitoring stations were either installed, or existing stations were modified and upgraded, on key tributaries within the watershed (see Figure COE-EWSI-04a ii)-1). Some monitoring began in 2019 and the system was fully functional at the start of 2020. Two focused studies were initiated in 2019: (i) Comparison of traditionally-used benthic invertebrate sampling methods, and (ii) evaluation of sources and dynamics of Dissolved Organic Matter (DOM) in the NSR. More details for these two studies are provided below. DOM in the river has a significant impact on the water treatment processes in Edmonton.

AEP published a detailed technical report on the design of the network and the outcomes of initial monitoring[1]. In October of 2019 there was an announcement and press conference on the North Saskatchewan River Monitoring Program featuring the Minister of Environment and the EPCOR CEO by the river at the Walterdale bridge. Also, EPCOR applied for a 2021 Emerald Award for the project and the project was short listed for an award in the water theme area.

The North Saskatchewan River Monitoring Program achieved the principal objective of design and building a monitoring network across watershed, initiation of long-term data collection and focused studies. EWSI expects that data collection to continue through 2021, the impacts of COVID-19 notwithstanding.

[1] The report can be found on the North Saskatchewan Watershed Alliance website at: https://www.nswa.ab.ca/wp-content/uploads/2021/03/aep-watershed-monitoring-program-technical-progress-report-2018-2019.pdf

Figure COE-EWSI-4.a ii)-1



iii) EWSI intends to continue the North Saskatchewan River Monitoring Program in the 2022-2026 PBR term. The goals of the program are to understand the drivers of water quality and quantity including the effects of continued land use change, climate change, and population growth pressures and to inform planning at the regional and municipal scale. For this, long-term (beyond 10 years) of monitoring is required. The program steering committee, which includes EWSI, AEP, NSWA and CoE representatives, continues to meet regularly to plan. Now that the system of monitoring stations has been built and is operational, the forecast expenditures have been reduced to $500 thousand per year.

This amount will be required to maintain operation of the network and fund on-going costs for laboratory analyses of water quality parameters and to fund additional focused

studies. AEP will continue to provide their technical resources to maintain the program. AEP has provided a letter of commitment to the program for the next 5 years.

Question COE-EWSI-4.b

Green Power Initiative

i) Please provide a reconciliation by year of the actual costs incurred versus the $1.9 million included as a special rate adjustment for 2017 to 2021 for the Green Power Initiative.

ii) Please provide a description of the work and accomplishments completed in 2017 to 2021 under this program relative to the intended objectives.

iii) Please explain whether any of the funding approved for the Green Power Initiative for 2017 to 2021 has been allocated to the E.L. Smith Solar Farm project.

EPCOR Response:

i) In the 2017-2021 PBR, EWSI proposed a Green Power Initiative funded by $1.9 million annual operating costs beginning in 2018. The Green Power Initiative would either see EWSI develop its own renewable (green) power including wind or solar power or enter into a third party contract to purchase 1 MW, approximately 10% of its total power volumes, of green power at market price beginning in 2018.

As discussed in section 2.3.6 and 6.1 of the Water Application, EWSI is developing the E.L. Smith Solar Project along with a Battery Energy Storage System (BESS), located at the site of the E. L. Smith Water Treatment Plant. In its first year of operation the solar farm is expected to generate 21,500 MWh of renewable electricity to supply the E.L. Smith Water Treatment Plant.

The project is currently anticipated to go into service in early 2022. Therefore, there is no impact on EWSI's revenue requirement (operating costs, depreciation, return on debt) in the 2017-2021 PBR term. Capital expenditures (net of contributions) incurred to date on the project are currently accounted for in the construction work in progress account.

For the 2022-2026 PBR term, EWSI has treated the revenue collected through the 2017-2021 Green Power Initiative Special Rate Adjustment as a contribution towards the capital costs associated with the solar farm project. This contribution will reduce the revenue requirement and the bill impacts associated with the solar farm project over the 2022-2026 PBR term. In the 2022-2026 PBR term, EWSI is forecasting $26.1 million in capital

additions for this project which is net of grant funding from Natural Resources Canada for BESS and net of $6.5 million in contributions from the SRA[2].

ii) EWSI has obtained the necessary regulatory approvals for the E.L. Smith Solar Project:

- On September 13, 2018, received an Approval with Conditions to proceed with the proposed E.L. Smith Solar Farm from Alberta Culture and Tourism (ACT). The Project is situated on lands which are designated as having high potential for both archaeological and paleontological value. As such, EWSI required approval from ACT to meet the requirements under the *Historical Resources Act*. EWSI has worked diligently with ACT to complete both archaeological and paleontological studies and is committed to meeting all of ACT's approval conditions.

- On February 20, 2019 the Alberta Utilities Commission (AUC) issued Decision 23418-D01-20191 approving EWSI's application to construct and operate a solar farm adjacent to the E.L. Smith Water Treatment Plant in Edmonton. In its Decision, the AUC determined that the Project is "*in the public interest having regard to the social, economic, and other effects of the project, including its effect on the environment*." On July 24, 2019, EWSI received AUC approval of its compliance plan to both supply and export excess energy to the grid under the Alberta Municipal Own Use Generation Regulation.

- On August 27, 2020, EWSI received Decision 25770-D01-2020 from the AUC which will allow EWSI to construct and operate a 4MW battery energy storage system to increase the operational performance of the E.L. Smith Solar Farm by balancing supply and demand of electricity and serving as a backup power supply for the E.L. Smith Water Treatment Plant.

- On October 19, 2020 Edmonton City Council approved the rezoning of the EPCOR-owned land for the Project.

[2] Refer to the Water Financial Schedule I-5.

EWSI has also received $10 million in financial support from Natural Resources Canada to help enhance the solar farm into a complete micro-grid system by including a battery energy storage system.

EWSI completed extensive stakeholder consultations on the project which began in May 2017. EWSI has held consultations with the public, industry, government agencies, Indigenous communities, and non-government organizations to gain feedback on the Project. Through this process, EWSI consulted with over 850 stakeholders. EWSI also held two workshops in 2019 with stakeholders to explore ideas regarding the integration of the E.L. Smith Solar Project into the Edmonton community. With the feedback obtained from stakeholders, EWSI made a number of adjustments to the project including reducing the overall footprint and improving vegetation.

EWSI is currently completing design and procurement for the project. Construction is anticipated to start in the second quarter of 2021 and completed in early 2022.

iii) Within the Water PBR Application Model (worksheet "R-6 Green Power SRA") EWSI has calculated the revenue collected through the Green Initiative Special Rate Adjustment over the 2017-2021 PBR term (April 1, 2017 to March 31, 2022). This calculation utilizes the Special Rate Adjustments included in Bylaw 17698, and actual/forecast inflation factors, customer counts and consumption to calculate the revenue collected through the Green Initiative Special Rate Adjustment. As shown in Table COE-EWSI-04.b iii)-1, EWSI will collect approximately $6.5 million over the current PBR term. This is less than the $1.9 million annual amount included in the original 2017-2021 PBR forecast, the lower collection is due to lower than forecast inflation adjustments and lower than forecast consumption over the 2017-2021 PBR term. The $6.5 million collected over the current PBR term has been treated as a contribution towards the solar farm project, which will reduce the revenue requirement generated by the project over the 2022-2026 PBR term.

Table COE-EWSI-4.b iii)-1
Green Power Special Rate Adjustment
Revenue Collection
2017-2022
($millions)

	A	B	C	D	E	F	G
Customer Class	**2017**	**2018**	**2019**	**2020**	**2021**	**2022 (Jan-Mar)**	**Total**
1 Residential	0.2	0.5	0.7	1.1	1.4	0.3	**4.4**
2 Multi-Residential	0.0	0.1	0.1	0.2	0.4	0.1	**0.9**
3 Commercial	0.1	0.2	0.2	0.3	0.3	0.1	**1.2**
4 **Total**	**0.4**	**0.8**	**1.1**	**1.6**	**2.1**	**0.5**	**6.5**

April 28, 2021

EPCOR Water Services Inc.
2022-2024 and 2022-2026 PBR Applications
COE-EWSI-5

Question: **COE-EWSI-5.a**

Topic: **Inflation Factor**

Sub-Topic: **Water Services Inflation Factor**

Reference: **Water Services Application, Table 4.2.1-1**

Preamble: *As noted in paragraph 190 of the Water Services Application "For the 2022-2026 PBR term, EWSI has proposed a new inflation factor for Water Services with weighting of 60% CPI (non-labour component) and 40% AHE (labour component), based on Water Services forecast cost structure. Weightings of 65% CPI and 35% AHE have been applied since EWSI's 2012-2016 PBR Applications for Water Services and Wastewater Treatment Services. The weightings of 65% CPI and 35% AHE were based on the combined operating expenses for Water Services and Wastewater Treatment. For the 2022-2024 and 2022-2026 PBR Applications EWSI has applied separate weight factors for Water Services, Wastewater Treatment, and Drainage Services, based on each operations proportion of labour costs relative to all other costs over the PBR term.*

Please provide the calculation supporting the change in weighting to 60% CPI and 40% AHE for Water Services from the previously approved weighting of 65% CPI and 35% AHE.

EPCOR RESPONSE:

Table COE-EWSI-5.a-1 details the calculation used to determine the 60% CPI and 40% AHE inflation weighting proposed in the Water Services PBR Application.

Table COE Table COE-EWSI-5.a-1
Water Services Inflation Weighting
2022-2026
($millions)

		A	B	C	D	E	F	G	H	I
		Allocation	**2022**	**2023**	**2024**	**2025**	**2026**	**Total**	**Weighting**	**Rounded**
	Labour - AHE									
1	Staff Costs and Employee Benefits	100%	42.6	41.9	41.6	41.3	42.1	**209.4**		
2	Corporate Shared Services	70%	7.1	7.3	7.4	7.6	7.7	**37.0**		
3	EWSI Shared Services Allocation	63%	6.6	6.8	6.9	7.0	7.2	**34.5**		
4	Meter Reading Services (Recoveries)	90%	(5.1)	(4.9)	(4.4)	(3.7)	(3.7)	**(21.9)**		
5	**Total Labour Costs**		**51.2**	**50.9**	**51.6**	**52.2**	**53.2**	**259.1**	**38%**	**40%**
	Non-Labour - CPI									
6	Contractors, Consultants, Materials and Supplies	100%	13.7	14.0	14.2	14.5	14.8	**71.1**		
7	Chemicals, Power and Other Utilities	100%	23.0	25.2	25.7	26.3	26.9	**127.2**		
8	Customer Billing and Collections Services	100%	8.2	8.3	8.5	8.7	8.9	**42.5**		
9	Franchise Fees and Property Taxes	100%	17.7	18.9	19.9	20.9	21.9	**99.3**		
10	Vehicles and Other Costs	100%	7.3	7.4	7.4	7.5	7.6	**37.2**		
11	Corporate Shared Services	30%	3.0	3.1	3.2	3.2	3.3	**15.9**		
12	Asset Usage Fees	100%	3.6	3.7	3.8	3.8	3.9	**18.8**		
13	EWSI Shared Services Allocation	37%	3.9	4.0	4.1	4.1	4.2	**20.3**		
14	Meter Reading Services (Recoveries)	10%	(0.6)	(0.5)	(0.5)	(0.4)	(0.4)	**(2.4)**		
15	**Total Non-Labour Costs**		**79.8**	**83.9**	**86.3**	**88.7**	**91.1**	**429.8**	**62%**	**60%**
16	**Total Operating Costs**		**131.0**	**134.9**	**137.9**	**140.8**	**144.3**	**688.9**		

Question: **COE-EWSI-5.b**

Topic: **Inflation Factor**

Sub-Topic: **Drainage Services Inflation Factor**

Reference: **Drainage Services Application, Table 5.2.1-1**

Please provide the calculation supporting the weighting of 40% CPI and 60% for Drainage Services.

EPCOR RESPONSE:

Table COE-EWSI-5.b-1 details the calculation used to determine the 40% CPI and 60% AHE inflation weighting proposed in the Drainage Services PBR Application.

Table COE-EWSI-5.b-1
Drainage Services Inflation Weighting
2022-2024
($millions)

		A **Allocation**	B **2022**	C **2023**	D **2024**	E **Total**	F **Weighting**	G **Rounded**
	Labour - AHE							
1	Staff Costs and Employee Benefits	100%	57.6	57.8	58.9	**174.3**		
2	Corporate Shared Services	70%	8.8	9.0	9.2	**27.0**		
3	EWSI Shared Services Allocation	63%	2.2	2.3	2.3	**6.8**		
4	Meter Reading Services (Recoveries)	90%	2.5	2.4	2.2	**7.2**		
5	**Total Labour Costs**		**71.2**	**71.5**	**72.6**	**215.3**	60%	60%
	Non-Labour - CPI							
6	Contractors, Consultants, Materials and Supplies	100%	23.2	18.0	19.4	**60.5**		
7	Customer Billing and Collections Services	100%	4.9	5.0	5.1	**15.0**		
8	Franchise Fees and Property Taxes	100%	11.8	12.1	13.1	**37.0**		
9	Vehicles and Other Costs	100%	2.3	1.9	2.0	**6.2**		
10	Corporate Shared Services	30%	3.8	3.9	3.9	**11.6**		
11	Asset Usage Fees	100%	3.7	3.7	3.8	**11.2**		
12	EWSI Shared Services Allocation	37%	1.3	1.3	1.4	**4.0**		
13	Meter Reading Services (Recoveries)	10%	0.3	0.3	0.2	**0.8**		
14	**Total Non-Labour Costs**		**51.2**	**46.2**	**48.9**	**146.3**	40%	40%
15	**Total Operating Costs**		**122.4**	**117.8**	**121.4**	**361.6**		

Question: **COE-EWSI-5.c**

Topic: **Inflation Factor**

Sub-Topic: **Wastewater Treatment Inflation Factor**

Reference: **Wastewater Treatment Application Table 4.2.1-1**

Please provide the calculation supporting the weighting of 65% CPI and 35% for Wastewater Treatment Services.

EPCOR RESPONSE:

Table COE-EWSI-5.c-1 details the calculation used to determine the 65% CPI and 35% AHE inflation weighting proposed in the Wastewater Treatment PBR Application.

Table COE Table COE-EWSI-5.c-1
Wastewater Treatment Inflation Weighting
2022-2024
($millions)

		A	B	C	D	E	F	G
		Allocation	**2022**	**2023**	**2024**	**Total**	**Weighting**	**Rounded**
	Labour - AHE							
1	Staff Costs and Employee Benefits	100%	18.3	18.8	19.6	**56.7**		
2	Corporate Shared Services	70%	2.4	2.5	2.5	**7.4**		
3	EWSI Shared Services Allocation	63%	2.1	2.1	2.1	**6.3**		
4	Meter Reading Services (Recoveries)	90%	2.5	2.4	2.2	**7.1**		
5	**Total Labour Costs**		**25.3**	**25.8**	**26.4**	**77.5**	34%	35%
	Non-Labour - CPI							
6	Contractors, Consultants, Materials and Supplies	100%	18.2	22.4	19.7	**60.2**		
7	Chemicals, Power and Other Utilities	100%	7.2	8.2	8.4	**23.9**		
8	Customer Billing and Collections Services	100%	3.4	3.5	3.5	**10.4**		
9	Franchise Fees and Property Taxes	100%	10.0	10.7	10.9	**31.6**		
10	Vehicles and Other Costs	100%	2.4	2.9	4.0	**9.3**		
11	Corporate Shared Services	30%	1.0	1.1	1.1	**3.2**		
12	Asset Usage Fees	100%	1.8	1.8	1.9	**5.5**		
13	EWSI Shared Services Allocation	37%	1.2	1.2	1.3	**3.7**		
14	Meter Reading Services (Recoveries)	10%	0.3	0.3	0.2	**0.8**		
15	**Total Non-Labour Costs**		**45.5**	**52.0**	**51.1**	**148.6**	66%	65%
16	**Total Operating Costs**		**70.8**	**77.8**	**77.4**	**226.1**		

Request: **COE-EWSI-6.a**

Topic **Operating Costs**

Sub-Topic **Water Services Operating Costs Tables**

Reference: **Water Services Application, Section 5.0**

For each of the operating cost tables included in Section 5.0 of the Water Services Application (Tables 5.1-1 to 5.2.9-1), please expand the tables for 2021 to 2026 to include the PBR approved and actual/forecast costs for each of the years 2017 to 2020.

EPCOR RESPONSE

Tables COE-EWSI-6.a-1 to COE-EWSI-6.a-11 provide the operating cost tables included in Section 5.0 of the Water Services Application expanded to include PBR approved and actual/forecast costs for each of the years 2017 to 2026.

Table COE-EWSI-6.a-1
PBR Application Table 5.1-1
Operating Costs by Cost Category
2017-2026
($ millions)

	Cost Category	A 2017D	B 2018D	C 2019D	D 2020D	E 2021D	F 2017A	G 2018A	H 2019A	I 2020F	J 2021F	K 2022F	L 2023F	M 2024F	N 2025F	O 2026F
1	Staff Costs and Employee Benefits	43.3	44.1	45.1	46.0	47.0	41.7	41.7	41.1	41.2	42.4	42.6	41.9	41.6	41.3	42.1
2	Contractors and Consultants	7.4	8.6	8.7	8.9	9.1	7.6	9.9	9.8	7.9	8.3	9.9	10.2	10.3	10.5	10.7
3	Chemicals	7.2	7.3	7.4	7.6	7.7	8.4	7.9	11.7	10.9	11.5	12.5	12.8	13.1	13.3	13.6
4	Power and Other Utilities	12.0	14.1	14.4	14.7	15.0	11.6	10.0	10.3	11.0	11.4	10.5	12.3	12.7	13.0	13.3
5	Materials and Supplies	3.0	3.1	3.2	3.2	3.3	3.5	3.9	3.9	3.6	3.6	3.7	3.8	3.9	4.0	4.0
6	Other	5.0	5.1	5.3	5.4	5.5	4.3	4.6	6.3	5.9	6.7	6.6	6.7	6.8	6.9	7.0
7	Customer Billing and Collections Services	7.8	8.1	8.4	8.7	9.1	7.8	7.9	7.8	9.9	8.0	8.2	8.3	8.5	8.7	8.9
8	Meter Reading Services (Recoveries)	(4.1)	(4.2)	(4.8)	(4.9)	(5.0)	(3.9)	(4.6)	(4.6)	(4.9)	(5.1)	(5.7)	(5.5)	(4.9)	(4.1)	(4.2)
9	Franchise Fees and Property Taxes	15.0	15.8	16.3	16.8	17.4	14.6	15.0	14.9	15.8	16.2	17.7	18.9	19.9	20.9	21.9
10	Corporate Shared Services	15.0	15.3	15.6	15.9	16.2	12.9	12.0	12.1	12.6	13.7	13.8	14.1	14.3	14.6	14.9
11	EWSI Shared Services Allocation	9.8	10.0	10.2	10.5	10.7	9.6	9.2	9.4	10.0	10.3	10.5	10.7	10.9	11.2	11.4
12	Vehicles	1.2	1.3	1.3	1.3	1.3	1.6	1.3	(0.5)	0.8	0.8	0.7	0.7	0.6	0.6	0.6
13	**Total EWSI Operating Costs**	**122.6**	**128.5**	**131.2**	**134.1**	**137.3**	**119.8**	**118.8**	**122.3**	**124.7**	**127.8**	**131.0**	**134.9**	**137.9**	**140.8**	**144.3**
14	**Total for In-City only**	**100.7**	**106.0**	**108.1**	**110.4**	**112.9**	**98.8**	**97.2**	**99.5**	**101.8**	**103.3**	**103.7**	**106.8**	**109.2**	**111.3**	**114.0**
15	**Total for Fire Protection only**	**5.0**	**5.3**	**5.4**	**5.5**	**5.6**	**5.0**	**5.5**	**6.0**	**5.9**	**6.6**	**8.6**	**8.8**	**9.1**	**9.5**	**9.7**

Table COE-EWSI-6.a-2
PBR Application Table 5.2-1
Operating Costs by Function
2017-2026
($ millions)

		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
	Operational Function	**2017D**	**2018D**	**2019D**	**2020D**	**2021D**	**2017A**	**2018A**	**2019A**	**2020F**	**2021F**	**2022F**	**2023F**	**2024F**	**2025F**	**2026F**
1	Power, Other Utilities and Chemicals	19.1	21.4	21.8	22.3	22.7	20.0	17.9	22.0	21.9	23.0	23.0	25.2	25.7	26.3	26.9
2	Water Treatment Plants	18.8	19.2	19.6	20.0	20.4	17.4	19.1	18.9	21.9	22.6	24.0	24.1	24.6	25.1	25.6
3	Water Distribution and Transmission	24.6	25.1	25.6	26.1	26.7	25.7	26.7	26.5	23.1	23.0	22.9	22.8	23.2	23.7	24.2
4	Operational Support Services	12.6	13.9	14.2	14.5	14.7	12.2	13.7	13.7	11.9	12.6	12.7	12.9	13.1	13.4	13.7
5	Capitalized Overhead	(7.1)	(7.3)	(7.4)	(7.6)	(7.8)	(7.1)	(7.5)	(8.3)	(8.5)	(8.8)	(9.1)	(9.3)	(9.5)	(9.7)	(9.9)
6	Billing, Meters and Customer Service	11.7	12.0	12.1	12.4	12.9	11.2	9.9	10.4	12.2	11.4	11.6	11.6	11.4	11.2	11.4
7	EWSI Shared Services	12.9	13.2	13.4	13.7	14.0	12.9	12.1	12.0	13.7	14.2	14.4	14.7	15.0	15.3	15.6
8	Corporate Shared Services	15.0	15.3	15.6	15.9	16.2	12.9	12.0	12.1	12.6	13.7	13.8	14.1	14.3	14.6	14.9
9	Franchise Fees and Property Taxes	15.0	15.8	16.3	16.8	17.4	14.6	15.0	14.9	15.8	16.2	17.7	18.9	19.9	20.9	21.9
10	**Total EWSI Operating Costs**	**122.6**	**128.5**	**131.2**	**134.1**	**137.3**	**119.8**	**118.8**	**122.3**	**124.7**	**127.8**	**131.0**	**134.9**	**137.9**	**140.8**	**144.3**
11	**Total for In-City only**	**100.7**	**106.0**	**108.1**	**110.4**	**112.9**	**98.8**	**97.2**	**99.5**	**101.8**	**103.3**	**103.7**	**106.8**	**109.2**	**111.3**	**114.0**
12	**Total for Fire Protection only**	**5.0**	**5.3**	**5.4**	**5.5**	**5.6**	**5.0**	**5.5**	**6.0**	**5.9**	**6.6**	**8.6**	**8.8**	**9.1**	**9.5**	**9.7**

Table COE-EWSI-6.a-3
PBR Application Table 5.2.1-1
Power, Other Utilities and Chemicals Costs
2017-2026
($ millions)

	Category	A 2017D	B 2018D	C 2019D	D 2020D	E 2021D	F 2017A	G 2018A	H 2019A	I 2020F	J 2021F	K 2022F	L 2023F	M 2024F	N 2025F	O 2026F
1	Power	11.4	13.5	13.8	14.1	14.4	10.9	9.4	9.7	10.4	10.8	9.8	11.6	11.8	12.0	12.3
2	Natural Gas	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.7	0.8	0.9	1.0	1.0
3	Chemicals	7.2	7.3	7.4	7.6	7.7	8.4	7.9	11.7	10.9	11.5	12.5	12.8	13.1	13.3	13.6
4	**Total**	**19.1**	**21.4**	**21.8**	**22.3**	**22.7**	**20.0**	**17.9**	**22.0**	**21.9**	**23.0**	**23.0**	**25.2**	**25.7**	**26.3**	**26.9**

Table COE-EWSI-6.a-4
PBR Application Table 5.2.2-1
Water Treatment Plants Costs
2017-2026
($ millions)

	Category	A 2017D	B 2018D	C 2019D	D 2020D	E 2021D	F 2017A	G 2018A	H 2019A	I 2020F	J 2021F	K 2022F	L 2023F	M 2024F	N 2025F	O 2026F
1	WTP Reservoir Maintenance	8.2	8.3	8.5	8.7	8.8	7.4	8.4	8.3	10.0	10.1	10.7	10.9	11.2	11.4	11.6
2	WTP Operations	7.2	7.4	7.5	7.7	7.8	7.1	7.3	7.3	7.8	8.1	8.3	8.5	8.7	8.9	9.1
3	WTP Engineering, Projects & PC&A	3.4	3.5	3.6	3.7	3.7	2.9	3.3	3.3	4.1	4.5	4.9	4.6	4.7	4.8	4.9
4	**Total**	**18.8**	**19.2**	**19.6**	**20.0**	**20.4**	**17.4**	**19.1**	**18.9**	**21.9**	**22.6**	**24.0**	**24.1**	**24.6**	**25.1**	**25.6**

Table COE-EWSI-6.a-5
PBR Application Table 5.2.3-1
Water Distribution and Transmission Costs
2017-2026
($ millions)

	Category	A 2017D	B 2018D	C 2019D	D 2020D	E 2021D	F 2017A	G 2018A	H 2019A	I 2020F	J 2021F	K 2022F	L 2023F	M 2024F	N 2025F	O 2026F
1	Distribution Construction and Maintenance	11.7	11.9	12.2	12.4	12.7	12.4	14.2	15.6	10.0	11.2	11.3	11.4	11.7	11.9	12.2
2	Distribution Operations	9.5	9.6	9.8	10.0	10.2	9.7	9.8	10.3	9.1	5.4	5.2	4.9	5.0	5.1	5.2
3	Distribution Technical Services	3.5	3.6	3.7	3.7	3.8	3.8	3.5	1.5	1.8	1.9	1.8	1.8	1.8	1.8	1.9
4	Distribution Infrastructure	1.1	1.1	1.1	1.1	1.2	0.5	0.8	0.9	0.9	1.0	1.1	1.1	1.1	1.2	1.2
5	Dispatch, Locating & Staking	-	-	-	-	-	-	-	-	2.9	5.2	5.3	5.4	5.5	5.6	5.7
6	Fleet Management	(1.1)	(1.1)	(1.2)	(1.2)	(1.2)	(0.8)	(1.6)	(1.8)	(1.7)	(1.7)	(1.8)	(1.8)	(1.9)	(1.9)	(2.0)
7	**Total**	**24.6**	**25.1**	**25.6**	**26.1**	**26.7**	**25.7**	**26.7**	**26.5**	**23.1**	**23.0**	**22.9**	**22.8**	**23.2**	**23.7**	**24.2**

Table COE-EWSI-6.a-6
PBR Application Table 5.2.4-1
Operational Support Services Costs
2017-2026
($ millions)

	Category	A 2017D	B 2018D	C 2019D	D 2020D	E 2021D	F 2017A	G 2018A	H 2019A	I 2020F	J 2021F	K 2022F	L 2023F	M 2024F	N 2025F	O 2026F
1	Quality Assurance and Environment	5.4	6.5	6.6	6.7	6.9	5.4	6.7	6.8	6.2	6.9	6.7	6.8	7.0	7.1	7.3
2	Water Operations Management	3.1	3.2	3.3	3.3	3.4	2.8	2.8	3.0	3.0	3.1	3.4	3.4	3.5	3.6	3.6
3	Project and Asset Management	2.4	2.4	2.5	2.5	2.6	2.1	2.0	1.7	1.5	1.5	1.6	1.6	1.6	1.7	1.7
4	Supply Chain Management & Security	1.7	1.8	1.8	1.9	1.9	1.9	2.2	2.2	1.2	1.1	1.1	1.0	1.1	1.1	1.1
5	**Total**	**12.6**	**13.9**	**14.2**	**14.5**	**14.7**	**12.2**	**13.7**	**13.7**	**11.9**	**12.6**	**12.7**	**12.9**	**13.1**	**13.4**	**13.7**

Table COE-EWSI-6.a-7
PBR Application Table 5.2.5-1
Capitalized Overhead Costs
2017-2026
($ millions)

		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
		2017D	**2018D**	**2019D**	**2020D**	**2021D**	**2017A**	**2018A**	**2019A**	**2020F**	**2021F**	**2022F**	**2023F**	**2024F**	**2025F**	**2026F**
1	Capitalized Overhead	(7.1)	(7.3)	(7.4)	(7.6)	(7.8)	(7.1)	(7.5)	(8.3)	(8.5)	(8.8)	(9.1)	(9.3)	(9.5)	(9.7)	(9.9)
2	**Total**	**(7.1)**	**(7.3)**	**(7.4)**	**(7.6)**	**(7.8)**	**(7.1)**	**(7.5)**	**(8.3)**	**(8.5)**	**(8.8)**	**(9.1)**	**(9.3)**	**(9.5)**	**(9.7)**	**(9.9)**

Table COE-EWSI-6.a-8
PBR Application Table 5.2.6-1
Billing, Meters and Customer Service Costs
2017-2026
($ millions)

		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
	Category	**2017D**	**2018D**	**2019D**	**2020D**	**2021D**	**2017A**	**2018A**	**2019A**	**2020F**	**2021F**	**2022F**	**2023F**	**2024F**	**2025F**	**2026F**
1	Customer Billing Services	7.8	8.1	8.4	8.7	9.1	7.8	7.9	7.8	9.9	8.0	8.2	8.3	8.5	8.7	8.9
2	Meter Services	3.1	3.1	2.8	2.8	3.0	2.7	1.3	2.2	2.1	3.3	3.3	3.2	2.9	2.4	2.5
3	Customer Service	0.8	0.7	0.9	0.8	0.9	0.6	0.7	0.4	0.2	0.1	0.1	0.1	0.1	0.1	0.1
4	**Total**	**11.7**	**12.0**	**12.1**	**12.4**	**12.9**	**11.2**	**9.9**	**10.4**	**12.2**	**11.4**	**11.6**	**11.6**	**11.4**	**11.2**	**11.4**

Table COE-EWSI-6.a-9
PBR Application Table 5.2.7-1
EWSI Shared Services Costs
2017-2026
($ millions)

	Category	A 2017D	B 2018D	C 2019D	D 2020D	E 2021D	F 2017A	G 2018A	H 2019A	I 2020F	J 2021F	K 2022F	L 2023F	M 2024F	N 2025F	O 2026F
1	EWSI Shared Services	12.9	13.2	13.4	13.7	14.0	12.9	12.1	12.0	13.7	14.2	14.4	14.7	15.0	15.3	15.6

Table COE-EWSI-6.a-10
PBR Application Table 5.2.8-1
Corporate Shared Services Costs Allocated to Edmonton Water Operations
2017-2026
($ millions)

		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
	Shared Service Unit	**2017D**	**2018D**	**2019D**	**2020D**	**2021D**	**2017A**	**2018A**	**2019A**	**2020F**	**2021F**	**2022F**	**2023F**	**2024F**	**2025F**	**2026F**
1	Board and Executive	0.9	0.9	1.0	1.0	1.0	0.8	0.7	0.7	0.7	0.8	0.8	0.8	0.8	0.8	0.9
2	Corporate Finance	1.0	1.0	1.1	1.1	1.1	0.9	0.8	0.8	0.7	0.6	0.6	0.6	0.6	0.6	0.6
3	Treasury	0.8	0.8	0.8	0.8	0.8	0.4	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.5	0.5
4	Risk Assurance & Advisory Services	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.3	0.4	0.5	0.5	0.5	0.5	0.5	0.5
5	Human Resources	1.6	1.7	1.7	1.7	1.8	1.3	1.3	1.6	1.8	1.8	1.9	1.9	1.9	2.0	2.0
6	Information Services	2.0	2.0	2.1	2.1	2.1	1.9	2.1	2.0	1.9	1.9	2.0	2.1	2.1	2.2	2.2
7	Supply Chain Management	2.0	2.0	2.0	2.1	2.1	1.5	1.2	1.2	1.2	1.2	1.3	1.3	1.4	1.4	1.4
8	Public and Government Affairs	1.2	1.2	1.2	1.3	1.3	0.9	1.0	1.1	1.1	1.1	1.1	1.1	1.1	1.2	1.2
9	Legal Services	0.7	0.7	0.7	0.7	0.7	0.5	0.4	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4
10	Health, Safety & Environment	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.3	0.2	0.2	0.2	0.2	0.2	0.2
11	At-Risk Compensation	1.1	1.1	1.1	1.2	1.2	0.9	1.1	1.0	1.0	1.0	1.0	1.0	1.1	1.1	1.1
12	Other Corporate Services	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	**Subtotal**	**11.7**	**12.0**	**12.2**	**12.4**	**12.7**	**9.8**	**9.3**	**9.5**	**9.7**	**10.0**	**10.2**	**10.4**	**10.6**	**10.8**	**11.0**
14	Asset Usage Fees	3.3	3.3	3.4	3.5	3.5	3.1	2.7	2.7	2.9	3.8	3.6	3.7	3.8	3.8	3.9
15	**Total Corporate Shared Services Costs**	**15.0**	**15.3**	**15.6**	**15.9**	**16.2**	**12.9**	**12.0**	**12.1**	**12.6**	**13.7**	**13.8**	**14.1**	**14.3**	**14.6**	**14.9**

Table COE-EWSI-6.a-11
PBR Application Table 5.2.9-1
Franchise Fees and Property Taxes
2017-2026
($ millions)

	Category	A 2017D	B 2018D	C 2019D	D 2020D	E 2021D	F 2017A	G 2018A	H 2019A	I 2020F	J 2021F	K 2022F	L 2023F	M 2024F	N 2025F	O 2026F
1	Franchise Fees	14.5	15.4	15.8	16.3	16.9	14.3	14.8	14.7	15.6	15.5	16.8	18.1	19.1	20.0	21.0
2	Property Taxes	0.4	0.4	0.4	0.5	0.5	0.2	0.2	0.2	0.3	0.7	0.8	0.8	0.9	0.9	0.9
3	**Total**	**15.0**	**15.8**	**16.3**	**16.8**	**17.4**	**14.6**	**15.0**	**14.9**	**15.8**	**16.2**	**17.7**	**18.9**	**19.9**	**20.9**	**21.9**

Request: **COE-EWSI-6.b**

Topic: Operating Costs

Sub-Topic: **Drainage Services Operating Costs Tables**

Reference: **Drainage Services Application, Section 6.0**

For each of the operating cost tables included in Section 6.0 of the Drainage Services Application (Tables 6.1-1 to 6.2.9-1), please expand the tables for 2021 to 2024 to include the PBR approved and actual/forecast costs for each of the years 2017 to 2020.

EPCOR RESPONSE:

At the time of the transfer of Drainage Services to EPCOR, EPCOR committed to maintain 3% average annual residential bill increases until March 31, 2022. The rates required to meet this commitment are included in the price schedules of Bylaw 18100, the EPCOR Drainage Services Bylaw. Therefore, there are no PBR approved costs for Drainage Services for the 2018-2021 PBR term. Further, because of the timing of the transfer, actual results are only available from 2018, when EPCOR acquired control of Drainage Services. Accordingly, the following tables provide actual/forecast costs for 2018 to 2024. Please note that these tables duplicate the information provided in MFR schedules 5-1 to 11-1.

Table COE-EWSI-6.b-1
PBR Application Table 6.1-1
Operating Costs by Cost Category
2018-2024
($ millions)

	Cost Category	A 2018A	B 2019A	C 2020F	D 2021F	E 2022F	F 2023F	G 2024F
1	Staff Costs and Employee Benefits	45.1	52.0	46.5	58.4	57.6	57.8	58.9
2	Contractors and Consultants*	25.7	12.5	28.0	31.1	15.9	10.5	11.7
3	Materials and Supplies	7.0	20.0	6.3	7.6	7.3	7.5	7.7
4	Customer Billing and Collections	5.2	4.7	6.6	4.8	4.9	5.0	5.1
5	Meter Reading Services	2.4	2.4	2.4	2.5	2.8	2.7	2.4
6	Corporate Shared Services	14.0	14.5	15.0	16.3	16.3	16.6	17.0
7	Vehicles	0.4	(4.5)	2.2)	(4.9)	(5.7)	(5.8)	(5.9)
8	EWSI Shared Services Allocation	-	(0.1)	3.4	3.9	3.5	3.6	3.7
9	Other	1.5	6.5	10.9	8.1	8.0	7.7	7.9
10	**Total**	**101.4**	**107.9**	**116.8**	**127.7**	**110.6**	**105.6**	**108.4**

*Reflects transfer of the Biosolids Management Program to Wastewater Treatment on April 1, 2022.

Table COE-EWSI-6.b-2
PBR Application Table 6.2-1
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2018-2024
($ millions)

	Operational Function	A 2018A	B 2019A	C 2020F	D 2021F	E 2022F	F 2023F	G 2024F
1	Drainage Operations*	48.8	49.8	51.3	56.3	43.1	38.6	39.4
2	One Water Planning and Project Support	12.3	17.4	16.9	17.0	16.9	17.1	17.5
3	Operational Support Services	3.2	2.4	2.5	3.9	0.4	(0.1)	(0.1)
4	Billing, Meters and Customer Service	7.6	7.1	9.0	7.3	7.7	7.7	7.5
5	Drainage Services Administration	15.4	16.7	18.0	18.6	18.6	18.9	19.5
6	Corporate Shared Services	14.0	14.5	15.0	16.3	16.3	16.6	17.0
7	SIRP	-	0.0	2.3	4.1	4.3	4.5	4.6
8	CORe	-	0.0	1.8	4.1	3.3	2.2	3.1
9	**Total**	**101.4**	**107.9**	**116.8**	**127.7**	**110.6**	**105.6**	**108.4**

Table COE-EWSI-6.b-3
PBR Application Table 6.2.1-1
Drainage Operations
2021-2024
($ millions)

		A 2018A	B 2019A	C 2020F	D 2021F	E 2022F	F 2023F	G 2024F
1	Biosolids Management Program	13.4	14.0	14.8	16.9	4.5	-	-
2	Pipeline Maintenance	16.6	17.5	18.0	19.6	18.7	18.3	18.7
3	Flow Control Facilities	10.7	10.7	11.1	11.6	11.7	12.0	12.2
4	Monitoring and Compliance	5.4	5.7	5.9	6.3	6.2	6.3	6.4
5	General Maintenance	2.7	1.9	1.6	1.9	2.0	2.0	2.1
6	**Total**	**48.8**	**49.8**	**51.3**	**56.3**	**43.1**	**38.6**	**39.4**

Table COE-EWSI-6.b-4
PBR Application Table 6.2.2-1
Financial Schedule 7-1
One Water Planning and Project Support Costs
2021-2024
($ millions)

		A 2018A	B 2019A	C 2020F	D 2021F	E 2022F	F 2023F	G 2024F
1	One Water Planning	9.1	8.1	6.8	7.0	6.8	6.8	6.9
2	Engineering	1.2	1.2	2.0	2.2	2.2	2.3	2.3
3	Project Management	2.2	2.0	2.8	2.8	2.9	3.0	3.0
4	Open Cut Services	0.5	2.9	2.5	2.0	2.1	2.1	2.2
5	In House Tunneling	0.5	1.8	1.6	1.9	1.9	1.9	2.0
6	Construction Management	(1.1)	1.4	1.2	1.1	1.0	1.1	1.1
7	**Total**	**12.3**	**17.4**	**16.9**	**17.0**	**16.9**	**17.1**	**17.5**

Table COE-EWSI-6.b-5
PBR Application Table 6.2.3-1
Operational Support Services Costs
2021-2024
($ millions)

		A 2018A	B 2019A	C 2020F	D 2021F	E 2022F	F 2023F	G 2024F
1	Facility Operations	3.1	4.2	4.7	6.5	3.8	3.5	3.6
2	Supply Chain Management	1.7	1.4	1.6	1.4	1.4	1.3	1.3
3	Fleet and Equipment	(1.5)	(3.3)	(3.9)	(4.0)	(4.8)	(4.9)	(5.0)
4	**Total**	**3.2**	**2.4**	**2.5**	**3.9**	**0.4**	**(0.1)**	**(0.1)**

Table COE-EWSI-6.b-6
PBR Application Table 6.2.4-1
Customer Billing and Meter Reading Services 2021-2024
($ millions)

	Category	A 2018A	B 2019A	C 2020F	D 2021F	E 2022F	F 2023F	G 2024F
1	Customer Billing Services	5.2	4.7	6.6	4.8	4.9	5.0	5.1
2	Meter Services	2.4	2.4	2.4	2.5	2.8	2.7	2.4
3	**Total**	**7.6**	**7.1**	**9.0**	**7.3**	**7.7**	**7.7**	**7.5**

Table COE-EWSI-6.b-7
PBR Application Table 6.2.5-1
Drainage Services Administration Costs
2021-2024
($ millions)

	Category	A 2018A	B 2019A	C 2020F	D 2021F	E 2022F	F 2023F	G 2024F
1	Information Services	3.4	3.3	3.6	3.7	3.9	4.0	4.0
2	Health, Safety & Loss Prevention	0.9	1.2	1.0	1.5	1.5	1.6	1.6
3	Technical Training	1.7	1.5	1.5	1.6	1.6	1.7	1.7
4	Financial Services	2.7	2.4	1.6	1.7	1.7	1.7	1.9
5	Public & Government Affairs	1.9	2.3	2.1	2.4	2.4	2.4	2.5
6	Human Resources	0.6	0.8	0.7	0.7	0.7	0.8	0.8
7	Executive Administration	1.1	1.3	1.5	1.5	1.5	1.6	1.6
8	Operational Excellence	0.8	1.1	1.3	1.4	1.3	1.4	1.4
9	Incentive Compensation	1.2	2.0	2.9	2.6	2.4	2.4	2.5
10	DVP Drainage Services	0.6	0.6	1.9	1.4	1.5	1.5	1.5
11	Other	0.4	(0.0)	(0.1)	-	-	-	-
12	**Total**	**15.4**	**16.7**	**18.0**	**18.6**	**18.6**	**18.9**	**19.5**

Table COE-EWSI-6.b-8
PBR Application Table 6.2.6-1
Corporate Shared Services Costs Allocated to Drainage Services
2021-2024
($ millions)

	Shared Service Unit	A 2018A	B 2019A	C 2020F	D 2021F	E 2022F	F 2023F	G 2024F
1	Board and Executive	1.0	1.1	1.1	1.2	1.2	1.2	1.2
2	Corporate Finance	0.9	1.0	0.9	0.9	0.9	0.9	0.9
3	Treasury	0.4	0.5	0.5	0.7	0.7	0.7	0.7
4	Risk Assurance & Advisory Services	0.8	0.7	0.8	0.8	0.8	0.8	0.8
5	Human Resources	1.6	2.0	2.1	2.3	2.3	2.3	2.4
6	Information Services	2.2	2.2	2.1	2.2	2.2	2.3	2.3
7	Supply Chain Management	1.6	1.8	1.7	1.8	1.9	1.9	2.0
8	Public and Government Affairs	0.8	0.7	0.7	0.7	0.8	0.8	0.9
9	Legal Services	0.5	0.5	0.5	0.6	0.6	0.6	0.6
10	Health, Safety & Environment	0.2	0.2	0.3	0.2	0.2	0.2	0.2
11	At-Risk Compensation	1.4	1.2	1.2	1.3	1.3	1.3	1.3
12	Other Corporate Services and disallowances	(0.3)	(0.3)	(0.2)	(0.2)	(0.2)	(0.3)	(0.3)
13	**Sub-total**	**11.2**	**11.4**	**11.7**	**12.4**	**12.6**	**12.9**	**13.1**
14	Asset Usage Fees	2.9	3.0	3.3	3.9	3.7	3.7	3.8
15	**Total Corporate Shared Services Costs**	**14.0**	**14.5**	**15.0**	**16.3**	**16.3**	**16.6**	**17.0**

Table COE-EWSI-6.b-9
PBR Application Table 6.2.7-1
SIRP
2021-2024
($ millions)

	Category	A 2018A	B 2019A	C 2020F	D 2021F	E 2022F	F 2023F	G 2024F
1	SIRP	-	0.0	2.3	4.1	4.3	4.5	4.6
2	**Total**	**-**	**0.0**	**2.3**	**4.1**	**4.3**	**4.5**	**4.6**

Table COE-EWSI-6.b-10
PBR Application Table 6.2.8-1
CORe
2021-2024
($ millions)

	Category	A 2018A	B 2019A	C 2020F	D 2021F	E 2022F	F 2023F	G 2024F
1	CORe	-	0.0	1.8	4.1	3.3	2.2	3.1
2	**Total**	**-**	**0.0**	**1.8**	**4.1**	**3.3**	**2.2**	**3.1**

Table COE-EWSI-6.b-11
PBR Application Table 6.2.9-1
2021-2024
($ millions)

		A 2018A	B 2019A	C 2020F	D 2021F	E 2022F	F 2023F	G 2024F
1	Franchise fees	8.9	9.3	9.7	9.8	10.2	10.5	11.4
2	Property and business taxes	0.9	0.8	1.0	1.4	1.6	1.6	1.6
3	**Total Franchise Fees and Property Taxes**	9.8	10.0	10.6	**11.2**	**11.8**	**12.1**	**13.1**

*Franchise fees are only applicable to the sanitary utility.

Question: COE-EWSI-6.c

Topic: Operating Costs

Sub-Topic: Wastewater Treatment Operating Costs Tables

Reference: Wastewater Treatment Application, Section 5.0

For each of the operating cost tables included in Section 5.0 of the Wastewater Treatment Application (Tables 5.1-1 to 5.2.8-1), please expand the tables for 2021 to 2024 to include the PBR approved and actual/forecast costs for each of the years 2017 to 2020.

EPCOR RESPONSE:

Tables COE-EWSI-6.c-1 to COE-EWSI-6.c-10 provide the operating cost tables included in Section 5.0 of the Wastewater Treatment Application expanded to include PBR approved and actual/forecast costs for each of the years 2017 to 2024.

Table COE-EWSI-6.c-1
PBR Table 5.1-1
Operating Costs by Cost Category
2017-2024
($ millions)

	Cost Category	A 2017D	B 2018D	C 2019D	D 2020D	E 2021D	F 2017A	G 2018A	H 2019A	I 2020F	J 2021F	K 2022F	L 2023F	M 2024F
1	Staff Costs and Employee Benefits	18.4	18.7	19.1	19.5	19.9	14.5	16.0	15.7	17.5	17.5	18.3	18.8	19.6
2	Contractors and Consultants	4.9	5.1	5.1	6.1	5.3	5.0	5.0	4.2	4.4	4.5	16.0	20.2	17.4
3	Power, Other Utilities and Chemicals	6.8	6.9	7.1	7.2	7.4	5.8	5.9	6.6	6.4	6.9	7.2	8.2	8.4
4	Customer Billing and Collections	3.2	3.3	3.4	3.6	3.7	3.3	3.1	3.3	4.2	3.3	3.4	3.5	3.5
5	Meter Reading Services	2.3	2.4	2.4	2.5	2.5	2.1	2.4	2.4	2.5	2.5	2.8	2.7	2.4
6	EWSI Shared Services Allocation	3.1	3.1	3.2	3.3	3.3	2.8	2.7	2.9	3.1	3.1	3.3	3.3	3.4
7	Corporate Shared Services	4.8	4.9	5.0	5.1	5.2	4.0	3.8	4.0	4.4	5.2	5.2	5.3	5.4
8	Materials and Supplies	2.0	2.0	2.1	2.1	2.1	2.4	2.0	2.2	2.0	2.1	2.1	2.2	2.3
9	Vehicles	0.2	0.2	0.2	0.2	0.2	-	-	-	0.1	0.1	0.1	0.1	0.1
10	Other	0.9	0.9	0.9	1.0	1.0	0.1	0.5	1.4	1.6	1.6	2.3	2.9	4.0
11	Operations and Maintenance Costs	46.6	47.7	48.6	50.5	50.7	39.9	41.5	42.6	46.2	46.8	60.8	67.2	66.5
12	Franchise Fee and Property Taxes	7.4	8.0	8.5	9.2	9.8	7.2	7.6	7.8	8.4	8.9	10.0	10.7	10.9
13	**Total Gold Bar Operating Costs**	**54.0**	**55.6**	**57.1**	**59.6**	**60.4**	**47.1**	**49.1**	**50.4**	**54.6**	**55.7**	**70.8**	**77.8**	**77.4**

Table COE-EWSI-6.c-2
PBR Table 5.2-1
Operating Costs by Function
2017-2024
($ millions)

	Operational Function	A 2017D	B 2018D	C 2019D	D 2020D	E 2021D	F 2017A	G 2018A	H 2019A	I 2020F	J 2021F	K 2022F	L 2023F	M 2024F
1	Power, Other Utilities and Chemicals	6.8	6.9	7.1	7.2	7.4	5.8	5.9	6.6	6.4	6.9	7.2	8.2	8.4
2	Wastewater Treatment	20.4	20.8	21.2	22.4	22.1	18.4	19.1	18.3	19.6	19.4	32.4	37.8	36.6
3	Operational Support Services	6.0	6.2	6.2	6.5	6.5	5.3	4.9	5.5	5.8	6.2	6.2	6.4	6.5
4	Capital Overhead	(2.3)	(2.4)	(2.4)	(2.5)	(2.5)	(3.1)	(2.9)	(3.1)	(2.9)	(3.2)	(3.3)	(3.3)	(3.4)
5	Billing, Meters and Regulatory Service	6.5	6.7	6.9	7.1	7.3	6.4	6.9	7.1	8.2	7.5	7.9	7.9	7.7
6	EWSI Shared Services	4.4	4.5	4.6	4.7	4.8	3.2	3.9	4.3	4.8	4.8	5.0	5.0	5.3
7	Corporate Shared Services	4.8	4.9	5.0	5.1	5.2	4.0	3.8	4.0	4.4	5.2	5.2	5.3	5.4
8	Operations and Maintenance Costs	46.6	47.7	48.6	50.5	50.7	39.9	41.5	42.6	46.2	46.8	60.8	67.2	66.5
9	Franchise Fee and Property Taxes	7.4	8.0	8.5	9.2	9.8	7.2	7.6	7.8	8.4	8.9	10.0	10.7	10.9
10	**Total Gold Bar Operating Costs**	**54.0**	**55.6**	**57.1**	**59.6**	**60.4**	**47.1**	**49.1**	**50.4**	**54.6**	**55.7**	**70.8**	**77.8**	**77.4**

Table COE-EWSI-6.c-3
PBR Table 5.2.1-1
Power, Other Utilities and Chemicals
2017-2024
($ millions)

	Category	A 2017D	B 2018D	C 2019D	D 2020D	E 2021D	F 2017A	G 2018A	H 2019A	I 2020F	J 2021F	K 2022F	L 2023F	M 2024F
1	Power	4.5	4.6	4.7	4.8	4.9	4.0	4.1	4.5	4.5	4.7	5.0	5.8	5.9
2	Water	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.4	0.4	0.4	0.4	0.5
3	Natural Gas	0.3	0.3	0.3	0.3	0.4	0.3	0.2	0.4	0.2	0.3	0.4	0.4	0.5
4	Chemicals	1.6	1.6	1.6	1.7	1.7	1.0	1.2	1.2	1.3	1.4	1.5	1.5	1.5
5	**Total**	**6.8**	**6.9**	**7.1**	**7.2**	**7.4**	**5.8**	**5.9**	**6.6**	**6.4**	**6.9**	**7.2**	**8.2**	**8.4**

Table COE-EWSI-6.c-4
PBR Table 5.2.2-1
Wastewater Treatment Operating Costs
2017-2024
($ millions)

		A 2017D	B 2018D	C 2019D	D 2020D	E 2021D	F 2017A	G 2018A	H 2019A	I 2020F	J 2021F	K 2022F	L 2023F	M 2024F
1	Gold Bar WWTP Operations	4.4	4.4	4.5	4.6	4.7	4.2	4.3	4.6	5.4	4.7	4.8	4.9	5.0
2	Clover Bar Biosolids Management	-	-	-	-	-	-	-	-	-	-	12.6	17.5	15.9
3	Maintenance	10.1	10.3	10.5	11.5	11.0	9.6	10.0	9.2	9.9	9.9	10.1	10.3	10.6
4	Engineering and Plant Controls & Automation	3.9	4.0	4.1	4.2	4.3	3.4	3.3	3.6	3.5	4.0	4.0	4.1	4.2
5	Project Engineering	2.0	2.0	2.0	2.1	2.1	1.2	1.4	0.9	0.7	0.8	0.9	0.9	0.9
6	**Total**	**20.4**	**20.8**	**21.2**	**22.4**	**22.1**	**18.4**	**19.1**	**18.3**	**19.6**	**19.4**	**32.4**	**37.8**	**36.6**

Table COE-EWSI-6.c-5
PBR Table 5.2.3-1
Operational Support Services Costs
2017-2024
($ millions)

		A **2017D**	B **2018D**	C **2019D**	D **2020D**	E **2021D**	F **2017A**	G **2018A**	H **2019A**	I **2020F**	J **2021F**	K **2022F**	L **2023F**	M **2024F**
1	Quality Assurance & Environment	4.2	4.4	4.4	4.6	4.6	3.8	3.4	3.8	4.2	4.3	4.3	4.4	4.5
2	Gold Bar Administration	1.3	1.3	1.3	1.4	1.4	1.0	1.0	1.2	1.2	1.3	1.4	1.4	1.5
3	Supply Chain Management & Security	0.5	0.5	0.5	0.5	0.5	0.4	0.5	0.4	0.4	0.5	0.5	0.5	0.5
4	**Total**	**6.0**	**6.2**	**6.2**	**6.5**	**6.5**	**5.3**	**4.9**	**5.5**	**5.8**	**6.2**	**6.2**	**6.4**	**6.5**

Table COE-EWSI-6.c-6
PBR Table 5.2.4-1
Capitalized Overhead Costs
2017-2024
($ millions)

		A **2017D**	B **2018D**	C **2019D**	D **2020D**	E **2021D**	F **2017A**	G **2018A**	H **2019A**	I **2020F**	J **2021F**	K **2022F**	L **2023F**	M **2024F**
1	Capitalized Overhead	(2.3)	(2.4)	(2.4)	(2.5)	(2.5)	(3.1)	(2.9)	(3.1)	(2.9)	(3.2)	(3.3)	(3.3)	(3.4)
2	**Total**	**(2.3)**	**(2.4)**	**(2.4)**	**(2.5)**	**(2.5)**	**(3.1)**	**(2.9)**	**(3.1)**	**(2.9)**	**(3.2)**	**(3.3)**	**(3.3)**	**(3.4)**

Table COE-EWSI-6.c-7
PBR Table 5.2.5-1
Billing, Meters and Regulatory Service Costs
2017-2024
($ millions)

	Category	A 2017D	B 2018D	C 2019D	D 2020D	E 2021D	F 2017A	G 2018A	H 2019A	I 2020F	J 2021F	K 2022F	L 2023F	M 2024F
1	Customer Billing Services	3.2	3.3	3.4	3.6	3.7	3.3	3.1	3.3	4.2	3.3	3.4	3.5	3.5
2	Meter Services	2.3	2.4	2.4	2.5	2.5	2.1	2.4	2.4	2.5	2.5	2.8	2.7	2.4
3	Regulatory Services	1.0	1.0	1.0	1.0	1.1	1.0	1.4	1.4	1.5	1.7	1.7	1.7	1.8
4	**Total**	**6.5**	**6.7**	**6.9**	**7.1**	**7.3**	**6.4**	**6.9**	**7.1**	**8.2**	**7.5**	**7.9**	**7.9**	**7.7**

Table COE-EWSI-6.c-8
PBR Table 5.2.6-1
EWSI Shared Services Costs
2017-2024
($ millions)

	Category	A 2017D	B 2018D	C 2019D	D 2020D	E 2021D	F 2017A	G 2018A	H 2019A	I 2020F	J 2021F	K 2022F	L 2023F	M 2024F
1	EWSI Shared Services	4.4	4.5	4.6	4.7	4.8	3.2	3.9	4.3	4.8	4.8	5.0	5.0	5.3

Table COE-EWSI-6.c-9
PBR Table 5.2.7-1
Corporate Shared Services Costs
2017-2024
($ millions)

		A	B	C	D	E	F	G	H	I	J	K	L	M
	Shared Service Unit	**2017D**	**2018D**	**2019D**	**2020D**	**2021D**	**2017A**	**2018A**	**2019A**	**2020F**	**2021F**	**2022F**	**2023F**	**2024F**
1	Board and Executive	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.3	0.2	0.3	0.3	0.3	0.3
2	Corporate Finance	0.3	0.3	0.4	0.4	0.4	0.3	0.2	0.3	0.2	0.2	0.2	0.2	0.2
3	Treasury	0.3	0.3	0.3	0.3	0.3	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2
4	Risk Assurance & Advisory Services	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2
5	Human Resources	0.5	0.5	0.6	0.6	0.6	0.4	0.4	0.6	0.6	0.6	0.7	0.7	0.7
6	Information Services	0.6	0.6	0.6	0.6	0.6	0.5	0.6	0.6	0.5	0.5	0.6	0.6	0.6
7	Supply Chain Management	0.7	0.7	0.7	0.7	0.7	0.5	0.4	0.5	0.5	0.5	0.5	0.5	0.5
8	Public and Government Affairs	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4
9	Legal Services	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
10	Health, Safety & Environment	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
11	At-Risk Compensation	0.4	0.4	0.4	0.4	0.4	0.3	0.4	0.3	0.3	0.3	0.4	0.4	0.4
12	Other Corporate Services	(0.0)	(0.0)	(0.0)	(0.0)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)
13	**Sub-total**	**3.8**	**3.8**	**3.9**	**4.0**	**4.1**	**3.0**	**2.9**	**3.1**	**3.2**	**3.3**	**3.4**	**3.5**	**3.6**
14	Asset Usage Fees	1.1	1.1	1.1	1.1	1.1	1.0	0.8	0.9	1.2	1.8	1.8	1.8	1.9
15	**Total Corporate Shared Services Costs**	**4.8**	**4.9**	**5.0**	**5.1**	**5.2**	**4.0**	**3.8**	**4.0**	**4.4**	**5.2**	**5.2**	**5.3**	**5.4**

Table COE-EWSI-6.c-10
PBR Table 5.2.8-1
Franchise Fee and Property Taxes
2017-2024
($ millions)

	Category	A 2017D	B 2018D	C 2019D	D 2020D	E 2021D	F 2017A	G 2018A	H 2019A	I 2020F	J 2021F	K 2022F	L 2023F	M 2024F
1	Franchise Fee	6.8	7.1	7.5	7.9	8.5	6.6	7.0	7.2	7.8	8.3	9.3	9.9	10.2
2	Property Taxes	0.6	0.8	1.0	1.2	1.3	0.6	0.6	0.6	0.6	0.6	0.7	0.7	0.7
3	**Total**	**7.4**	**8.0**	**8.5**	**9.2**	**9.8**	**7.2**	**7.6**	**7.8**	**8.4**	**8.9**	**10.0**	**10.7**	**10.9**

Question: **COE-EWSI-6.d**

Topic: **Operating Costs**

Sub-Topic: **Water Services Historical Forecast Versus Actual Operating Costs**

Please provide two tables in the same format as Tables 5.1-1 and 5.2-1 by Cost Category and by Function showing the total PBR approved and actual water services operating costs (forecast for 2020 and 2021) for the 2012 to 2016 PBR term and the 2017 to 2021 PBR term.

EPCOR RESPONSE:

Tables COE-EWSI-6.d-1 and COE-EWSI-6.d-2 provide Water Services total operating costs, approved and actual/forecast, by category and by function for the 2012 to 2016 PBR term and the 2017 to 2021 PBR term.

Table COE-EWSI-6.d-1
Operating Costs by Cost Category
2012-2021
($ millions)

	Cost Category	A 2012D-2016D	B 2012A-2016A	C Variance	D 2017D-2021D	E 2017A-2021F	F Variance
1	Staff Costs and Employee Benefits	211.1	187.7	**(23.4)**	225.4	208.1	**(17.3)**
2	Contractors and Consultants	29.9	30.3	**0.4**	42.7	43.5	**0.7**
3	Chemicals	36.4	28.6	**(7.8)**	37.2	50.5	**13.3**
4	Power and Other Utilities	36.6	43.1	**6.5**	70.1	54.2	**(15.8)**
5	Materials and Supplies	16.3	15.2	**(1.1)**	15.8	18.6	**2.8**
6	Other	27.7	20.0	**(7.7)**	26.4	27.8	**1.4**
7	Customer Billing and Collections Services	46.8	44.0	**(2.8)**	42.1	41.4	**(0.6)**
8	Meter Reading Services (Recoveries)	-	-	**-**	(22.9)	(23.1)	**(0.2)**
9	Franchise Fees and Property Taxes	68.7	65.3	**(3.4)**	81.2	76.5	**(4.7)**
10	Corporate Shared Services	103.8	74.9	**(28.8)**	78.0	63.4	**(14.6)**
11	EWSI Shared Services Allocation	-	31.5	**31.5**	51.2	48.4	**(2.8)**
12	Vehicles	10.7	10.5	**(0.2)**	6.4	4.0	**(2.4)**
13	**Total EWSI Operating Costs**	**588.0**	**551.1**	**(36.9)**	**653.7**	**613.5**	**(40.2)**
14	**Total for In-City only**	**488.5**	**454.5**	**(34.1)**	**538.1**	**500.6**	**(37.5)**
15	**Total for Fire Protection only**	**31.4**	**26.0**	**(5.3)**	**26.8**	**29.0**	**2.2**

Table COE-EWSI-6.d-2
Operating Costs by Function
2012-2021
($ millions)

	Operational Function	A 2012D-2016D	B 2012A-2016A	C Variance	D 2017D-2021D	E 2017A-2021F	F Variance
1	Power, Other Utilities and Chemicals	73.1	71.7	**(1.3)**	107.3	104.8	**(2.5)**
2	Water Treatment Plants	92.6	84.9	**(7.7)**	98.0	99.9	**1.9**
3	Water Distribution and Transmission	113.2	116.3	**3.1**	128.1	125.0	**(3.1)**
4	Operational Support Services	73.2	54.8	**(18.4)**	69.9	64.1	**(5.8)**
5	Capitalized Overhead	(16.2)	(24.7)	**(8.5)**	(37.1)	(40.2)	**(3.1)**
6	Billing, Meters and Customer Service	46.8	44.0	**(2.8)**	61.0	55.1	**(5.9)**
7	EWSI Shared Services	32.9	63.8	**31.0**	67.3	64.9	**(2.3)**
8	Corporate Shared Services	103.8	74.9	**(28.8)**	78.0	63.4	**(14.6)**
9	Franchise Fees and Property Taxes	68.7	65.3	**(3.4)**	81.2	76.5	**(4.7)**
10	**Total EWSI Operating Costs**	**588.0**	**551.1**	**(36.9)**	**653.7**	**613.5**	**(40.2)**
11	**Total for In-City only**	**488.5**	**454.5**	**(34.1)**	**538.1**	**500.6**	**(37.5)**
12	**Total for Fire Protection only**	**31.4**	**26.0**	**(5.3)**	**26.8**	**29.0**	**2.2**

Question: COE-EWSI-6.e

Topic: Operating Costs

Sub-Topic: Wastewater Treatment Historical Forecast Versus Actual Operating Costs

Please provide two tables in the same format as Tables 5.1-1 and 5.2-1 by Cost Category and by Function showing the total PBR approved and actual Wastewater Treatment operating costs (forecast for 2020 and 2021) for the 2012 to 2016 PBR term and the 2017 to 2021 PBR term.

EPCOR RESPONSE:

Tables COE-EWSI-6.e-1 and COE-EWSI-6.e-2 provide Wastewater Treatments total operating costs, approved and actual/forecast, by category and by function for the 2012 to 2016 PBR term and the 2017 to 2021 PBR term.

Table COE-EWSI-6.e-1
Operating Costs by Cost Category
2021-2021
($ millions)

	Cost Category	A 2012D-2016D	B 2012A-2016A	C Variance	D 2017D-2021D	E 2017A-2021F	F Variance
1	Staff Costs and Employee Benefits	78.4	73.8	**(4.6)**	95.7	81.2	**(14.4)**
2	Contractors and Consultants	18.6	22.4	**3.8**	26.5	23.1	**(3.4)**
3	Power, Other Utilities and Chemicals	26.4	23.6	**(2.8)**	35.4	31.5	**(3.9)**
4	Customer Billing and Collections	22.3	23.5	**1.3**	17.2	17.2	**0.0**
5	Meter Reading Services	-	-	**-**	12.2	11.9	**(0.3)**
6	EWSI Shared Services Allocation	5.0	10.5	**5.5**	16.0	14.6	**(1.5)**
7	Corporate Shared Services	29.4	20.7	**(8.7)**	25.0	21.2	**(3.8)**
8	Materials and Supplies	16.0	12.8	**(3.2)**	10.3	10.7	**0.4**
9	Vehicles	-	-	**-**	0.9	0.2	**(0.8)**
10	Other	12.4	5.0	**(7.4)**	4.7	5.3	**0.6**
11	Operations and Maintenance Costs	208.5	192.3	**(16.2)**	244.0	217.0	**(27.0)**
12	Franchise Fee and Property Taxes	28.5	26.6	**(2.0)**	42.8	39.9	**(2.9)**
13	**Total Gold Bar Operating Costs**	**237.1**	**218.9**	**(18.2)**	**286.8**	**256.9**	**(29.9)**

Table COE-EWSI-6.e-2
Operating Costs by Function
2021-2021
($ millions)

	Operational Function	A 2012D-2016D	B 2012A-2016A	C Variance	D 2017D-2021D	E 2017A-2021F	F Variance
1	Power, Other Utilities and Chemicals	26.4	23.6	**(2.8)**	35.4	31.5	**(3.9)**
2	Wastewater Treatment	89.5	84.0	**(5.5)**	106.8	94.8	**(12.0)**
3	Operational Support Services	31.3	25.9	**(5.4)**	31.3	27.6	**(3.8)**
4	Capital Overhead	(7.3)	(10.5)	**(3.2)**	(12.2)	(15.2)	**(3.0)**
5	Billing, Meters and Regulatory Service	27.5	27.9	**0.4**	34.5	36.2	**1.7**
6	EWSI Shared Services	11.7	20.7	**9.0**	23.1	20.9	**(2.2)**
7	Corporate Shared Services	29.4	20.7	**(8.7)**	25.0	21.2	**(3.8)**
8	Operations and Maintenance Costs	208.5	192.3	**(16.2)**	244.0	217.0	**(27.0)**
9	Franchise Fee and Property Taxes	28.5	26.6	**(2.0)**	42.8	39.9	**(2.9)**
10	**Total Gold Bar Operating Costs**	**237.1**	**218.9**	**(18.2)**	**286.8**	**256.9**	**(29.9)**

EPCOR Water Services Inc.
2022-2024 and 2022-2026 PBR Applications
COE-EWSI-7

Question: **COE-EWSI-7.a**

Topic: **Accounting and Capitalization Policies**

Sub-Topic: **Accounting Policies**

Reference: **Water Services Application, Section 4.1**

Preamble: *As noted in Paragraph 180 of the Water Services Application "Since January 1, 2011, EUI has prepared its corporate financial information in accordance with International Financial Reporting Standards (IFRS) as required for Canadian publicly accountable enterprises. While EWSI has implemented IFRS to support the public external financial reporting requirements of its parent company, EUI, there are certain IFRS requirements which are not consistent with the accounting treatment historically applied for rate-making and rate-regulated reporting requirements (referred to herein as "regulatory accounting")."*

Paragraph 24 of the Water Services Application - "The re-basing also reflects a $9.4 million decrease in operating costs from 2021 Forecast approved for the 2017-2021 PBR term to the 2021 Forecast. This decrease is primarily attributable to: capitalization of valve casings and service box replacements which had traditionally been expensed in operations, but are more appropriately capitalized because they are assets that are being replaced…"

Paragraph 363 of the Water Services Application - "The $1.0 million increase in Capitalized Overhead recoveries from 2021 approved to 2021 forecast was primarily due to: A $0.7 million increase as a result of adding supply chain and health and safety costs to the overhead pool"

i) For any changes in accounting policies made in accordance with IFRS for financial statement purposes during an approved PBR term, please provide EWSI's understanding of the appropriate treatment for regulatory purposes. Are any adjustments made to the PBR approved revenue requirement (or the applied for revenue requirement in the subsequent PBR term) for amounts that were approved as operating costs in the PBR term but are then capitalized for IFRS purposes?

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COE-EWSI-7

ii) For the capitalization of valve casings and service box replacements, please explain the year this change in accounting treatment was implemented and the dollar impact each year (how much was approved annually as an operating expense in the 2017-2021 PBR term and how much was capitalized each year). Also, please provide a further explanation as to why it was appropriate for these costs to be capitalized.

EWSI RESPONSE:

i) EWSI prepares its financial information in accordance with International Financial Reporting Standards (IFRS). When accounting changes arise as a result of changes to IFRS guidelines or reassessment of EWSI's interpretation of those guidelines, EWSI's understanding is that the appropriate treatment for regulatory purposes is to flow these changes through to the regulatory accounting records. The exceptions to this treatment are described in the Water Application, Section 4.1, Table 4.1-1.

The PBR approved revenue requirement is not adjusted for changes in accounting treatment during the PBR term, except where applicable Non-routine Adjustments are approved through due process. Rates charged to customers during the PBR term are based on the PBR formula described in Schedule 3 of the Bylaw.

The revenue requirement for subsequent PBR terms reflects the accounting treatment at the time of filing the application. This means that updates to IFRS that have been reflected in the regulatory accounting records are included in the applied-for revenue requirement.

ii) EWSI implemented the change in accounting treatment of valve casings and service box replacements in 2020. The value of valve casings and service box replacements capitalized in 2020 and forecast for 2021 is $4.2 million per year.

The annual operating expense approved in the 2017-2021 PBR Term was not separate from other similar expenditures but is estimated to be $2.7 million in 2016 based on the number of valve casings and service boxes replaced. The estimated 2016 spend was used to set the 2017 revenue requirement and inflated thereafter at the PBR Formula.

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Table COE-EWSI-7.a-1 provides a summary of the estimated portion of revenue requirement related to valve casings and service box replacements and the estimated actual expenditures in the 2017-2021 PBR Term.

Table COE-EWSI-7.a-1
Water Services – Valves and Service Boxes
2017-2021
($ millions)

		A **2017**	B **2018**	C **2019**	D **2020**	E **2021**
1	Estimated revenue requirement	2.8	2.8	2.9	2.9	3.0
2	Estimated actual expenditures recorded as operating costs	3.0	2.7	3.4	-	-
3	Actual/Forecast expenditures recorded as capital costs (Actual/Forecast)	-	-	-	4.2	4.2

The expenditures each year varies depending on crew availability, which is influenced by the level of emergency response work such as main breaks and frozen services.

In 2020 EWSI conducted an evaluation of replacement activities with input from finance, engineering and operations. As a result of this review EWSI determined that the valves and services boxes being replaced represented component assets that have a useful life longer than one year and met the definition of an asset as per IFRS – International Accounting Standard 16 – Property, Plant and Equipment.

EPCOR Water Services Inc.
2022-2024 and 2022-2026 PBR Applications
COE-EWSI-7

Question: **COE-EWSI-7.b**

Topic: **Water Services Capitalized Overhead**

Reference: **Water Services Application, Tables 5.2-1 and 5.2.5-1**

i) For each of the individual years of 2017 to 2021 and 2022 to 2026, please provide a table showing the total Water Services PBR approved and actual (forecast for 2020 and 2021) capitalized overhead broken down into major cost components (e.g. salaries, contractors, materials etc.).

ii) For (i) above, please provide an explanation for any significant variances year over year including any changes in accounting treatment to capitalize costs that were previously expensed.

iii) Please provide the justification for adding supply chain and health and safety costs to the overhead pool in the amount of $0.7M in 2021. Please explain what year this change was first implemented and the dollar impact each year.

EPCOR Water Services Inc.
2022-2024 and 2022-2026 PBR Applications
COE-EWSI-7

EWSI RESPONSE

Question: COE-EWSI-7.b

Topic: Water Services Capitalized Overhead

i) Table COE-EWSI-7.b(i) provides a breakdown of 2017-2026 capitalized overhead for Water Services. All of the costs that form the capital overhead pool are labour costs. There are no other cost components such as contractors, materials & supplies, travel etc. included in the pool.

Table COE-EWSI-7.b(i)
Water Services
Capitalized Overhead
($ millions)

		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
		2017D	**2018D**	**2019D**	**2020D**	**2021D**	**2017A**	**2018A**	**2019A**	**2020A**	**2021F**	**2022F**	**2023F**	**2024F**	**2025**	**2026**
1	Various Labour	(6.9)	(7.1)	(7.3)	(7.5)	(7.7)	(6.9)	(7.0)	(7.6)	(7.5)	(8.1)	(8.4)	(8.6)	(8.7)	(8.9)	(9.1)
2	Health & Safety Labour	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)
3	Supply Chain Labour	-	-	-	-	-	-	(0.4)	(0.6)	(0.7)	(0.6)	(0.6)	(0.6)	(0.6)	(0.7)	(0.7)
4	**Total**	**(7.0)**	**(7.2)**	**(7.4)**	**(7.6)**	**(7.8)**	**(7.0)**	**(7.5)**	**(8.3)**	**(8.3)**	**(8.8)**	**(9.1)**	**(9.3)**	**(9.4)**	**(9.7)**	**(9.9)**

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ii) Table COE-EWSI-7.b(ii) provides the variance between the 2017-2021 Decision and 2017-2021 actuals/forecast. The variances related to various labour is a function of fluctuations in cost center labour costs as follows: total salaries, direct capitalized labour, and the net O&M labour remaining. The capital overhead costs are determined by taking net O&M labour multiplied by the ratio of direct capitalized labour over total salaries for each respective cost center budget. The cost centers included are only those that have labour charged into capital projects directly. As well costs for project management, capital finance and incentive pay are included in the Pool. The supply chain labour variance is a result of adding the supply chain management function to the overhead pool beginning in 2018.

Table COE-EWSI-7.b(ii)
Water Services
Capitalized Overhead Variance
($ millions)

		2017A	2018A	2019A	2020F	2021F
1	Various Labour	-	0.1	(0.3)	-	(0.4)
2	Health & Safety Labour	-	-	-	-	-
3	Supply Chain Labour	-	(0.4)	(0.6)	(0.7)	(0.6)
4	**Total**	-	(0.3)	(0.9)	(0.7)	(1.0)

iii) Supply chain management was added to the capital overhead pool to accurately assign labour costs to capital for supply chain management that directly supports the procurement of capitalized goods and services, these costs were previously expensed. Please note the health and safety costs were inadvertently described as a new cost to the pool in the 2022-2026 PBR Application. However, these costs were included in the capital overhead calculations in the 2017-2021 Water PBR and as such are not new costs to justify as additions to the pool for this PBR.

EPCOR Water Services Inc.
2022-2024 and 2022-2026 PBR Applications
COE-EWSI-7

Question: **COE-EWSI-7.c**

Topic: **Drainage Services Capitalized Overhead**

Reference: **Drainage Services Application**

i) Please clarify where capitalized overhead costs are reflected in the Drainage Services Application similar to Tables 5.2-1 and 5.2.5-1 of the Water Services Application.

ii) For each of the individual years of 2017 to 2021 and 2022 to 2024, please provide a table showing the total Drainage Services PBR approved and actual (forecast for 2020 and 2021) capitalized overhead broken down into major cost components (e.g. salaries, contractors, materials etc.).

iii) For (i) above, please provide an explanation for any significant variances year over year including any changes in accounting treatment to capitalize costs that were previously expensed.

EWSI RESPONSE:

i) Although Drainage Services capitalizes overhead costs on the same basis as Water and Wastewater, rather than showing capitalized overhead as a deduction from total operating expenses, Drainage Services presents its operating expenses net of capitalized overhead. Capitalized Overhead costs deducted from operations expenses from 2018 to 2024 are summarized in Table COE-EWSI-7.c(ii) below:

Table COE-EWSI-7.c(ii)
Drainage Services
Capitalized Overhead
($ millions)

		A **2018A**	B **2019A**	C **2020F**	D **2021F**	E **2022F**	F **2023F**	G **2024F**
1	Staff costs and employee benefits	5.0	5.4	4.9	4.6	4.6	4.7	4.8
2	Contractors	0.1	0.0	0.1	-	-	-	-
3	**Total Capital Overhead**	**5.1**	**5.4**	**4.9**	**4.6**	**4.6**	**4.7**	**4.8**

ii) Drainage Services' capitalized overhead costs consist primarily of staff costs and employee benefits. Between 2018 and 2020, a small portion of capitalized overhead

related to costs associated with a contract employee in Drainage Services Project Management Office. Commencing in 2021, capitalized overhead costs are forecast to consist solely of staff costs and employee benefits.

iii) Explanation for variances are as follows:

- **Changes from 2019 to 2020 -** Change primarily due to a decrease of supply chain management recoveries as a result of a reduction in headcount ($0.3) and decrease in short term incentive recovery ($0.3) offset by an increase in finance support $0.1.

- **Changes from 2020 to 2021 -** Change primarily due to a decrease of supply chain management recoveries as a result of a reduction in headcount ($0.1) and decrease in short term incentive recovery ($0.1).

- **Changes for 2021 to 2024 -** Year over year increases are rising at the rate of inflation.

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COE-EWSI-7

Question: **COE-EWSI-7.d**

Topic: **Wastewater Treatment Capitalized Overhead**

Reference: **Wastewater Treatment Application, Tables 5.2-1 and 5.2.4-1**

i) For each of the individual years of 2017 to 2021 and 2022 to 2024, please provide a table showing the total Wastewater Treatment PBR approved and actual (forecast for 2020 and 2021) capitalized overhead broken down into major cost components (e.g. salaries, contractors, materials etc.).

ii) For (i) above, please provide an explanation for any significant variances year over year including any changes in accounting treatment to capitalize costs that were previously expensed.

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2022-2024 and 2022-2026 PBR Applications
COE-EWSI-7

EWSI RESPONSE

i) Table COE-EWSI-7.d(i) provides a breakdown of 2017-20264 capitalized overhead for Wastewater Treatment. All of the costs that form the capital overhead pool are labour costs. There are no other cost components such as contractors, materials & supplies, travel etc. included in the pool.

Table COE-EWSI-7.d(i)
Wastewater Treatment
Capitalized Overhead
($ millions)

		A	B	C	D	E	F	G	H	I	J	K	L	M
		2017D	**2018D**	**2019D**	**2020D**	**2021D**	**2017A**	**2018A**	**2019A**	**2020A**	**2021F**	**2022F**	**2023F**	**2024F**
1	Various Labour	(2.3)	(2.4)	(2.4)	(2.5)	(2.5)	(3.1)	(2.8)	(2.8)	(2.3)	(3.0)	(3.1)	(3.1)	(3.2)
2	Health & Safety Labour	-	-	-	-	-	-	-	-	-	-	-	-	-
3	Supply Chain Labour	-	-	-	-	-	-	(0.2)	(0.3)	(0.2)	(0.2)	(0.2)	(0.2)	(0.2)
4	**Total**	**(2.3)**	**(2.4)**	**(2.4)**	**(2.5)**	**(2.5)**	**(3.1)**	**(3.0)**	**(3.1)**	**(2.5)**	**(3.2)**	**(3.3)**	**(3.3)**	**(3.4)**

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ii) Table COE-EWSI-7.d(ii) provides the variance between the 2017-2021 Decision and 2017-2021 actuals/forecast. The variances related to labour is a function of fluctuations in cost center labour costs as follows: total salaries, direct capitalized labour, and the net O&M labour remaining. The capital overhead costs are determined by taking net O&M labour multiplied by the ratio of direct capitalized labour over total salaries for each respective cost center budget. The cost centers included are only those that have labour charged into capital projects directly. As well costs for project management, capital finance and incentive pay are included in the Pool. The supply chain labour variance is a result of adding the supply chain managing function to the overhead pool beginning in 2018. Supply chain management was added to the capital overhead pool to accurately assign labour costs to capital for supply chain management that directly supports the procurement of capitalized goods and services, these costs were previously expensed.

Table COE-EWSI-7.d(ii)
Wastewater Treatment
Capitalized Overhead Variance
($ millions)

		A **2017A**	B **2018A**	C **2019A**	D **2020F**	E **2021F**
1	Various Labour	(0.8)	(0.4)	(0.4)	0.2	(0.5)
2	Health & Safety Labour	-	-	-	-	-
3	Supply Chain Labour	-	(0.2)	(0.3)	(0.2)	(0.2)
4	**Total**	(0.8)	(0.6)	(0.7)	-	(0.7)

April 28, 2021

EPCOR Water Services Inc.
2022-2024 and 2022-2026 PBR Applications
COE-EWSI-8

Question: **COE-EWSI-8.a**

Topic: **Forecast Operating Costs**

Sub-Topic: **Water Services Operating Costs**

Reference: **Water Services Application, Table 5.1-1**

i) Please provide a detailed explanation for the increase in Contractors and Consultants from $8.3 million for 2021 (forecast) to $9.9 million for 2022 (forecast).

ii) Please provide a detailed explanation as to why Meter Reading Services Recoveries are decreasing from $5.7 million in 2022 (forecast) to $4.1 million in 2025 (forecast)

EPCOR RESPONSE:

i) The increase in Contractors and Consultants charges from $8.3 million for 2021 (forecast) to $9.9 million for 2022 (forecast) are as a result of $1.0 million in Service Level Agreement charges from EDTI to EWSI to access the EDTI fixed AMI network for meter reading, and $0.6 million in additional inspections and engineering studies at the Water Treatment Plants, to support asset management planning.

ii) Meter Reading Services Recoveries are currently based on meter reading operating costs incurred by Water Services. As operating cost savings are achieved through AMI implementation, these operating costs savings are passed on to Wastewater Treatment and Drainage Services as reductions to Meter Reading Services Recoveries. The AMI operating cost saving results in Meter Reading Services Recoveries decreasing from $5.7 million in 2022 (forecast) to $4.1 million in 2025 (forecast).

Question: **COE-EWSI-8.b**

Topic: **Forecast Operating Costs**

Sub-Topic: **Drainage Services Operating Costs**

Reference: **Drainage Services Application, Table 6.1-1**

Please provide a detailed explanation for the increase in Contractors and Consultants from $10.5 million for 2023 (forecast) to $11.7 million for 2024 (forecast).

EPCOR RESPONSE:

The increase in Contractors and Consultants from $10.5 million for 2023 (forecast) to $11.7 million for 2024 (forecast) is primarily due to an increase in activity in 2024 related to trunk inspection and cleaning, and odour containment, totaling approximately $0.8 million. The remainder of the increase relates to the inflation impact on this expense category

Question: **COE-EWSI-8.c**

Topic: **Forecast Operating Costs**

Sub-Topic: **Wastewater Treatment Operating Costs**

Reference: **Wastewater Treatment Application, Table 5.1-1**

Please provide a detailed explanation for the increase in Other costs from $2.9 million for 2023 (forecast) to $4.0 million for 2024 (forecast).

EPCOR RESPONSE:

The increase in Other costs from $2.9 million for 2023 (forecast) to $4.0 million for 2024 (forecast) is primarily related to chemicals associated with operating the Dewatering Facility. This represents $0.9 million of the $1.1 million increase. The remaining increase relates to general facility maintenance.

EPCOR Water Services Inc.
2022-2024 and 2022-2026 PBR Applications
COE-EWSI-9

Question: **COE-EWSI-9.a**

Topic: **Non-Routine Adjustments - Water, Drainage, Wastewater Treatment**

Sub-Topic: **Deterioration of Waterworks System and Deterioration of Drainage or Wastewater Treatment Systems**

Reference: **Proposed Bylaw 19626 Section 4.4 and Proposed Bylaw 19627 Section 5.3**

Preamble: *As noted in Paragraph 34 of the Water Services Application, "For the 2022-2026 PBR term, EWSI is proposing two minor changes to the Non-Routine Adjustment criteria. The first is intended to provide greater clarity to the existing clause regarding deterioration to the waterworks system by including unanticipated asset failures or deterioration requiring immediate repair or restoration in the definition. The second change is the addition of a new clause for negative Non-Routine Adjustments related to the receipt of grants. This clause is intended for instances where grant funding is received for projects that are already included in rates. A negative Non-Routine Adjustment would allow a reduction to rates to eliminate duplicate funding of a single project.*

As noted in Proposed Bylaw 19626:

4.4 Deterioration of Waterworks System

If there is significant deterioration to the Waterworks System , beyond reasonable projections, remediation costs will be considered as non-routine. Without limiting the foregoing, these circumstances may include unanticipated asset failure or deterioration requiring immediate repair or remediation.

4.9 Grant Funding

Cost reductions from the approved revenue requirement resulting from the receipt of grants or recognition of approved grants shall be considered as a negative non-routine adjustment.

As noted in Proposed Bylaw 19627:

5.3 Deterioration of Drainage or Wastewater Treatment Systems

If there is significant deterioration to the Drainage System or Wastewater Treatment facilities, beyond reasonable projections, remediation costs will be considered as non-routine. Without limiting the foregoing, these circumstances may include unanticipated asset failure or deterioration requiring immediate repair or remediation.

EPCOR Water Services Inc.
2022-2024 and 2022-2026 PBR Applications
COE-EWSI-9

5.9 Grant Funding

Cost reductions to the approved revenue requirement resulting from the receipt or recognition of approved grants will be considered as a negative non-routine adjustment.

i) For each of Water, Drainage and Wastewater Treatment, please provide a schedule describing the types and amounts of insurance coverage EWSI has in place as well as the deductible amount for each type of insurance coverage (e.g. liability, property, business interruption, vehicle etc.). Please describe if any of these insurance coverages (including amounts and deductibles) have changed in the 2022-2026 (2022-2024) PBR applications from the current 2017-2021 PBR term.

ii) Is there any property or liability insurance coverage EWSI does not have in place for Water, Drainage or Wastewater Treatment either because it is cost prohibitive or not available? Please explain.

iii) Please provide EWSI's understanding of the circumstances under which the Non-Routine Adjustment for Deterioration of Waterworks, Wastewater Treatment, and Drainage Systems currently applies under Bylaws 17698 and 18100 and how it may be changed as a result of the proposed revisions under Bylaws 19626 and 19627.

iv) Is the Non-Routine Adjustment under Bylaws 17698 and 18100 currently intended to apply where there is a significant deterioration to a broader portion of the Waterworks, Wastewater Treatment and Drainage systems (rather than an individual asset) and would this also be the intent under the proposed Bylaws 19626 and 19627?

v) Please confirm whether a Non-Routine Adjustment has historically been requested by EWSI for the Deterioration of Waterworks, Drainage or Wastewater Treatment Systems, and whether a Non-Routine Adjustment would have potentially been requested (historically) based on the proposed revisions under Bylaws 19626 and 19627.

vi) Under both the existing Bylaws 17698 and 18100 and the proposed Bylaws 19626 and 19627, please clarify under which circumstances an unanticipated asset failure or deterioration requiring immediate repair or remediation would be recovered through insurance coverage, the proposed non-routine adjustment, or paid for by the Utility (such

as for the deductible portion of an insurance loss or the entire amount for an uninsured loss).

vii) For the 2017-2021 PBR terms for Water, Wastewater Treatment, and Drainage Services, please explain whether the approved revenue requirements would incorporate any amounts for unanticipated asset failure or deterioration requiring immediate repair or remediation (e.g. historical losses have been incorporated into the forecasted operating and maintenance costs or depreciation expense for 2017-2021). If so, have the requested 2022-2026 (2022-2024) revenue requirements (e.g. forecasted operating and maintenance costs or depreciation expense) been adjusted accordingly for the proposed revisions to the Non-Routine Adjustments?

viii) Please explain and quantify whether the requested return on equity of 9.95% incorporates any change in risk resulting from the proposed revision to the Non-Routine Adjustments for the Deterioration of Waterworks, Drainage or Wastewater Treatment Systems.

EPCOR RESPONSE:

i) EWSI has the following insurance coverage:

Table COE-EWSI-9.a i)-1
EPCOR Insurance Policies for Water, Drainage and Wastewater Treatment

	EPCOR Insurance Policies for Water, Drainage and Wastewater	A **Policy Limits ($ millions)**	B **Current Deductibles ($000s)**	C **Notes**
1	General Liability – Primary	35.0	3,000.0	
1a	General Liability – Excess	215.0	nil	
2	Automobile	1.0	25.0	
3	Contractors Pollution	10.0	250.0	
4	Contractors Professional Liability	10.0	250.0	
5	Pollution Liability – Owned Sites - Primary	15.0	500.0	
5a	Pollution Liability – Owned Sites – Excess	35.0	Nil	
6	Cyber	5.0	150.0	
7	Directors & Officers	100.0	250.0	
8	Crime & Fidelity	25.0	50.0	
9	Fiduciary Liability	15.0	50.0	
10	Employment Practices Liability	10.0	50.0	

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	EPCOR Insurance Policies for Water, Drainage and Wastewater	A Policy Limits ($ millions)	B Current Deductibles ($000s)	C Notes
11	Employed Lawyers Errors & Omissions	-	-	coverage discontinued after 2017
12	Property & Boiler & Machinery	500.0	500.0 shared between boiler and machinery and business interruption & flood	
12a	Business Interruption & Flood (12 mth. gross profit)	200.0 sublimit of boiler & machinery 500.0 limit		coverage added in 2018
12b	Terrorism – Property and Business Interruption	200.0 sublimit of boiler & machinery 500.0 limit	5,000.0	

Except as noted in the table, the insurance coverage has remained consistent from the 2017-2021 term to what is incorporated into the 2022-2024/2026 terms.

ii) No - however, business interruption and flood coverage is becoming ever more expensive and at some point may no longer be available in the marketplace.

iii) The Non-Routine Adjustment clause for "Deterioration of Waterworks, Wastewater Treatment and Drainage Systems" has not been used previously so any future application of it would be subject to the circumstances of the particular situation at the time. At a general level, EWSI would have to demonstrate why its inspection and maintenance programs did not reveal and correct the deterioration. That is, it is EWSI's expectations that normal prudent utility practices would identify the majority of instances of deterioration. However, given the nature of the assets, it is not possible to identify all such instances. For example, it is cost prohibitive to inspect all underground assets on a routine basis. Other assets, particularly those in drainage, require inspection access which does not currently exist and has to be constructed in order to fully assess the level of deterioration. As a result, it is not possible for EWSI, or any utility, to be fully aware of or forecast all areas of deterioration.

EWSI would also have to demonstrate that the proposed Non-Routine Adjustment met the financial criteria of at least a $500,000 annual revenue requirement impact. This level

of annual revenue requirement equates to a capital spend of approximately $15-$23 million depending on the assets and the associated depreciation rate. As such, it represents a considerably high threshold for approval. Further, the Bylaw also indicates that City Council can review the projected return on equity of EWSI in determining approval. In effect, a Non-Routine Adjustment can be refused if EWSI's projected return on equity is above the approved level. All Non-Routine Adjustments are subject to approval of either the City Manager or City Council (depending on the level of expenditure). If either approval level believes a Non-Routine Adjustment is not warranted, they can refuse approval.

This additional definition proposed for the Deterioration clause is intended to provide clarity to the types of situations where this clause would be used to support a Non-Routine Adjustment EWSI does not believe this is an expansion of the original clause or its intent. If an unanticipated asset failure of sufficient size and scope had occurred in the past, EWSI would have applied for a Non-Routine Adjustment based on the "Deterioration of the Waterworks System" clause. The proposed addition was made to foster the recognition that the Drainage assets, in particular, are potentially subject to unanticipated asset failure given their current state. Moreover, given the type of assets where this occurs, immediate repairs or remediation are required in order to maintain the system.

As noted in section 2 of the Drainage Application, Drainage had initiated an increase in the inspections performed on the sanitary system prior to the transfer, and EWSI has continued to increase the number of assets inspected and assigned an asset condition rating. The CORe Strategy also includes projects to install access shafts to parts of the system where inspections have not been possible due to a lack of access points.

EWSI's inspections have shown that many of the sanitary trunk assets that were previously not accessible for inspection in the Drainage system are in poor or very poor condition. Several large asset failures have occurred in the pipes within the sanitary and combined sewer network, in the membranes separating the sanitary from the storm sections of "double barrel" pipes, in the pump stations that keep the sewage moving through the system, and in control structures such as gates. Failures within sanitary and combined sewer pipes have resulted in the formation of voids, and all failures require a response from operational resources, road closures, bypass pumping, and unplanned

capital projects. Inspections have also found several places with excessive solids build-up in the sanitary system, requiring extensive specialized cleaning.

Until all inspections are complete and general asset conditions improves, the infrastructure will be subject to unanticipated asset failure.

iv) EWSI does not interpret the existing Deterioration clause or the clause with the proposed additional clarification as distinguishing between an "individual asset" versus a "broader" portion of the system. As noted in the response to question iii) the approval of any Non-Routine Adjustment proposed under this clause would be based on the particular circumstances of the situation and is not constrained by asset type. The additional definition proposed by EWSI is intended to provide clarity to the types of situations where this clause would be used to support a Non-Routine Adjustment. EWSI does not believe this is an expansion of the original clause or its intent.

v) No Non-Routine Adjustments have historically been requested by EWSI for the Deterioration of Waterworks, Drainage or Wastewater Treatment Systems. As noted above, this additional definition proposed for the Deterioration clause is intended to provide clarity to the types of situations where this clause would be used to support a Non-Routine Adjustment and EWSI does not believe this is an expansion of the original clause or its intent. Therefore, the revisions would have not captured any additional historical Non-Routine Adjustment requests.

vi) Any deterioration/asset failure would have to meet the Non-Routine Adjustment criteria, including the financial threshold, before EWSI would consider apply for the adjustment. EWSI would also consider other factors including availability of insurance (see below) timing of the next PBR applications, total projected capital spend to the end of the PBR term, etc. in order to ensure that all options were reviewed. The specifics of the situation would ultimately determine the course of action.

The opportunity to utilize insurance is situations of deterioration/asset failure are quite limited. Specifically, EPCOR's property & boiler & machinery insurance does NOT cover deterioration, but would cover unanticipated asset failure to the extent it is NOT the result of:

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a. faulty workmanship
b. rust, depletion, corrosion, erosion, wear and tear, latent defect
c. settling, cracking, shrinking, bulging or expansion of foundations, floors, pavement, walls, ceilings, roofs
d. changes in temperature
e. insect or animal damage
f. loss or damage to the interior of buildings under construction from rain, sleet or snow, whether or not driven by wind, when the installation of the roof, walls or windows of such buildings has not been completed
g. contamination
h. shrinkage
i. changes in color, texture or finish

vii) All EWSI PBR capital proposals include capital programs. These programs are defined by asset category and are typically intended for asset renewal based on specific criteria. If an asset within a particular category requires repair from unanticipated failure or replacement as a result of deterioration or other factors, the costs are charged against the associated capital program. This occurs irrespective of whether the asset needing repairs meets the program's criteria or not. The overall spend within a category continues to be managed to the approved level, so a significant number of unanticipated repairs lessens the work completed for other assets in the category. To the extent that this occurs, the costs of unanticipated assets failures are included in the proposed revenue requirement. This structure allows EWSI the flexibility to address immediate concerns while maintaining financial prudency, but it is not without its limitations.

The size of program budgets do not allow all instances of unanticipated asset failure or repairs to be addressed. Very large repairs, such as the recent Trestle failure in Drainage Services, represents costs that are beyond what can be accommodated within a capital program without significantly impacting other planned renewal and repair work. These instances are very limited in number. Depending on the associated costs, they potentially could qualify under the financial threshold for a Non-Routine Adjustment. If the financial threshold is not met, the associated cost could be borne by EWSI. Given that large

unanticipated asset failures are rare and the scope and scale cannot be predicted, EWSI does not include them in the proposed revenue requirement.

viii) As noted in the response to question iii), EWSI believes unanticipated asset failures have always been part of the non-routine justification criteria and, therefore, the additional proposed wording provides clarity but not an expansion of the clause. As such, ratepayers do not bear any more risk than they did under the prior bylaw and an adjustment to the proposed 9.95% return on equity is not warranted.

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Question: **COE-EWSI-9.b**

Topic: **Grant Funding**

Reference: **Proposed Bylaw 19626 Section 4.9, Proposed Bylaw 19627 Section 5.9**

Please clarify why the proposed Non-Routine Adjustment only captures cost reductions and not cost increases from the receipt of actual versus forecast grants included in the Water, Drainage and Wastewater Treatment PBR applications. Do the 2022-2026 (2022-2024) PBR applications only include grants that have already been awarded?

EPCOR RESPONSE:

Yes, EWSI has included forecast grant funding in its PBR Applications for grants that have already been awarded. EWSI included NRA criteria to capture only cost reductions because it was anticipating that these grants are unlikely to be withdrawn and so any variances in grant funding for the 2022-2024 and 2022-2026 PBR terms would likely reflect higher than forecast funding obtained through additional new grants.

However, EWSI recognizes that there is always a potential risk that awarded grants could be withdrawn in this PBR term and in future PBR terms. Therefore, EWSI would be supportive of revising this NRA criteria in its Compliance Application to include both negative and positive Non-Routine Adjustment associated with Grant Funding.

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Question: **COE-EWSI-10.a**

Topic: **AMI Deployment Project**

Sub-Topic: **Assumption of AMI in 2034**

Reference: **Appendix F3, Business Case**

Preamble: *As noted in paragraph 38 of the Business Case "Based on the pace of technological changes in this sector, AMR technology is assumed to require full-scale replacement by 2033. As such, all AMR assets would begin to be replaced with AMI assets starting in 2034, prior to the end of the assets' expected physical useful life".*

Paragraph 44 of Business Case - "Deployment of AMI technology for water meters is especially attractive in the city of Edmonton because EPCOR Distribution and Transmission Inc. (EDTI) has built and implemented an AMI network. Rather than building a new and separate fixed AMI network, EWSI will be able to access the existing EDTI fixed network at minimal incremental cost. EWSI will be expected to pay an allocated share of the existing EDTI system.

Paragraph 16 of Business Case - "Although water AMI does not provide the same operational savings as it does for electricity (remote connect/disconnect), the extension of the battery life makes AMI a viable option for water utilities".

Please explain in detail why the financial analysis under the Status Quo and AMR scenarios assumes the AMR assets would be replaced with AMI assets starting in 2034 rather than continuing with AMR in 2034 and beyond. Please quantify and explain what the impact on the NPV analysis would be for these two scenarios if AMR technology continued in 2034 and beyond (to 2044) rather than converting to AMI in 2034.

EPCOR RESPONSE:

As explained in Section 2.2.3 of the business case (Reference Appendix F-3 AMI Deployment Project) , EWSI believes there is significant risk of obsolescence with AMR technology. Both the Status quo case and the AMR case assume that AMR will be available for another fifteen years. EWSI does not consider it reasonable assume that AMR will be available beyond that point.

As illustrated in the Table COE-EWSI-10.a-1 below, changing the assumption that AMR would not be available beyond 2035 in the Status Quo Case and the AMR does not change the conclusion that AMI is the clearly the lowest cost and least risky option for rate payers.

Table COE-EWSI-10.a-1
AMI Deployment Project
NPV Summary Table
($ millions)

	NPV Summary Table	A Status Quo	B Status Quo, AMR Extended	C AMI	D AMR	E AMR Extended
1	EWSI Revenue Requirement	183.9	170.8	177.0	222.7	202.4
2	Allocation of AMI Fixed Costs from EDTI	(4.6)	-	(14.0)	(4.6)	-
3	**EPCOR Revenue Requirements**	**179.3**	**170.8**	**163.0**	**218.2**	**202.4**

The options quantified in Table COE-EWSI-10.a-1 are as follows:

- **Status Quo**: Current AMR deployment schedule (full AMR deployment by 2032); AMR replaced with AMI in 2034. (not a viable option)
- **Status Quo, AMR Extended**: Current AMR deployment schedule with AMR technology extended throughout the full study period (not a viable option)
- **AMI**: AMI deployment 2022-2024
- **AMR**: Accelerated AMR deployment (full AMR deployment by 2024); AMR replaced with AMI in 2034
- **AMR Extended**: Accelerated AMR deployment with AMR technology extended throughout the full study period (not a viable option)

Question: **COE-EWSI-10.b**

Topic: **AMI Deployment Project**

Sub-Topic: **Allocation of AMI Fixed Costs from EDTI**

Reference: **Appendix F3, Business Case**

i) Please confirm that under the AMI Alternative, EDTI would continue to be the owner of the AMI network and would allocate a share of these costs to EWSI.

ii) Please explain and provide a schedule detailing what the total cost of the AMI network is projected to increase by if EWSI adopted the technology under the AMI Alternative (e.g. net book value of EDTI AMI network from 2022 to 2042 with and without EWSI).

iii) Please explain the basis upon which the costs of the AMI network would be calculated and allocated from EDTI to EWSI (e.g. incremental costs resulting from EWSI, proportional share of the total AMI network net assets etc.).

iv) Please explain whether EWSI would be expected to pay a smaller share of the costs for the AMI network since it would not receive the same operational savings as for electricity as noted in paragraph 16 of the Business Case.

v) Please explain why the "Allocation of AMI Fixed Costs from EDTI" in Tables 7.0.1 to 7.0.3 are credits rather than a charge from EDTI to EWSI for the use of the AMI network.

EPCOR RESPONSE:

i) Confirmed. EDTI will continue to own and maintain the AMI network and will allocate a share of costs to EWSI.

ii) As stated in paragraph 43 of the business case (Reference Appendix F-3 AMI Deployment Project), EWSI will be able to access the existing EDTI fixed network at minimal incremental costs, which will be recovered from EWSI by EDTI through an asset usage fee. Based on a preliminary estimate from the vendor, an investment of $381,000 for the addition of water devices to the network over the 2024 to 2025 period is reflected in the asset usage fee. As highlighted in paragraph 44 of the business case, the benefit to EDTI resulting from that allocation will be reflected in future EDTI customer rates. Both Edmonton water and power customers will benefit through the shared use of the existing AMI assets.

iii) The cost allocation of EDTI's network cost (including the incremental cost to include EWSI), is based on EWSI's network usage using the number and frequency of meter reads.

iv) As described in response (ii), the cost allocation is based on EWSI's network usage. This cost allocation methodology is consistent with other service agreements between EPCOR entities, which describes transfers based on usage. For example, EDTI and EWSI have had historical agreements for meter reading services where costs are allocated based on usage. EWSI is not aware of any circumstances where costs are allocated on the basis of operational savings.

v) The fixed costs allocated to EWSI from EDTI are included as a charge in rows 4 and 9 of Tables 7.0.1 to 7.0.3, and flow to rows 5 and 10 to provide EWSI's cash costs and revenue requirement. Rows 7 and 12, on the other hand, provide the cash costs and revenue requirement from the total EPCOR perspective. Assessing the NPV results from an EPCOR-wide perspective provides the best insight into the impact of the alternatives on residents and businesses in Edmonton who are typically both water and power customers.

Question: **COE-EWSI-10.c**

Topic: **AMI Deployment Project**

Sub-Topic: **Breakdown of Costs**

Reference: **Tables 7.0-1, 7.0-2 and 7.0-3**

Preamble: *"The AMI Deployment Alternative is selected as it is the least expensive long run option....". (Section 4.2, line 64)*

i) Please confirm that EWSI has determined that the AMI Deployment Alternative is the least expensive long run option based on a comparison of the NPV of the EPCOR Revenue Requirements over the 2022 to 2042 time period as determined on line 12 in Tables 7.0-1, 7.0-2 and 7.0-3.

ii) Please provide a further breakdown and comparison of the Operating expenses shown on line 9 in Tables 7.0-1, 7.0-2 and 7.0-3.

iii) Please provide a further breakdown and comparison of the Capital related expenses shown on line 8 in Tables 7.0-1, 7.0-2 and 7.0-3

iv) Please provide the basis and calculation for the "allocation of AMI Fixed Costs from EDTI" on line 11 in Tables 7.0-1, 7.0-2 and 7.0-3. Are these amounts or the basis for the calculator of these amounts determined through another regulatory proceeding and/or approved by another regulatory body?

v) Please advise if (and if so how/where) the capital expenditures for the Meter Change-outs Program and New Meter Installations Program are accounted for in the NPV of Capital Expenditures Table (Table 4.1-1) and the NPV of Revenue Requirement Table (Table 4.2.2-1) in the AMI Deployment Business Case.

EPCOR RESPONSE:

i) The determination that the AMI Deployment Alternative is the least expensive long run option was based on a comparison of Tables 7.0-2 and 7.0-3. As highlighted in the business case (Reference Appendix F-3 AMI Deployment Project), the Status Quo Alternative listed in Table 7.0-1 is not a viable option. EWSI has determined that the AMI Deployment Alternative is the least expensive option that enables EWSI to meet its obligations when considered from a variety of perspectives, including:

- Lower revenue requirement than the AMR alternative over the 2022-2026 period, both when examined from an EWSI perspective ($51.4 million as opposed to $54.6 million) and from an EPCOR perspective ($45.6million as opposed to $54.6 million).

- Lower revenue requirement than the AMR alternative over the 10-year period from 2022-2031, both when examined from an EWSI perspective ($119.9 million as opposed to $132.2 million) and from an EPCOR perspective ($108.0 million as opposed to $132.2 million).

- Lower revenue requirement than the AMR alternative over the period from 2022-2042, both when examined from an EWSI perspective ($177.0 million as opposed to $222.7 million) and from an EPCOR perspective ($163.0 million as opposed to $218.2 million).

ii) A breakdown of the Operating expenses shown on line 9 of business case Tables 7.0-1, 7.0-2 and 7.0-3 is provided in Table COE-EWSI-10.c ii)-1 below:

Table COE-EWSI-10.c ii)-1
AMI Deployment Project
Detailed Operating Expenses for each Alternative
($ millions)

	Operating Expenses	A 2022	B 2023	C 2024	D 2025	E 2026	F 2027-31	G 2032-42	H NPV
	Status Quo								
1	On-going meter reading costs	4.5	4.3	4.2	4.0	3.8	16.3	11.9	31.6
2	Licensing and IT Costs	-	-	-	-	-	-	2.2	0.7
3	EDTI SLA Charges - Incremental	-	-	-	-	-	-	2.7	0.9
4	EDTI SLA Charges - Allocation	-	-	-	-	-	-	11.9	4.2
5	Franchise fees	0.4	0.5	0.6	0.6	0.7	4.2	30.0	14.7
6	**Total per Line 9 of Table 7.0-1**	**4.9**	**4.8**	**4.7**	**4.6**	**4.5**	**20.5**	**58.8**	**52.2**
	AMR								
7	On-going meter reading costs	4.5	4.0	3.5	2.9	2.4	12.6	10.8	26.2
8	Licensing and IT Costs	-	-	-	-	-	-	2.2	0.7
9	EDTI SLA Charges - Incremental	-	-	-	-	-	-	2.7	0.9
10	EDTI SLA Charges - Allocation	-	-	-	-	-	-	11.9	4.2
11	Franchise fees	0.5	0.7	1.0	1.1	1.1	6.2	31.6	17.8
12	**Total per Line 9 of Table 7.0-2**	**4.9**	**4.7**	**4.4**	**4.0**	**3.5**	**18.8**	**59.2**	**49.9**
	AMI								
13	On-going meter reading costs	4.0	3.0	1.8	0.5	0.2	1.0	2.5	9.6
14	Licensing and IT Costs	0.0	0.2	0.2	0.2	0.2	1.2	3.0	2.5
15	EDTI SLA Charges - Incremental	0.0	0.3	0.3	0.3	0.3	1.4	3.6	3.1
16	EDTI SLA Charges - Allocation	1.0	1.0	1.0	1.1	1.1	5.7	14.3	12.9
17	Franchise fees	0.5	0.7	0.9	1.0	1.0	5.5	22.4	14.2
18	**Total per Line 9 of Table 7.0-3**	**5.6**	**5.2**	**4.3**	**3.0**	**2.7**	**14.8**	**45.8**	**42.2**

iii) A breakdown of the capital related portions of the revenue requirements shown on line 8 of business case Tables 7.0-1, 7.0-2 and 7.0-3 is provided in Table COE-EWSI-10.c iii)-1 below:

Table COE-EWSI-10.c iii)-1
AMI Deployment Project
Capital–related Costs for each Alternative
($ millions)

	Capital-related costs	A 2022	B 2023	C 2024	D 2025	E 2026	F 2027-31	G 2032-42	H NPV
	Status Quo								
1	Depreciation	0.3	0.8	1.3	1.7	2.2	19.4	111.9	57.0
2	Return on Debt	0.1	0.3	0.4	0.5	0.6	4.7	27.1	13.9
3	Return on Equity	0.2	0.5	0.7	0.9	1.1	8.2	47.3	24.4
4	Terminal Value of Rate Base	-	-	-	-	-	-	130.5	36.4
5	**Total per Line 8 of Table 7.0-1**	**0.6**	**1.6**	**2.3**	**3.1**	**3.9**	**32.3**	**316.8**	**131.7**
	AMR								
6	Depreciation	0.6	2.2	4.2	5.5	5.9	36.7	130.5	84.6
7	Return on Debt	0.2	0.7	1.3	1.6	1.6	8.0	27.9	19.0
8	Return on Equity	0.3	1.2	2.2	2.7	2.8	14.1	48.7	33.3
9	Terminal Value of Rate Base	-	-	-	-	-	-	128.8	36.0
10	**Total per Line 8 of Table 7.0-2**	**1.2**	**4.1**	**7.8**	**9.8**	**10.2**	**58.8**	**335.9**	**172.9**
	AMI								
11	Depreciation	0.4	1.7	3.4	4.4	4.7	28.3	95.1	63.0
12	Return on Debt	0.2	0.7	1.4	1.7	1.8	9.2	20.7	17.8
13	Return on Equity	0.3	1.2	2.4	3.0	3.1	16.2	36.1	31.1
14	Terminal Value of Rate Base	-	-	-	-	-	-	82.3	23.0
15	**Total per Line 8 of Table 7.0-3**	**1.0**	**3.7**	**7.2**	**9.2**	**9.6**	**53.7**	**234.2**	**134.8**

iv) See response to COE-EWSI-10.b, response ii) and iii). The cost allocation will be a contractual agreement between EDTI and EWSI and will be subject to review and testing by EDTI's Regulator, the AUC.

v) The capital expenditures of the Meter Change-outs Program and New Meter Installations Program are accounted for in the NPV of the capital expenditures in three ways:

- The costs of meter change outs over the years during which AMI is being deployed (2022-2024), totaling $8.06 million, have been included under the AMI Deployment Project. The Meter Change Out Program capital expenditure forecast thus only includes the costs of meter change outs for the years 2025 and 2026, so that the

program has been reduced by $8.06 million over the 2022-2026 PBR term . (paragraphs 460 and 461 of the Water Application)

- A reduction in the long term costs of the Meter Change Out Program by 25%, as the meter reading hardware will no longer be retired early when a meter fails and is replaced. (paragraph 109 of the Water Application)

- An increase in the long term costs of the New Meter Installations Program by 6% as a result of the higher cost of the AMI communicator relative to the AMR communicator.

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Question: **COE-EWSI-11.a**

Topic: **Real Estate Consolidation Project**

Sub-Topic: **Purchase of Aurum Property**

Reference: **Appendix F5, Business Case**

Preamble: *Preamble - as noted in paragraph 13 of the Business Case "In June 2018, an RFI was sent out to Edmonton-based real estate developers requesting proposals to buy approximately 30 acres of greenfield land in Edmonton. The request identified that the property needed to be located close to major roadways and within 30 minutes of the downtown core".*

Paragraph 17 - "The Consolidation Project involves the planned renovation of the Aurum Property to meet EWSI's current and future facility requirements to consolidate Water D&T and Drainage staff, vehicles, material and equipment".

Section. 4.3.1 Assumptions of Business Case - "For the Consolidation Project, all upfront capital expenditures are placed into service by the end of 2021".

Paragraph 45 - "The estimated cost to purchase the Aurum Property and redevelop the existing buildings on that site is $55.09 million. The total upfront capital expenditures are partially offset by $17.06 million in estimated proceeds from the sale of the existing surplus properties".

Paragraph 46 - "As discussed in Section 2.1, an expansion of the existing Water D&T facilities was included in the Water Services 2017-2021 PBR submission at a total cost of $16.00 million. The City of Edmonton Drainage model included $4.70 million for Drainage Facility Upgrading".

i) Please provide an evaluation and comparison of the merits and limitations of the Aurum Property purchase relative to the requirements identified as part of the RFI in 2018.

ii) Please explain why the Aurum Property was considered appropriate for the real estate consolidation relative to any other proposals resulting from the RFI completed in 2018.

EPCOR RESPONSE:

i) The full list of requirements from the 2018 RFI are as follows:

- The site(s) must be located within the City of Edmonton
- The site(s) must total at least 30 acres
- The site(s) must have at least 300,000 sq. ft. of building space
- The site(s) must be located adjacent or near a major transportation corridor(s)
- The site(s) must have paved road access
- The site(s) must be fully serviced
- Proposed Land zoning must be suitable for intended use

The Aurum Property meets all of these requirements.

ii) Each of the proposals resulting from the RFI completed in 2018 were rejected prior to the Aurum opportunity being presented to EWSI. The proposals were rejected due to the high costs. As shown in Table 4.1-1 of the business case (Reference Appendix F-5 Real Estate Consolidation), the operational efficiency gains were insufficient to justify capital expenditure investment of the other alternatives. The Aurum Property represented a rare opportunity to procure a property meeting all of EWSI's business requirements at a favorable price.

Question: **COE-EWSI-11.b**

Topic: **Real Estate Consolidation Project**

Sub-Topic: **NPV Analysis**

Reference: **Appendix F5, Business Case**

i) For each of the five alternatives included in Table 4.1-1, please provide separate tables showing a breakdown of the cash out flow and NPV revenue requirement for each individual year 2022 to 2026 and in five years totals thereafter (similar to the format provided in Tables 7.0 to 7.3 of the AMI Deployment Business Case). For the revenue requirement breakdown, please provide the same level of detail as in 4.2.2-1 of the Real Estate Consolidation Business Case.

ii) Please clarify the treatment in the Business Case and 2022-2026 PBR applications for the $16.0 million previously approved in the Water Services 2017-2021 PBR application. In particular, please confirm whether the amount of depreciation and cost of capital already included in the 2017-2021 PBR revenue requirement has been deducted from the calculation of the requested revenue requirements for 2022-2026.

EPCOR RESPONSE:

i) Tables COE-EWSI-11.b-1 to COE-EWSI-11.b-3 provide a further breakdown of the cash out flows and revenue requirement for the Status Quo alternative, the Aurum alternative, and the Kennedale and Greenfield alternative. A further breakdown was not completed for the Greenfield alternative or the Kennedale and Poundmaker alternative. These two alternatives have higher capital expenditures and ongoing operating costs than the other three alternatives. As a result these alternatives were eliminated from consideration before a full revenue requirement analysis was completed.

The Status Quo alternative returns the lowest revenue requirement from 2022 to 2024. By 2025, once labour efficiencies are achieved (2023) and surplus land sales begin (2025), the Aurum alternative returns the lowest annual requirement. As shown in columns E to H of Tables COE-EWSI-11.b-2 the Aurum alternative provides significant long term cost savings for customers.

Table COE-EWSI-11.b-1
Breakdown of Costs – Status Quo Alternative
($ millions)

		A	B	C	D	E	F	G	H	I
		2022	**2023**	**2024**	**2025**	**2026**	**2027-2031**	**2032-2036**	**2037-2041**	**NPV**
	Cash Costs									
1	Upfront Capital Expenditures	-	-	-	-	-	-	-	-	-
2	Sustaining Capital Expenditures	1.5[1]	0.6	10.6	0.9	5.1	16.2	6.8	11.4	39.9[2]
3	Proceeds from Facility Dispositions	-	-	-	-	-	-	-	-	-
4	Operating Expenses	4.6	4.7	4.8	4.9	5.0	26.5	33.0	35.9	98.4
5	Franchise Fees Less Property Taxes[3]	(0.3)	(0.3)	(0.3)	(0.3)	(0.2)	(1.0)	(0.9)	(1.0)	(3.4)
6	**Cash costs to EWSI**	**5.7**	**5.0**	**15.1**	**5.5**	**9.8**	**41.7**	**38.9**	**46.3**	**135.0**
	Revenue Requirements									
7	Facility Operating Cost	4.2	4.2	4.3	4.4	4.4	23.4	29.4	32.0	84.7
8	Property Taxes	0.7	0.7	0.8	0.8	0.8	4.1	4.5	4.9	13.7
9	Labour Efficiency Savings	-	-	-	-	-	-	-	-	-
10	Depreciation	0.2	0.4	0.6	0.7	0.8	5.9	6.7	7.1	18.4
11	Return on Rate Base Financed by Debt	0.2	0.3	0.4	0.5	0.5	3.5	3.8	3.8	10.0
12	Return on Rate Base Financed by Equity	0.2	0.4	0.6	0.8	1.0	6.4	7.0	7.0	18.1
13	Franchise Fees Less Property Taxes	(0.3)	(0.3)	(0.3)	(0.3)	(0.2)	(1.0)	(0.9)	(1.0)	(3.4)
14	Terminal Value of Rate Base	-	-	-	-	-	-	-	-	1.9
15	**Revenue Requirement**	**5.2**	**5.8**	**6.4**	**6.8**	**7.3**	**42.3**	**50.5**	**53.7**	**143.5**

(1) Includes 2020 to 2022 capital expenditures.

(2) Capital expenditures in Business Case Table 4.1-1 were discounted starting in 2020 when calculating the NPV. NPV calculation has been updated to use a 2022 start date, consistent with other NPV calculation provided in the Business Case.

(3) In the Business Case a full revenue requirement was not calculated for each alternative, as a result the franchise fee impact was not available/included in Table 4.1-1

Table COE-EWSI-11.b-2
Breakdown of Costs – Aurum Alternative
($ millions)

		A	B	C	D	E	F	G	H	I
		2022	**2023**	**2024**	**2025**	**2026**	**2027-2031**	**2032-2036**	**2037-2041**	**NPV**
	Cash Costs									
1	Upfront Capital Expenditures	55.1[1]	-	-	-	-	-	-	-	55.1[2]
2	Sustaining Capital Expenditures	-	-	-	0.9	-	7.9	9.2	11.7	19.9[2]
3	Proceeds from Facility Dispositions	-	-	-	(10.0)	(7.1)	-	-	-	(13.1) [2]
4	Operating expenses	9.7	3.4	4.5	4.3	3.8	18.2	12.7	13.8	56.0
5	Franchise Fees Less Property Taxes[3]	(0.6)	(1.1)	(1.1)	(1.0)	(0.8)	(3.7)	(4.6)	(4.9)	(14.3)
6	**Cash costs to EWSI**	**64.2**	**2.3**	**3.5**	**(5.8)**	**(4.1)**	**22.4**	**17.3**	**20.6**	**103.7**
	Revenue Requirements									
7	Facility Operating Cost	6.3[4]	3.3	3.4	3.3	3.1	19.5	17.0	18.5	65.4
8	Property Taxes	1.8	1.7	1.7	1.6	1.3	6.4	6.9	7.5	23.1
9	Labour Efficiency Savings	(0.1)	(1.7)	(1.9)	(1.9)	(2.0)	(10.3)	(11.2)	(12.2)	(32.5)
10	Depreciation	1.5	1.5	1.5	1.4	1.2	5.9	5.9	7.9	23.3
11	Return on Rate Base Financed by Debt	1.3	1.3	1.3	1.1	0.9	4.5	4.3	4.6	14.8
12	Return on Rate Base Financed by Equity	1.7	1.8	1.9	1.9	1.7	8.3	7.8	8.4	25.5
13	Franchise Fees Less Property Taxes	(0.6)	(1.1)	(1.1)	(1.0)	(0.8)	(3.7)	(4.6)	(4.9)	(14.3)
14	Terminal Value of Rate Base	-	-	-	-	-	-	-	-	2.3
15	**Revenue Requirement**	**11.9**	**6.8**	**6.9**	**6.4**	**5.5**	**30.5**	**26.0**	**29.8**	**107.7**

(1) Includes 2020 to 2022 capital expenditures.

(2) Capital expenditures in Business Case Table 4.1-1 were discounted starting in 2020 when calculating the NPV. NPV calculation has been updated to use a 2022 start date, consistent with other NPV calculation provided in the Business Case.

(3) In the Business Case a full revenue requirement was not calculated for each alternative, as a result the franchise fee impact was not available/included in Table 4.1-1

(4) For a comparison against other alternatives the Aurum alternative includes $1.8 million for move costs in 2022. In the PBR Application these costs are incurred in 2021, no move costs are included in the 2022 revenue requirement.

Table COE-EWSI-11.b-3
Breakdown of Costs – Kennedale & Greenfield Alternative
($ millions)

		A	B	C	D	E	F	G	H	I
		2022	**2023**	**2024**	**2025**	**2026**	**2027-2031**	**2032-2036**	**2037-2041**	**NPV**
	Cash Costs									
1	Upfront Capital Expenditures	98.8[1]	-	-	-	-	-	-	-	93.9[2]
2	Sustaining Capital Expenditures	-	-	-	-	1.0	8.1	1.2	9.4	18.8[2]
3	Proceeds from Facility Dispositions	-	-	-	(10.0)	-	-	-	-	(7.8) [2]
4	Operating expenses	10.2	2.8	2.7	2.4	2.2	11.7	12.7	13.8	47.7
5	Franchise Fees Less Property Taxes[3]	0.0	(0.3)	(0.4)	(0.2)	(0.2)	(1.2)	(1.7)	(2.1)	(5.4)
6	**Cash costs to EWSI**	**109.0**	**2.5**	**2.4**	**(7.8)**	**3.0**	**18.5**	**12.2**	**21.1**	**147.1**
	Revenue Requirements									
7	Facility Operating Cost	9.0[4]	3.4	3.5	3.4	3.3	17.3	18.8	20.5	63.8
8	Property Taxes	1.2	1.1	1.1	0.9	0.9	4.7	5.1	5.5	16.4
9	Labour Efficiency Savings	(0.1)	(1.7)	(1.9)	(1.9)	(2.0)	(10.3)	(11.2)	(12.2)	(32.5)
10	Depreciation	1.7	3.1	3.1	2.9	2.8	14.4	15.0	15.6	44.9
11	Return on Rate Base Financed by Debt	1.4	2.2	2.2	2.0	1.8	8.6	7.7	6.8	22.9
12	Return on Rate Base Financed by Equity	1.8	3.2	3.4	3.3	3.4	15.9	14.2	12.5	39.9
13	Franchise Fees Less Property Taxes	0.0	(0.3)	(0.4)	(0.2)	(0.2)	(1.2)	(1.7)	(2.1)	(5.4)
14	Terminal Value of Rate Base	-	-	-	-	-	-	-	-	3.2
15	**Revenue Requirement**	**15.1**	**11.0**	**10.9**	**10.4**	**10.1**	**49.3**	**47.9**	**46.7**	**153.2**

(1) Includes 2020 to 2022 capital expenditures.

(2) Capital expenditures in Business Case Table 4.1-1 were discounted starting in 2020 when calculating the NPV. NPV calculation has been updated to use a 2022 start date, consistent with other NPV calculation provided in the Business Case.

(3) In the Business Case a full revenue requirement was not calculated for each alternative, as a result the franchise fee impact was not available/included in Table 4.1-1

(4) Includes $3.6 million for move costs in 2022. Move cost are higher than Aurum alternative as additional relocation costs would be incurred while Kennedale site is being upgraded. Most moves would occur in 2022 once construction is complete, under this alternative move costs would potentially be included in the 2022 revenue requirement.

ii) In the business case (Reference Appendix F-5 Real Estate Consolidation) the depreciation and cost of capital associated with the $16.0 million included in the 2017-2021 revenue requirement have not been deducted from the calculation of the revenue requirements for 2022-2026. Each alternative was evaluated on a standalone basis, and the revenue requirements were calculated using only the capital expenditures forecast under each alternative. The $16.0 million previously approved in the 2017-2021 PBR Application would not impact the evaluation of alternatives.

Although the $16.0 million would not impact the evaluation of alternatives, it does impact the rebasing adjustment included in the 2022-2026 Water PBR Application. Water Services 2021 water rates currently include $16.0 million for a real-estate project, as a result the proposed Special Rate Adjustment for Rebasing would only include the revenue requirement impacts for incremental capital expenditures above the 16.0 million previously approved.

Question: **COE-EWSI-11.c**

Topic: **Real Estate Consolidation Project**

Sub-Topic: **Assumptions in Business Case**

Reference: **Appendix F5, Business Case**

i) In Service Date - Please confirm if the Business Case and 2022-2026 PBR applications reflect all capital expenditures for the Aurum Property being completed and in service by the end of 2021 (as noted in Section 4.3.1). If confirmed, please explain in detail the ability for the capital expenditures and consolidation of employees to be completed by the end of 2021.

ii) Further to i. please confirm whether a full year of depreciation expense and cost of capital (debt financing and return on equity) for the Aurum Property is included in the PBR applications beginning in 2022, and if so whether any depreciation expense and cost of capital in 2022 and beyond is also included for the other existing properties.

iii) FTE Requirements - Please provide a table and explanation detailing the current and future FTE and work requirements (including Fleet and Warehouse) contemplated in the Business Case, and what work space is available in the Status Quo vs Aurum Property alternatives. Please provide an explanation for the projected growth in FTE's and work space required. Please explain the assumptions used for the impact on the future workforce requirements due to COVID and possible work from home arrangements.

iv) Sale Proceeds - Please clarify the regulatory treatment for the sales proceeds from the disposition of the property, both for the facilities and the land. Do all of the proceeds from the sale of the existing facilities and the land offset the cost of the Aurum Property project. Does the $17.06 million of sales proceeds include the gain on the sale of both the facilities and the land?

EPCOR RESPONSE:

i) Confirmed. EWSI is currently projecting all capital expenditures to have been completed by the end of 2021, with employees having moving into the Aurum Property in the first quarter of 2022.

ii) Confirmed. A full year of depreciation expense and cost of capital for the Aurum Property is included in PBR rates beginning in 2022. Depreciation and cost of capital are included until mid-2025 for the Coronation, Eastgate, Poundmaker, McCauley properties and until mid-2026 for the Kennedale property.

iii) The primary business requirement driving the Aurum consolidation is the efficiency gains that will be realized through colocation of Drainage and Water Services teams. The financial analysis in the business case assumes an achievement of efficiencies equivalent to 30 FTEs through consolidation of duplicative functions as a result of colocation. Additional business requirement fulfilled by Aurum are described in paragraphs 26 and 27 of the business case:

> *"26. **Water Property Deficiencies** – Four main deficiencies were identified as drivers for the Water D&T Facilities Expansion Project approved in the 2017-2022 PBR. EWSI has been able to accommodate workforce additions in the Watermark building. However, the Water D&T facilities still have constrained space, insufficient security and insufficient yard space which cannot be addressed. In addition, the existing properties cannot accommodate required training, wash bay and operational equipment upgrades. The Consolidation Project addresses all of these deficiencies.*
>
> *27. **Drainage Property Deficiencies** – Within the existing properties, Drainage has divided operations due to space limitation. Operations works from Kennedale and Eastgate; Maintenance/Construction works from Coronation, Edmiston and Poundmaker; Project Management and Engineering works from Coronation; and Planning works from the MNP Tower. This split in location results in operational inefficiencies due to increased need for travel time between locations, dead head time at the beginning of shifts due to travel between locations, and requirement for support services such as stores at multiple locations."*

FTE growth was not a driver for this project. EWSI selected this property because it meets operational requirements including space for fleet storage, warehouse, a training center, washbay, parking and operational equipment upgrades.

The Aurum Facility is being design to accommodate all Water D&T and Drainage Services employees, with EPCOR's long term hybrid work from home/office program in mind. A total of 246 positions have been identified as candidates for a hybrid work style, of which 80% are projected to participate in the hybrid program. As a result, the assigned work space has been reduced by more than 100 spaces (offices and cubicles). Space has also been allocated for

- employees working from the office full time due to transitionary roles such as new hires, promotions or transfers into new roles and performance management, and
- seasonal temporary growth such as summer students and temporary employees required to deliver seasonal programs.

iv) All proceeds from the sale of the existing facilities and the land will be passed to customers through a reduction in EWSI's rate base. Sales proceeds are calculated as sales revenue less the net book value of the properties and land. The projection of $17.06 million of sales proceeds includes both the facilities and the land.

Question: **COE-EWSI-11.d**

Topic: **Real Estate Consolidation Project**

Reference: **Appendix F5, Business Case**

Preamble: *"Over the 45 year period, the Consolidation Project option results in a significantly lower revenue requirement than Status Quo.". (Section 4.2.2, line 34)*

Please provide a further breakdown of the following line items in Table 4.2.2-1:

i) Line 1 - Facility operating cost (by major cost element).

ii) Line 2 - Property Taxes (for each property)

iii) Line 3 - Franchise Fees Less Property Taxes

iv) Line 4 - Labour Efficiency Savings (by major cost element or category)

v) Line 8 - Terminal Value of Rate Base (including an explanation of what this line item is or what it is recovering)

EPCOR RESPONSE:

i) Table COE-EWSI-11.d-1 provides a further breakdown of the facility operating costs included in Table 4.2.2-1 of the business case.

Table COE-EWSI-11.d-1
NPV of Facility Operating Costs
($ millions)

	Site	A Status Quo	B Consolidation Project
	Water Operating Costs		
1	McCauley	4.5	0.4
2	Montrose	2.1	-
3	Watermark	5.4	1.5
	Drainage Operating Costs		
4	Kennedale	19.5	1.4
5	Eastgate	2.9	0.2
6	Coronation	10.6	0.8
7	Edmiston	9.7	0.4
8	Poundmaker	1.4	0.1
	Shared Operating Costs		
8	Aurum	-	50.6
	Lease Costs		
10	Montrose	4.6	0.4
11	Edmiston	11.4	0.5
12	MNP	5.7	0.1
13	EPCOR Tower [(1)]	6.9	7.2
	Moving Costs[(2)]		
14	McCauley	-	0.4
15	Kennedale	-	0.4
16	Eastgate	-	0.0
17	Coronation	-	0.3
18	Edmiston	-	0.0
19	Poundmaker	-	0.5
20	**Total Facility Operating Costs**	**84.7**	**65.4**

(1) For modeling purposes both alternatives included lease costs for EPCOR Tower in future years (beyond 2026). The current PBR Applications do not include any additional lease costs for EPCOR Tower. If this space is required in the future these costs would have to be justified in future PBR applications.

(2) For a comparison against other alternatives the Consolidation Project includes $1.8 million of moving costs in 2022. In the PBR Application these costs are incurred in 2021. No moving costs are included in EWSI 2022-2026 revenue requirement.

ii) Table COE-EWSI-11.d-2 provides a further breakdown of the property taxes included in Table 4.2.2-1 of the business case. The consolidation project includes property taxes for the existing properties until they are sold in either 2025 or 2026.

Table COE-EWSI-11.d-2
NPV of Property Taxes
($ millions)

	Site	A Status Quo	B Consolidation Project
1	McCauley	1.2	0.2
2	Kennedale	4.7	1.0
3	Eastgate	1.0	0.2
4	Coronation	1.9	0.3
5	Edmiston	3.7	0.1
6	Poundmaker	1.2	0.2
7	Aurum	-	21.2
8	**Property Taxes**	**13.7**	**23.1**

iii) COE-EWSI-11.d-3 provides a further breakdown of the franchise fees less property taxes included in Table 4.2.2-1 of the business case. This calculation utilizes the franchise fee formula (franchise revenue x franchise fee rate - municipal tax) to calculate the net franchise fee payable. The franchise revenue is calculated as total project revenue requirement before property taxes less the RWCG and Drainage Stormwater revenue requirement.

Table COE-EWSI-11.d-3
NPV of Franchise Fees Less Property Taxes
($ millions)

		A Status Quo	B Consolidation Project
1	Franchise Revenue	119.0	101.9
2	Franchise Fees 8% [(1)]	10.3	8.9
3	Less: Property Taxes	(13.7)	(23.1)
4	**Net Franchise Fee Payable**	**(3.4)**	**(14.3)**

(1) Franchise Fees = Franchise Revenue/92% x 8% (franchise fees are grossed up account of the circular impact of franchise fees on EWSI revenue requirement)

iv) COE-EWSI-11.d-4 provides a further breakdown of the labour efficiency savings included in Table 4.2.2-1 of the business case. The labour efficiencies are made up of the base salary, benefits and incentive less capital salary recoveries (time spent working on capital projects) for the 30 duplicative positions.

Table COE-EWSI-11.d-4
NPV of Labour Efficiency Savings
($ millions)

		A **Status Quo**	B **Consolidation Project**
1	Base Salary	-	(46.5)
2	Benefits and Incentive	-	(13.9)
3	Less: Capital Salary Recoveries	-	27.9
4	**Total Labour Efficiency Savings**	**-**	**(32.5)**

v) As shown in row 1 of Table COE-EWSI-11.d-5 each alternative has a significant rate base balance at the end of the 45 year period used in the NPV analysis. The rate base is a combination of land and asset replacements over the 45 year period. The terminal value of rate base included in Table 4.2.2-1 of the business case is the present value of the rate base at the end of the 45 year period. This value is used as a proxy of the revenue requirement impacts beyond the 45 year period.

Table COE-EWSI-11.d-5
NPV of Terminal Value of Rate Base
($ millions)

		A **Status Quo**	B **Consolidation Project**
1	Rate Base at the end of 45 year period	26.7	33.5
2	NPV of Rate Base at the end of 45 year period	1.9	2.4

May 19, 2021
EPCOR Water Services Inc.
2022-2024 and 2022-2026 PBR Applications
COE-EWSI-11.c v)

Question: **COE-EWSI-11.c v)**

Topic: **Real Estate Consolidation Project**

Sub-Topic: **Assumptions in Business Case**

Reference: **Appendix F5, Business Case**

v) Sale of Existing Properties - please provide a table similar to Table 2.1.1-1 breaking down the $17.06 million estimated sales proceeds by each of the current properties. Also for each of these properties comprising the $17.06 million, please clarify whether EWSI has 100% ownership interest and rights to sell the property, or whether another party has certain rights in the proposed disposition of the property (i.e. please clarify whether the City of Edmonton has certain continuing rights with any of the current properties that were transferred to EWSI as part of the Drainage transfer in 2017).

EPCOR RESPONSE:

Table COE-EWSI-11.c.v provides a breakdown of the $17.06 million estimated sales proceeds by site. EWSI has 100% ownership interest in the McCauley and Eastgate sites. Under the Drainage transfer in 2017, due to challenges related to subdividing the properties quickly, the Kennedale and Poundmaker sites were identified as City-owned integrated parcels of which EWSI has the ability to subdivide and establish ownership over the portion of the parcel funded through Drainage rates. EWSI has received conditional approval to subdivide both the Kennedale and Poundmaker sites. Under the Drainage Utility Asset and Liability Transfer Agreement (ALTA), the Coronation site has been identified as an EWSI owned fee simple parcel, although EPCOR and the City are currently in discussions regarding the City maintaining an interest in the parcel. In Appendix F-5, the Real Estate Consolidation Project Business Case, ownership of the Coronation site was based on the ALTA.

May 19, 2021
EPCOR Water Services Inc.
2022-2024 and 2022-2026 PBR Applications
COE-EWSI-11.c v)

Table COE-EWSI-11.c.v
Existing Properties
Sale Proceeds by Site

	Site	A Estimated Sales Price	B Sub-Division Costs	C Sales Commission	D Net Sales Proceeds	D Ownership
1	Kennedale	8.50	(1.15)	(0.26)	7.10	City Owned*
2	Poundmaker	4.90	(1.00)	(0.15)	3.75	City Owned *
3	Coronation	2.30	-	(0.07)	2.23	EWSI Owned
4	McCauley	2.30	-	(0.07)	2.23	EWSI Owned
5	Eastgate	1.80	-	(0.05)	1.75	EWSI Owned
6	**Total**	**19.80**	**(2.15)**	**(0.59)**	**17.06**	

*City integrated parcel of which EWSI has the right to subdivide and establish ownership over the portion of the parcel funded from the Drainage rates.

Question: **COE-EWSI-12.a**

Topic: **Capital Expenditures**

Reference: **2022-2026 Water PBR Application, Table 6.1-1 (Total Capital Expenditures by Category Net of Contributions 2017 - 2021) and Table 6.2-1 (Total Forecast Capital Expenditures by PBR Category 2017-2026 Net of Contributions).**

Please provide a table combining Tables 6.1-1 and 6.2-1 showing capital expenditures by PBR category with the following data columns:

(A) 2017-2021 Approved Total

(B) 2017-2021 Approved NRAs

(C) 2017-2021 Actual (latest forecast for 2021)

(D) 2017-2021 variance

(E) 2022-2026 PBR Plan

EPCOR RESPONSE:

Please refer to Table COE-EWSI-12.a-1 below.

Table COE-EWSI-12.a-1
Total Water Capital Expenditures by PBR Category
2017-2026 Net of Contributions
($ millions)

	Category	A 2017-2021 Approved Total	B 2017-2021 Approved NRAs	C 2017-2021 Actual / Forecast Total	D 2017-2021 Variance	E 2022-2026 PBR Plan
	Regulatory					
1	Phosphoric Injection for Lead Control Project	-	9.8	11.8	2.0	-
2	Water Services Replacement and Refurbishment Program	10.2	-	12.1	1.9	24.7
3	Accelerated Lead Service Replacement Program	-	5.9	6.0	0.0	-
4	Projects < $5 million	1.5	-	2.2	0.7	0.8
5	**Sub-total: Regulatory**	**11.6**	**15.7**	**32.0**	**4.6**	**25.5**
	Growth/Customer Requirements					
6	Network PD Transmission Mains Program	14.4	-	25.6	11.2	15.0
7	Water Service Connections Program	-	-	9.7	9.7	-
8	Water Main Cost Sharing Program	3.0	-	6.5	3.4	3.0
9	LRT Relocates Program	10.4	14.5	26.4	1.5	10.3
10	Franchise Agreement Relocates Program [1]	6.0	-	7.0	1.0	11.0
11	Discovery Park Reservoir Annexation Project	-	7.7	7.8	0.1	-
12	Private Development Construction Coordination Program	13.5	-	11.9	(1.6)	8.7
13	New Meter Installations Program	13.2	-	11.9	(1.3)	13.9
14	QEII Highway 41 Ave Crossing Project	-	-	0.3	0.3	14.1
15	Winterburn Booster Station Project	-	-	-	-	6.7
16	Projects < $5 million	2.6	1.6	11.8	7.7	1.4
17	**Sub-total: Growth/Customer Requirements**	**63.2**	**23.8**	**118.9**	**32.0**	**84.1**
	Health, Safety and Environment					
18	Solar Power Systems (including BESS) Project	-	-	28.8	28.8	(2.7)
19	Stage 2 and 3 Filter Conversion to Deep Bed Project	22.3	-	0.3	(22.0)	-
20	Projects < $5 million	4.3	-	3.3	(1.0)	10.4
21	**Sub-total: Health, Safety and Environment**	**26.6**	**-**	**32.5**	**5.8**	**7.7**
	Reliability and Life Cycle Improvements					
22	E.L. Smith Structural Rehabilitation Program	2.0	-	10.1	8.1	-
23	Obsolete Valve Replacements Program	4.1	-	11.1	6.9	11.6
24	Obsolete Hydrant Replacements Program	4.4	-	9.7	5.3	8.4
25	Rossdale Chemfeed Upgrade Program	4.0	-	8.8	4.8	4.8
26	E.L. Smith Chemfeed Upgrades Program	4.0	-	8.4	4.4	3.5
27	E.L. Smith Bypass Main (Ring Main) Project	7.0	-	11.0	4.0	-

[1] Referred to as the Distribution System Modifications Program in the 2017-2021 PBR.

	Category	A 2017-2021 Approved Total	B 2017-2021 Approved NRAs	C 2017-2021 Actual / Forecast Total	D 2017-2021 Variance	E 2022-2026 PBR Plan
28	Rossdale Filter Underdrains Project	4.7	-	8.1	3.4	-
29	E.L. Smith HVAC Upgrades Program	3.4	-	5.1	1.7	-
30	E.L. Smith Mechanical Reliability Program	4.9	-	6.4	1.5	3.6
31	Rossdale C1-2 Clarifier Upgrade Project	4.3	-	5.5	1.1	-
32	Transmission Mains and Appurtenances Program[2]	18.9	-	20.2	1.3	10.7
33	Risk Based Distribution Main Renewals[3]	72.6	-	74.1	1.5	29.0
34	Fleet and Vehicle Additions Program	11.8	-	11.9	0.1	7.0
35	Meter Change Outs Program	25.6	-	13.9	(11.8)	5.8
36	Structural Rehab and Roof Replacement Upgrades Program[4]	8.0	-	7.4	(0.7)	9.6
37	Reservoir Electrical Upgrades Program	5.3	-	2.7	(2.6)	1.7
38	SCADA System Upgrade Program	5.7	-	4.5	(1.2)	3.8
39	Rossdale Electrical Upgrades Program	5.2	-	4.3	(0.9)	-
40	Critical Pipeline Inspection Program	-	-	-	-	6.8
41	Infill Fire Protection Program	-	-	-	-	20.2
42	High Lift Pump House Project	4.4	-	0.7	(3.7)	5.0
43	5kV Upgrades Project	-	-	-	-	5.0
44	E.L. Smith Filter Upgrades Project	-	-	3.7	3.7	15.6
45	Flood Protection Project	-	-		-	16.1
46	Projects < $5 million	62.0	-	67.1	5.1	60.7
47	**Sub-total: Reliability and Life Cycle Improvements**	**262.4**	**-**	**294.3**	**32.0**	**229.0**
	Performance Efficiency and Improvement					
48	Water Distribution and Transmission Facility Project	16.0	-	22.1	6.1	-
49	Water Main Cathodic Protection Program	21.0	-	17.8	(3.3)	15.1
50	AMI Deployment Project	-	-	-	-	62.9
51	Projects < $5 million	7.1	-	6.7	(0.4)	5.1
52	**Sub-total: Performance Efficiency and Improvement**	**44.1**	**-**	**46.6**	**2.4**	**83.0**
	Accelerated					
53	Accelerated Water Main Renewal Program	51.9	-	42.9	(9.0)	-
54	Accelerated Fire Protection Program	15.9	-	9.9	(6.0)	-
55	Projects < $5 million	-	-	-	-	-
56	**Sub-total: Accelerated**	**67.8**	**-**	**52.8**	**(15.0)**	**-**
57	**Total Capital Expenditures**	**475.8**	**39.5**	**577.1**	**61.9**	**429.3**

[2] Split between the Network Valve Chamber Refurbishment Program and the Transmission Mains Replacement / Refurbishment Program in the 2017-2021 PBR.

[3] Combines the Water Main Reactive, Proactive and Accelerated Renewal Programs from the 2017-2021 PBR.

[4] Combines the Reservoir Cell and Pumphouse Roof Replacement and Reservoir Structural Upgrades Programs from the 2017-2021 PBR.

Question: **COE-EWSI-12.b**

Topic: **Capital Expenditures**

Reference: **2022-2024 Drainage PBR Application, Table 7.1-1, (Total Capital Expenditures (Net of Contributions) by Drainage Program Category 2018-2021) Table 7.1-2 (Flood Mitigation and SIRP Capital Expenditures, SRP NRA Forecast compared to Current Forecast (Net of Contributions) 2018 - 2021 and Table 7.2-1 (Total (Net) Forecast Capital Expenditures by Drainage Category 2022-2024)**

Please provide a table combining Tables 7.1-1/7.1-2 and 7.2-1 showing capital expenditures by PBR category with the following data columns:

(A) 2018-2021 Approved Total

(B) 2018-2021 Approved NRAs

(C) 2018-2021 Actual (latest forecast for 2021)

(D) 2018-2021 variance

(E) 2022-2024 PBR Plan

EPCOR RESPONSE:

Please refer to Table COE-EWSI-12.b-1 below.

Table COE-EWSI-12.b-1
Total Drainage Capital Expenditures by PBR Category
2018-2024 Net of Contributions
($ millions)

	Category	A 2018-2021 Approved Total	B 2018-2021 Approved NRA Total	C 2018-2021 Actual / Forecast Total	D 2018-2021 Variance (C-(A+B))	E 2022-2024 PBR Plan
1	**Drainage Neighbourhood Renewal**	**175.8**	**-**	**122.2**	**(53.7)**	**76.5**
	Drainage System Expansion					
2	105 Avenue Sewer Lateral / Servicing for Downtown	17.7	-	10.2	(7.4)	1.2
3	Private Development Construction Coordination	8.8	-	13.7	4.8	11.3
4	Projects < $10 million	(2.4)	-	44.1	46.5	26.3
5	**Sub-total: Drainage System Expansion**	**24.1**	**-**	**68.0**	**43.9**	**38.8**
	Drainage System Rehabilitation					
6	Groat Road Trunk	-	-	33.9	33.9	-
7	High Priority Replacement Program	54.2	-	69.2	15.1	52.1
8	Small Trunk Rehabilitation Program		-	-	-	18.8
9	Vehicle and Fleet Program		-	7.1	7.1	13.2
10	Pump Station Rehabilitation Program		-	3.9	3.9	15.5
11	Proactive Service Renewal Program		-	-	-	10.3
12	Drill Drop Manholes Program		-	9.3	9.3	13.1
13	Projects < $10 million	65.0	-	91.3	26.2	43.0
14	**Sub-total: Drainage System Rehabilitation**	**119.2**	**-**	**214.7**	**95.5**	**166.0**
	Environmental Quality Enhancement					
15	Clover Bar Cell 1-4	14.0	-	11.8	(2.2)	-
16	Projects < $10 million	86.8	-	12.7	(74.1)	-
17	**Subtotal: Environmental Quality Enhancement**	**100.8**	**-**	**24.5**	**(76.3)**	**-**
18	**SSSF**	**-**	**-**	**7.1**	**7.1**	**4.5**
19	**Real Estate**	**-**	**-**	**33.1**	**33.1**	**-**
	Flood Mitigation					
20	Tweddle Place	29.6	(9.5)	20.4	0.3	0.3
21	Trunk and Sewer Separation	-	15.1	-	(15.1)	-
22	Dry Pond Program	79.9	(59.7)	14.9	(5.3)	32.7
23	Projects < $10 million	138.0	(90.8)	11.9	(35.4)	1.1
24	**Subtotal: Flood Mitigation**	**247.5**	**(144.9)**	**47.1**	**(55.5)**	**34.1**
25	**Sub-Total City LTP Capital Expenditures Net of Contributions**	**667.5**	**(144.9)**	**516.6**	**(5.9)**	**319.9**

	Category	A 2018-2021 Approved Total	B 2018-2021 Approved NRA Total	C 2018-2021 Actual / Forecast Total	D 2018-2021 Variance (C-(A+B))	E 2022-2024 PBR Plan
	NRA – SIRP					
26	SIRP Dry Pond Program	-	55.7	12.2	(43.5)	60.4
27	SIRP Trunk and Sewer Separation Program	-	30.1	12.7	(17.4)	-
28	SIRP Low Impact Development Program	-	26.6	10.3	(16.2)	53.1
29	SIRP Proactive Manhole Relining Program	-	2.1	8.4	6.2	18.7
30	SIRP Proactive Pipe Relining Program	-	15.5	6.6	(8.9)	22.9
31	Projects < $10 million	-	22.1	17.3	(4.8)	50.5
32	**Sub-total: SIRP NRA**	**-**	**152.2**	**67.5**	**(84.6)**	**205.6**
	NRA – LRT					
33	West Valley Line LRT Sewer Relocation	-	55.4	45.5	(9.9)	48.5
34	Metro LRT Sewer Relocation	-	5.5	8.7	3.2	-
35	**Sub-total: LRT NRA**	**-**	**60.9**	**54.2**	**(6.7)**	**48.5**
	NRA – CORe					
36	CORe Large Trunk Rehabilitation Program	-	-	66.4	66.4	79.0
37	CORe Duggan Tunnel Project	-	10.7	5.1	(5.6)	56.3
38	CORe Access Manhole Program	-	20.0	13.8	(6.2)	17.9
39	CORe Drop Structure Modification Program	-	19.4	10.2	(9.2)	22.0
40	CORe Projects < $10 million	-	3.6	2.4	(1.2)	5.2
41	**Sub-total: CORe NRA**	**-**	**53.7**	**98.0**	**44.3**	**180.4**
42	**Sub-Total NRAs**	**-**	**266.8**	**219.7**	**(47.0)**	**434.5**
43	**Total Capital Expenditures Net of Contributions**	**667.5**	**121.8**	**736.4**	**(52.9)**	**754.3**

Question: **COE-EWSI-12.c**

Topic: **Capital Expenditures**

Reference: **2022-2024 PBR Wastewater PBR Application, Table 6.1-1, (Total Capital Expenditures by Regulatory Category Net of Contributions Actual/forecast Compared to PBR approved 2017-2021) and Table 6.2-1 (Total Forecast Capital Expenditures by PBR Category 2022-2024 Net of Contributions)**

Please provide a table combining Tables 6.1-1 and 6.2-1 showing capital expenditures by PBR category with the following data columns:

(A) 2017-2021 Approved Total

(B) 2017-2021 Actual (latest forecast for 2021)

(C) 2017-2021 variance

(D) 2022-2024 PBR Plan

EPCOR RESPONSE:

Please refer to Table COE-EWSI-12.c-1 below. Note that there were no NRA's in the 2017-2021 PBR Term.

Table COE-EWSI-12.c-1
Total Wastewater Capital Expenditures by PBR Category
2017-2024 Net of Contributions
($ millions)

	Category	A 2017-2021 Approved Total	B 2017-2021 Actual / Forecast Total	C 2017-2021 Variance	D 2022-2024 PBR Plan
	Regulatory				
1	Odour Control Improvements Project	-	0.4	0.4	5.6
2	Projects < $5 million	-	1.5	1.5	-
3	**Sub-total: Regulatory**	**-**	**1.9**	**1.9**	**5.6**
	Growth/Customer Requirements				
4	Hydrovac Sanitary Grit Treatment Facility Project	8.4	7.4	(1.0)	-
5	Secondary inDENSE™ Upgrade Project	-	0.5	0.5	4.5
6	Projects < $5 million	1.5	1.9	0.4	1.0
7	**Sub-total: Growth/Customer Requirements**	**9.9**	**9.8**	**(0.2)**	**5.5**
	Health, Safety and Environment				
8	Projects < $5 million	4.5	3.8	(0.8)	0.8
9	**Sub-total: Health, Safety and Environment**	**4.5**	**3.8**	**(0.8)**	**0.8**
	Reliability and Life Cycle Improvements				
	Mechanical				
10	Build Pipe Racks Project	-	9.7	9.7	-
11	Replace 2.5km of Sludge Line Project	-	7.5	7.5	-
12	Clarifier Chain Replacement Program	4.1	9.9	5.8	1.0
13	Sludge Line Upgrades Project	3.4	8.5	5.2	3.5
14	Mechanical Rehabilitation Program	15.6	20.7	5.1	1.5
15	Digester 3 Upgrades Project	11.3	14.0	2.7	-
16	Digester 4 Upgrades Project	12.0	1.3	(10.7)	13.4
17	Headworks and Primary Aeration System Upgrades Project	6.7	1.4	(5.3)	-
18	Square 1 Gas Room Replacement Project	15.6	10.6	(5.0)	-
19	Projects < $5 million	8.3	5.7	(2.6)	8.7
20	Sub-total: Mechanical	76.9	89.3	12.4	28.1
	Structural				
21	Structural Rehabilitation Program	7.7	13.0	5.3	4.5
22	Structural Rehabilitation Secondaries 1-8 Program	17.6	21.6	4.0	-
23	Distribution Chamber Reconstruction Project	3.8	6.8	3.0	-
24	PE Channel Upgrades Project	-	0.3	0.3	17.0
25	Projects < $5 million	3.2	1.7	(1.5)	-
26	Sub-total: Structural	32.2	43.3	11.1	21.5

	Category	A 2017-2021 Approved Total	B 2017-2021 Actual / Forecast Total	C 2017-2021 Variance	D 2022-2024 PBR Plan
	Electrical				
27	Electrical Rehabilitation Program	7.2	8.6	1.5	2.5
28	Aux Control Room E-House (EB-1) Project	-	-	-	11.2
29	600v Electrical Building (EB-2) Project	-	-	-	11.8
30	Projects < $5 million	0.5	2.7	2.2	-
31	Sub-total: Electrical	7.7	11.3	3.6	25.6
	Instruments / Other Equipment				
32	Projects < $5 million	3.3	5.1	1.8	4.6
33	Sub-total: Instruments / Other Equipment	3.3	5.1	1.8	4.6
	Buildings and Site				
34	Operations Center at Mid-Point Entrance Project	19.4	6.9	(12.5)	1.3
35	Buildings and Site Rehabilitation Program	12.8	9.3	(3.5)	2.0
36	Clover Bar Dewatering Facility Project	-	3.6	3.6	38.4
37	Projects < $5 million	0.2	0.2	0.0	0.2
38	Sub-total: Buildings and Site	32.4	20.0	(12.3)	41.8
	HVAC				
39	Utility Hot Water System Rehabilitation Program	13.9	9.0	(4.9)	0.3
40	Site HVAC Rehabilitation Program	31.5	28.1	(3.3)	1.5
41	Projects < $5 million	-	-	-	7.3
42	Sub-total: HVAC	45.3	37.2	(8.2)	9.1
	Process Controls / IT				
43	Expand Flare Capacity Project	-	0.4	0.4	8.0
44	Projects < $5 million	5.6	5.2	(0.5)	2.7
45	Sub-total: Process Controls / IT	5.6	5.5	(0.1)	10.7
46	**Sub-total: Reliability and Life Cycle Improvements**	**203.4**	**211.8**	**8.4**	**141.4**
	Performance Efficiency and Improvement				
47	Plant Improvements Program	2.9	9.2	6.3	3.5
48	Laboratory Facility Consolidation Project	-	0.6	0.6	5.9
49	Secondary Aeration Blower Upgrades Project	-	-	-	8.0
50	Projects < $5 million	14.7	8.0	(6.7)	1.0
51	**Sub-total: Performance Efficiency and Improvement**	**17.6**	**17.8**	**0.2**	**18.4**
52	**Total Capital Expenditures**	**235.4**	**245.0**	**9.6**	**171.7**

Question: **COE-EWSI-13.a**

Topic: **Customer Bill Impacts**

Sub-Topic: **Bill Impacts on an Average Residential Customer 2022-2026**

Reference: **Reference: 2022-2026 Water PBR Application, Table 12.2.5-1**

Please provide a table showing the bill impact (i.e. lines 7 to 10 of Table 12.2.5-1) from the current 2021 bill through to 2026 for a low use (10 m^3/month), a medium use (15 m^3/month) and a high use (40 m^3/month) residential water customer. Please complete the bill calculations assuming a constant monthly consumption for each year.

EPCOR RESPONSE:

Table COE-EWSI-13.a-1 to COE-EWSI-13.a-3 provide the bill impacts for low use, medium use, and high use residential customers, using constant consumption over the PBR term. In each table row 3 provides the monthly bill for Water Services base water operations while row 7 provides the total monthly bill including the new fire protection charge. Historically, public fire protection service were collected through property taxes. As directed by Edmonton City Council EWSI will now collect the public fire protection revenue requirement through a fire protection charge added to water rates starting in 2022 (row 6). The shifting of public fire protection from property taxes to water rates should result in a reduction to property taxes.

Table COE-EWSI-13.a-1
Residential Bill Impacts - Low Consumption Customer
2021-2026
($/month)

		A	B	C	D	E	F	G
		2021F	**2022F**	**2023F**	**2024F**	**2025F**	**2026F**	**Total/ Average**
1	Monthly Consumption - m3	10	10	10	10	10	10	
2	Meter Size	15 mm	15 mm	15 mm	15 mm	15 mm	15 mm	
3	**Monthly Bill before Fire Protection- $**	**29.62**	**33.12**	**34.46**	**36.16**	**37.94**	**39.81**	
4	Change in Bill - $		3.51	1.34	1.70	1.78	1.87	10.20
5	Change in Bill - %		11.8%	4.0%	4.9%	4.9%	4.9%	6.1%
6	Fire Protection Charge	-	2.59	2.64	2.70	2.75	2.81	
7	**Monthly Bill including Fire Protection- $**	**29.62**	**35.71**	**37.10**	**38.86**	**40.70**	**42.62**	
8	Change in Bill - $		6.09	1.39	1.75	1.84	1.93	13.01
9	Change in Bill - %		20.6%	3.9%	4.7%	4.7%	4.7%	7.7%

Table COE-EWSI-13.a-2
Residential Bill Impacts - Medium Consumption Customer
2021-2026
($/month)

		A	B	C	D	E	F	G
		2021F	**2022F**	**2023F**	**2024F**	**2025F**	**2026F**	**Total/ Average**
1	Monthly Consumption - m3	15	15	15	15	15	15	
2	Meter Size	15 mm	15 mm	15 mm	15 mm	15 mm	15 mm	
3	**Monthly Bill before Fire Protection- $**	**41.53**	**44.37**	**46.26**	**48.55**	**50.94**	**53.45**	
4	Change in Bill - $		2.84	1.89	2.28	2.40	2.51	11.92
5	Change in Bill - %		6.8%	4.3%	4.9%	4.9%	4.9%	5.2%
6	Fire Protection Charge	-	2.59	2.64	2.70	2.75	2.81	
7	**Monthly Bill including Fire Protection- $**	**41.53**	**46.96**	**48.91**	**51.24**	**53.69**	**56.26**	
8	Change in Bill - $		5.43	1.94	2.34	2.45	2.57	14.73
9	Change in Bill - %		13.1%	4.1%	4.8%	4.8%	4.8%	6.3%

Table COE-EWSI-13.a-3
Residential Bill Impacts - High Consumption Customer
2021-2026
($/month)

		A	B	C	D	E	F	G
		2021F	**2022F**	**2023F**	**2024F**	**2025F**	**2026F**	**Total/ Average**
1	Monthly Consumption - m3	40	40	40	40	40	40	
2	Meter Size	15 mm	15 mm	15 mm	15 mm	15 mm	15 mm	
3	**Monthly Bill before Fire Protection- $**	**104.24**	**103.59**	**108.40**	**113.75**	**119.36**	**125.25**	
4	Change in Bill - $		(0.65)	4.81	5.35	5.61	5.89	21.01
5	Change in Bill - %		-0.6%	4.6%	4.9%	4.9%	4.9%	3.8%
6	Fire Protection Charge	-	2.59	2.64	2.70	2.75	2.81	
7	**Monthly Bill including Fire Protection- $**	**104.24**	**106.18**	**111.04**	**116.44**	**122.11**	**128.06**	
8	Change in Bill - $		1.94	4.87	5.40	5.67	5.95	23.82
9	Change in Bill - %		1.9%	4.6%	4.9%	4.9%	4.9%	4.2%

Question: **COE-EWSI-13.b**

Topic: **Customer Bill Impacts**

Sub-Topic: **Bill Impacts on an Average Multi-Residential Customer 2022-2026**

Reference: **Reference: 2022-2026 Water PBR Application, Table 12.2.5-2**

Please provide a table showing the bill impact (i.e. lines 7 to 10 of Table 12.2.5-2) from the current 2021 bill through to 2026 for a low use, a medium use and a high use multi- residential water customer. Please complete the bill calculations assuming a constant monthly consumption for each year.

EPCOR RESPONSE:

Table COE-EWSI-13.b-1 to COE-EWSI-13.b-3 provide the bill impacts for low use, medium use, and high use multi-residential customers, using constant consumption over the PBR term.

Table COE-EWSI-13.b-1
Multi-Residential Bill Impacts - Low Consumption Customer
2021-2026
($/month)

		A	B	C	D	E	F	G
		2021F	**2022F**	**2023F**	**2024F**	**2025F**	**2026F**	**Total/ Average**
1	Monthly Consumption - m3	100	100	100	100	100	100	
2	Meter Size	25 mm	25 mm	25 mm	25 mm	25 mm	25 mm	
3	**Monthly Bill before Fire Protection- $**	**225.41**	**225.74**	**236.13**	**247.78**	**260.00**	**272.83**	
4	Change in Bill - $		0.33	10.39	11.65	12.23	12.83	47.43
5	Change in Bill - %		0.1%	4.6%	4.9%	4.9%	4.9%	3.9%
6	Fire Protection Charge	-	6.36	6.49	6.62	6.76	6.90	
7	**Monthly Bill including Fire Protection- $**	**225.41**	**232.09**	**242.62**	**254.40**	**266.76**	**279.73**	
8	Change in Bill - $		6.69	10.52	11.78	12.36	12.97	54.32
9	Change in Bill - %		3.0%	4.5%	4.9%	4.9%	4.9%	4.4%

Table COE-EWSI-13.b-2
Multi-Residential Bill Impacts - Medium Consumption Customer
2021-2026
($/month)

		A	B	C	D	E	F	G
		2021F	**2022F**	**2023F**	**2024F**	**2025F**	**2026F**	**Total/ Average**
1	Monthly Consumption - m3	400	400	400	400	400	400	
2	Meter Size	40 mm	40 mm	40 mm	40 mm	40 mm	40 mm	
3	**Monthly Bill before Fire Protection- $**	**761.67**	**745.00**	**780.27**	**818.77**	**859.16**	**901.56**	
4	Change in Bill - $		(16.66)	35.27	38.50	40.40	42.39	139.89
5	Change in Bill - %		-2.2%	4.7%	4.9%	4.9%	4.9%	3.5%
6	Fire Protection Charge	-	12.72	12.98	13.24	13.52	13.80	
7	**Monthly Bill including Fire Protection- $**	**761.67**	**757.72**	**793.24**	**832.01**	**872.68**	**915.35**	
8	Change in Bill - $		(3.95)	35.53	38.77	40.67	42.67	153.69
9	Change in Bill - %		-0.5%	4.7%	4.9%	4.9%	4.9%	3.8%

Table COE-EWSI-13.b-3
Multi-Residential Bill Impacts - High Consumption Customer
2021-2026
($/month)

		A	B	C	D	E	F	G
		2021F	**2022F**	**2023F**	**2024F**	**2025F**	**2026F**	**Total/ Average**
1	Monthly Consumption - m3	3,500	3,500	3,500	3,500	3,500	3,500	
2	Meter Size	75 mm	75 mm	75 mm	75 mm	75 mm	75 mm	
3	**Monthly Bill before Fire Protection- $**	**5,431.87**	**5,206.53**	**5,458.94**	**5,728.29**	**6,010.93**	**6,307.51**	
4	Change in Bill - $		(225.34)	252.41	269.35	282.64	296.58	875.64
5	Change in Bill - %		-4.1%	4.8%	4.9%	4.9%	4.9%	3.1%
6	Fire Protection Charge	-	38.15	38.93	39.73	40.55	41.39	
7	**Monthly Bill including Fire Protection- $**	**5,431.87**	**5,244.67**	**5,497.87**	**5,768.02**	**6,051.48**	**6,348.90**	
8	Change in Bill - $		(187.20)	253.20	270.15	283.46	297.42	917.03
9	Change in Bill - %		-3.4%	4.8%	4.9%	4.9%	4.9%	3.2%

Question: **COE-EWSI-13.c**

Topic: **Customer Bill Impacts**

Sub-Topic: **Bill Impacts on a Commercial Customer 2022-2026**

Reference: **Reference: 2022-2026 Water PBR Application, Table 12.2.5-3**

Please provide a table showing the bill impact (i.e. lines 7 to 10 of Table 12.2.5-3) from the current 2021 bill through to 2026 for a small (325 m^3/month), a medium (6,000 m^3/month) and a large (20,000 m^3/month) commercial water customer. Please complete the bill calculations assuming a constant monthly consumption for each year.

EPCOR RESPONSE:

Table COE-EWSI-13.c-1 to COE-EWSI-13.c-4 provide the bill impacts for a small, medium, large and extra-large commercial customer, using constant consumption over the PBR term.

Table COE-EWSI-13.c-1
Commercial Bill Impacts - Small Customer
2021-2026
($/month)

		A	B	C	D	E	F	G
		2021F	**2022F**	**2023F**	**2024F**	**2025F**	**2026F**	**Total/ Average**
1	Monthly Consumption - m3	15	15	15	15	15	15	
2	Meter Size	15 mm	15 mm	15 mm	15 mm	15 mm	15 mm	
3	**Monthly Bill before Fire Protection- $**	**42.13**	**44.94**	**46.86**	**49.17**	**51.60**	**54.14**	
4	Change in Bill - $		2.81	1.92	2.31	2.43	2.55	12.01
5	Change in Bill - %		6.7%	4.3%	4.9%	4.9%	4.9%	5.1%
6	Fire Protection Charge	-	5.87	5.99	6.12	6.24	6.37	
7	**Monthly Bill including Fire Protection- $**	**42.13**	**50.81**	**52.85**	**55.29**	**57.84**	**60.51**	
8	Change in Bill - $		8.68	2.04	2.44	2.55	2.67	18.38
9	Change in Bill - %		20.6%	4.0%	4.6%	4.6%	4.6%	7.7%

Table COE-EWSI-13.c-2
Commercial Bill Impacts - Medium Customer
2021-2026
($/month)

		A	B	C	D	E	F	G
		2021F	**2022F**	**2023F**	**2024F**	**2025F**	**2026F**	**Total/ Average**
1	Monthly Consumption - m3	325	325	325	325	325	325	
2	Meter Size	25 mm	25 mm	25 mm	25 mm	25 mm	25 mm	
3	**Monthly Bill before Fire Protection- $**	**547.23**	**529.63**	**555.01**	**582.40**	**611.13**	**641.29**	
4	Change in Bill - $		(17.60)	25.39	27.38	28.74	30.15	94.06
5	Change in Bill - %		-3.2%	4.8%	4.9%	4.9%	4.9%	3.3%
6	Fire Protection Charge	-	14.68	14.98	15.29	15.60	15.92	
7	**Monthly Bill including Fire Protection- $**	**547.23**	**544.30**	**569.99**	**597.69**	**626.74**	**657.21**	
8	Change in Bill - $		(2.93)	25.69	27.69	29.05	30.48	109.98
9	Change in Bill - %		-0.5%	4.7%	4.9%	4.9%	4.9%	3.8%

Table COE-EWSI-13.c-3
Commercial Bill Impacts - Large Customer
2021-2026
($/month)

		A	B	C	D	E	F	G
		2021F	**2022F**	**2023F**	**2024F**	**2025F**	**2026F**	**Total/ Average**
1	Monthly Consumption - m3	6,000	6,000	6,000	6,000	6,000	6,000	
2	Meter Size	75 mm	75 mm	75 mm	75 mm	75 mm	75 mm	
3	**Monthly Bill before Fire Protection- $**	**7,732.53**	**7,378.99**	**7,738.59**	**8,120.42**	**8,521.08**	**8,941.52**	
4	Change in Bill - $		(353.54)	359.60	381.83	400.67	420.44	1,208.99
5	Change in Bill - %		-4.6%	4.9%	4.9%	4.9%	4.9%	3.0%
6	Fire Protection Charge	-	88.07	89.88	91.73	93.62	95.55	
7	**Monthly Bill including Fire Protection- $**	**7,732.53**	**7,467.05**	**7,828.47**	**8,212.15**	**8,614.70**	**9,037.07**	
8	Change in Bill - $		(265.47)	361.42	383.68	402.56	422.36	1,304.54
9	Change in Bill - %		-3.4%	4.8%	4.9%	4.9%	4.9%	3.2%

Table COE-EWSI-13.c-4
Commercial Bill Impacts - Extra Large Customer
2021-2026
($/month)

		A	B	C	D	E	F	G
		2021F	**2022F**	**2023F**	**2024F**	**2025F**	**2026F**	**Total/ Average**
1	Monthly Consumption - m3	20,000	20,000	20,000	20,000	20,000	20,000	
2	Meter Size	150 mm	150 mm	150 mm	150 mm	150 mm	150 mm	
3	**Monthly Bill before Fire Protection- $**	**22,122.66**	**21,147.71**	**22,176.22**	**23,270.41**	**24,418.59**	**25,623.42**	
4	Change in Bill - $		(974.94)	1,028.51	1,094.19	1,148.18	1,204.83	3,500.76
5	Change in Bill - %		-4.4%	4.9%	4.9%	4.9%	4.9%	3.1%
6	Fire Protection Charge	-	293.55	299.60	305.77	312.07	318.50	
7	**Monthly Bill including Fire Protection- $**	**22,122.66**	**21,441.26**	**22,475.82**	**23,576.18**	**24,730.66**	**25,941.91**	
8	Change in Bill - $		(681.39)	1,034.56	1,100.36	1,154.48	1,211.26	3,819.26
9	Change in Bill - %		-3.1%	4.8%	4.9%	4.9%	4.9%	3.3%

April 28, 2021

EPCOR Water Services Inc.
2022-2024 and 2022-2026 PBR Applications
COE-EWSI-14

Question: **COE-EWSI-14**

Topic: **Bill Comparison Report**

Reference: **Appendix Q - Bill Comparison Report, Section 4.1, paragraph 10**

Preamble: *"Bill comparisons generally reflect 2022 water rates for comparable communities and are based on the total cost including fixed charges, consumption charges plus any surcharges."*

a) Do the bill calculations for Edmonton customers shown in the various figures/graphs include the water franchise fee?

b) If the response to (a) is in the affirmative, please identify if any of the other communities shown in the figures/graphs include a similar surcharge (e.g. it is noted that the bill amount for a customer in Winnipeg includes a "Tax Levy" amount).

EPCOR RESPONSE:

a) Yes, all Edmonton customer bill calculations, throughout the PBR Applications and Appendices, include the water franchise fee which is included in Water, Wastewater, and Drainage Sanitary rates.

b) EWSI does not have access to other communities financial records to determine what is included in their water rates. Based on research and a survey completed by City of Edmonton[1] it is believed that EWSI is the only community, of those included in the bill comparisons, that includes a franchise fee in its water, wastewater treatment, and drainage rates.

The City of Winnipeg collects a water and sewer main infrastructure charge through a frontage levy (tax). As these costs are not included in Winnipeg's water and wastewater

[1] Financial and Corporate Services report CR_7759
https://pub-edmonton.escribemeetings.com/filestream.ashx?DocumentId=80110

rates, EWSI adds the levy when calculating the water and wastewater bills for Winnipeg customers.

April 28, 2021

EPCOR Water Services Inc.
2022-2024 and 2022-2026 PBR Applications
COE-EWSI-15

Question: **COE-EWSI-15.a**

Topic: **Green Power Initiative**

Reference: **2022-2026 PBR Water Application, Section 5.2 Operating Costs by Function, paragraph 303**

Preamble: *"A $1.6 million increase in power costs starting in 2023 from incorporating the proposed Green Power Initiative along with an annual 6% increase in distribution and transmission charges.".*

Please provide a breakdown of the $1.6 million increase in power costs beginning in 2023 split between the costs of the Green Power Initiative and the increase in distribution and transmission costs?

EPCOR RESPONSE:

The $1.6 million increase in power costs beginning in 2023 are split $0.9 million related to the Green Power Initiative and $0.7 million related to the increase in distribution and transmission charges.

Question: **COE-EWSI-15.b**

Topic: **Green Power Initiative**

Reference: **2022-2026 PBR Water Application, Section 5.2 Operating Costs by Function, paragraph 303**

Preamble: *"A $1.6 million increase in power costs starting in 2023 from incorporating the proposed Green Power Initiative along with an annual 6% increase in distribution and transmission charges.".*

Please provide further details of the annual costs related to the Green Power Initiative.

EPCOR RESPONSE:

The volumes were determined for each business unit by adding up metered data from each power meter for which EPCOR is responsible for paying the bill within Edmonton. The sum of power consumption across EPCOR's Edmonton operations, less the anticipated generation volumes of the E.L. Smith Solar Farm, totaled the equivalent of 145,000 Renewable Attributes[1] per year. On March 8, 2019 EPCOR Utilities Inc. (EUI) released an RFP for the Supply of "Renewable Attributes derived from a newly constructed or expanded renewable generating facility in Alberta utilizing either wind or solar energy for a 20 year term". EPCOR required that the project be capable of generating "Renewable Attributes", and that the facility and Renewable Attributes are EcoLogo Certified.

The contract price was the main determinant in selecting the successful proponent, with 60% weight placed on price in the selection process. The contract price increases year over year very gradually at 20% of Alberta CPI, or approximately 0.4% annually. EPCOR considers the contract price to be favourable today, and increasingly favourable as the federal carbon levy rises from the current $30/tonne to $170/tonne by 2030. Over the life of the contract, EPCOR has estimated that the contract price represents a 50-75% discount compared to the federal carbon levy.

[1] Defined as the "the property rights to the environmental, social and other non-power attributes of renewable electricity generation" by the U.S. Environmental Protection Agency.
https://www.epa.gov/greenpower/renewable-energy-certificates-recs

EUI will allocate the cost of the Green Power Initiative to each of Water Services, Wastewater Treatment Services and Drainage Services based on each business unit's proportional share of power consumption.

Question: **COE-EWSI-15.c**

Topic: **Green Power Initiative**

Reference: **2022-2026 PBR Water Application, Section 5.2 Operating Costs by Function, paragraph 303**

Preamble: *"A $1.6 million increase in power costs starting in 2023 from incorporating the proposed Green Power Initiative along with an annual 6% increase in distribution and transmission charges.".*

Please provide the basis and rationale for utilizing a 6% annual increase in electricity transmission and distribution charges, including any and all third party forecasts that were relied upon.

EPCOR RESPONSE:

The forecast of 6% was based on the three year average of historical annual increase in power D&T charges for Water Services. The three year average from 2017-2019 was 6.27%, which EWSI rounded to 6%. EWSI selected the three year average of historical increases rather than the five year average of historical increases because the five year average resulted in an unreasonably high forecast. The five year forecast included the year 2015, which saw a 28% increase due to a catch-up increase from years prior.

For context, the AESO forecast for transmission rate increases is 3% annually from 2021-2025, however EWSI is not aware of a public forecast of distribution rates.

Question: **COE-EWSI-16.a**

Topic: **Fire Protection Services Costs and Performance Metrics**

Reference: **2017-2021 Water Services PBR Compliance Filing Schedule 3.2, 2022-2026 Water Services PBR Application, Schedule 3.2**

Preamble: *The approved revenue requirement for Fire Protection Services for 2021 was $15.3 million, comprised of $5.6 million for operating costs, $2.4 million for depreciation, $3.0 million for cost of debt financing, and $4.3 million for return on equity (2017-2021 Water Services PBR Compliance Filing Schedule 3.2).*

The requested revenue requirement for Fire Protection Services for 2022 is $21.2 million, comprised of $8.6 million for operating costs, $3.4 million for depreciation, $3.6 million for cost of debt financing, and $5.6 million for return on equity (2022-2026 Water Services PBR Application, Schedule 3.2).

i) Please provide a detailed explanation and supporting calculations for the overall increase in the revenue requirement for Fire Protection services from the 2021 approved amount of $15.3 million to the 2022 requested amount of $21.2 million, including the portion of the increase driven by the new Infill Fire Protection project for $20 million in 2022-2026.

EWSI RESPONSE:

i) The Fire Protection Services revenue requirement is determined through the Water Cost of Service Model. Table COE-EWSI-16a-1, provides a more detailed breakdown of the 2021 approved and 2022 forecast Fire Protection Services revenue requirement. The increase in revenue requirement is driven by four main factors: higher hydrant related operating costs ($2.1 million); the addition of franchise fees to the Fire Protection Services revenue requirement, starting in April 2022 ($1.0 million); higher than forecast hydrant rate base creating higher depreciation ($0.7 million) and a higher return on rate base ($2.5 million). Further variance explanations are provided in response COE-EWSI-16.b.

The new Infill Fire Protection project will have a minor impact on the 2022 Fire Protection Services revenue requirement. The new Infill Fire Protection project will generate an annual revenue requirement of $0.1 Million to $1.3 Million over the 2022-2026 PBR term.

As Infill Fire assets are placed into service over the PBR term the project will contribute to the increase in the Fire Protection Services revenue requirement between 2022 and 2026.

Table COE-EWSI-16a-1
Fire Protection Revenue Requirement
2021D to 2022F
($ millions)

		A 2021D	B 2022F	C Increase/ (Decrease)
1	**Operating Costs**			
2	Reservoirs	0.2	0.1	(0.1)
3	Distribution	2.1	1.6	(0.5)
4	Hydrants	1.6	3.7	2.1
5	Administration	1.8	2.2	0.4
6	Franchise Fees	-	1.0	1.0
7	**Total Operating Costs**	**5.6**	**8.6**	**3.0**
8	**Depreciation, net of Amortization**			
9	Reservoirs & Pumphouses	0.2	0.2	0.0
10	Distribution Mains	0.9	1.1	0.2
11	Hydrants	0.7	1.5	0.7
12	General Plant	0.5	0.6	0.1
13	**Total Depreciation & Amortization**	**2.4**	**3.4**	**1.0**
14	Return on Rate Base Financed by Debt	3.0	3.6	0.6
15	Return on Rate Base Financed by Equity	4.3	5.6	1.4
16	**Total Return on Rate Base**	**7.3**	**9.2**	**1.9**
17	**Total Revenue Requirement**	**15.3**	**21.2**	**5.9**

Question: **COE-EWSI-16.b**

Topic: **Fire Protection Services Costs and Performance Metrics**

Please provide a detailed explanation for the increase from the 2021 approved amount to the 2022 requested amount for each of the following individual revenue requirement components:

i) Operating costs - increase from $5.6 million for 2021 to $8.6 million for 2022.

ii) Cost of debt and equity financing - increase in total costs from $7.3 million for 2021 to $9.2 million for 2022.

iii) Depreciation expense - increase from $2.4 million for 2021 to $3.4 million for 2022.

iv) Please provide the rationale for the increase in the "Share of Mid Year Rate Base" being allocated to Fire Protection from 7.56% in 2021 to 9.25% in 2022 (Schedule 14.1 of the 2017-2021 and 2022-2026 Water Services PBR Applications) and whether this is a contributing factor for the increase in the cost of debt and equity financing and depreciation expense from 2021 approved to 2022 requested. Please explain how much of this increase from 7.56% to 9.25% is driven by the new Infill Fire Protection project for $20 million in 2022-2026.

EWSI RESPONSE:

i) Table COE-EWSI-16b-1 provides a further break down of the 2021 approved and 2022 forecast Fire Protection operating costs. The $3.0 Million increase in operating costs in attributable to the following factors:

- **Direct Hydrant Operating Costs ($0.8 Million)** – Prior to 2019 EWSI used its work management system (Ivara) to track direct hydrant operating costs. As discussed in Section 11.3.1 of the 2022-2026 PBR Water Application, in 2019 EWSI undertook a chart of accounts project to review the responsibility centres and activity codes used to track operating costs in its Oracle General Ledger accounting

system. As part of this review it was identified that third party hydrant repair costs (approximately $0.5 million per year) were not being tracked as direct hydrant operating costs in Ivara. In the 2017-2021 PBR Application these costs would have been incorrectly included in the In-City Water revenue requirement. The remaining increase in operating costs is attributable to more accurate tracking of direct hydrant operating costs since the implementation of the chart of accounts project in 2019;

- **Indirect Distribution and Transmission Operating Costs ($1.3 Million)** – As discussed in Section 11.3.1 of the 2022-2026 PBR Water Application, with more detailed tracking of operating costs EWSI updated the methodology used to allocate operating costs to system functions (distribution mains, transmission mains, hydrants, service, and meters) for the 2022-2026 PBR term. Under the 2017-2021 methodology operating costs were directly allocated to hydrants using Ivara, the remaining distribution and transmission operating costs were then allocated to the other system functions based on each asset classes net book value. With the implementation of the new methodology costs are now directly assigned to all system functions and the remaining costs (manager oversight, vacation time, training costs, etc.) are allocated to each system function based on their portion of directly assigned costs. The updated methodology provides a more accurate representation of the level of effort or costs required to support each function. This change in methodology results in an allocation of $1.3 million of indirect distribution and transmission operating costs to hydrants, that would have been allocated to In-City Water and Regional Water Customers over the 2017-2021 PBR term; and

- **Franchise Fees (1.0 Million)** – With the inclusion of Fire Protection Services in water rates as of April 1, 2022, this revenue will now be included in franchise revenue as part of the annual franchise fee formula. As a result EWSI has added franchise fees when determining the Fire Protection Services revenue requirement.

Table COE-EWSI-16b-1
Fire Protection Operating Costs
2021D to 2022F

($ millions)

	Cost Category	A 2021D	B 2022F	C Increase/ (Decrease)
1	Hydrants			
2	Direct Costs	1.6	2.5	0.8
3	Indirect D&T Costs	-	1.3	1.3
4	Total Hydrant Costs	1.6	3.7	2.1
5	Franchise Fees	-	1.0	1.0
6	Other Operating Costs	4.0	3.9	(0.1)
7	**Total Operating Costs**	**5.6**	**8.6**	**3.0**

ii) The increase in return on rate base financed by debt and equity between the 2021 decision and 2022 forecast is due to higher than forecast Fire Protection rate base over the 2017-2021 PBR term. The increase in the Fire Protection rate base is largely attributable to more detailed asset categorization between the 2017-2021 PBR forecast and reporting of 2017-2021 actuals/forecasts.

Within the cost of service model all assets categorized as hydrants are allocated to Fire Protection. In the 2017-2021 PBR forecast and cost of service models only capital expenditures incurred under the obsolete hydrant replacement project, approximately $0.8 million per year, were categorized as hydrant additions when the assets were placed into service. In practice, capital additions are categorized based on the type of assets built or upgraded in each individual project. This means that any distribution project that involves building, moving, or upgrading a fire hydrant will have a portion of the capital expenditures categorized as hydrant addition when the assets are placed into service. This has results in actual hydrant additions of approximately $8.0 million per year over the 2017-2021 PBR term.

Table COE-EWSI-16b-2 provides a breakdown of the 2021 decision and 2021 forecast total mid-year rate base. As shown in rows 4 and 5 the difference in classification has resulted in a shift of rate base between distributions mains and hydrants.

Table COE-EWSI-16b-2
Mid-Year Rate Base
($ millions)

	Asset Category	A 2021D	B 2021F	C Increase/ (Decrease)
1	Water Treatment Plant	388.9	410.8	21.8
2	Reservoirs & Pumphouses	59.6	66.5	6.9
3	Transmission Mains	235.6	268.7	33.1
4	Distribution Mains	519.6	480.2	(39.4)
5	Hydrants	25.6	57.3	31.6
6	Meters	55.9	46.6	(9.3)
7	Services	35.9	67.2	31.3
8	General Plant	43.6	38.1	(5.5)
9	Working Capital, Materials, Supplies	27.4	28.1	0.8
10	**Total**	**1,392.0**	**1,463.4**	**71.4**
11	Fire Protection Rate Base	105.2	135.1	29.9
12	Fire Protection Percent of Rate Base	7.6%	9.2%	1.7%

Table COE-EWSI-16b-3 columns A to C provide a breakdown of the 2021 decision and 2022 forecast Fire Protection mid-year rate base. Columns D to F provides an analysis of the increase to return on rate base financed by debt and equity between the 2021 decision and 2022 forecast. As shown in cell E3, the increase is attributable to higher hydrant rate base.

Table COE-EWSI-16b-3
Fire Protection Return on Rate Base
2021D to 2022F
($ millions)

		A	B	C	D	E	F
		Mid-Year Rate Base			Revenue Requirement Impacts		
		2021D	2022F	Increase/ (Decrease)	Lower WACC	Higher Rate Base	Total Increase/ (Decrease)
1	Reservoirs & Pumphouses	5.3	6.2	0.9	(0.0)	0.1	0.0
2	Distribution Mains	68.9	67.7	(1.3)	(0.3)	(0.1)	(0.4)
3	Hydrants	25.6	61.2	35.6	(0.3)	2.5	2.2
4	General Plant	4.0	5.6	1.6	(0.0)	0.1	0.1
5	Working Capital, Materials, Supplies	1.3	1.3	(0.0)	(0.0)	(0.0)	(0.0)
6	**Net Rate Base**	**105.2**	**141.9**	**36.7**	**(0.6)**	**2.6**	**1.9**
7	Cost of Debt	4.8%	4.2%				
8	Return on Equity	10.2%	10.0%				
9	Weighted Average Cost of Capital	7.0%	6.5%				
10	**Total Return on Rate Base**	**7.3**	**9.2**	**1.9**			

iii) The increase in depreciation expense is attributable to higher than forecast hydrant additions over the 2017-2021 PBR term, as discussed in response COE-EWSI-16b(ii).

iv) As shown in rows 5 and 11 of Table COE-EWSI-16b-2 the increase in the Fire Protection share of mid-year rate base is attributable to the higher than forecast hydrant additions over the 2017-2021 PBR term.

The new Infill Fire Protection project would have minimal impacts on the 2022 Fire Protection mid-year rate base and return on rate base financed by debt and equity. The new Infill Fire Protection project forecasts capital additions of $3.9 million in 2022. This addition results in $2.0 million mid-year rate base and generates a $0.1 million revenue requirement in 2022. This project includes both hydrants and distribution mains, as a result the mid-year rate base and revenue requirement would be allocated between Fire Protection and In-City water customers.

Question: **COE-EWSI-16.c**

Topic: **Fire Protection Services Costs and Performance Metrics**

Sub-Topic: **Performance Metrics**

Reference: **Schedule A of the 2017-2021 Fire Hydrant Service Agreement, Water Services 2022-2026 PBR Application**

Please clarify how the performance metrics currently established in Schedule A of the 2017-2021 Fire Hydrant Service Agreement are reflected in the Water Services 2022-2026 PBR Application and also how EPCOR Water Services Inc. will continue to measure and report against them.

EWSI RESPONSE:

Under the terms of the current Fire Hydrant Services Agreement, EWSI currently provides reporting directly to Edmonton Fire Services. It is EWSI's intent to continue to provide this reporting over the 2022-2026 term directly to Edmonton Fire Services. This reporting tends to be operational in nature and not of the scope generally seen in PBR metrics. As a result, EWSI is not proposing to add fire protection related metrics to the Water PBR metrics program. A similar approach is used in other EWSI areas where operationally focused metrics are maintained (and often reported to external agencies) but are not tracked as specific PBR metrics.

Question: **COE-EWSI-17.a**

Topic: **Staff Costs and Employee Benefits**

Sub-Topic: **Water Services Staff Costs and FTEs**

Reference: **Water Services Application, Section 5.0**

i) Please provide a table breaking down the Staff Costs and Employee Benefits (dollars) shown in Table 5.1.1 into each of the operational functions as broken down in Table 5.2.1. In addition to the years 2021 to 2026 shown in Tables 5.1.1 and 5.2.1, please include the PBR approved and actual/forecast costs for each of the years 2017 to 2021. Please include a variance explanation for any significant changes or variances.

ii) Using the same format as requested in i., please provide a table breaking down the Full-time Equivalents into each of the operational functions for the years 2022 to 2026 as well as the PBR approved and actual/forecast costs for each of the years 2017 to 2021. Please include a variance explanation for any significant changes or variances.

iii) Please provide a Table showing the actual/forecast escalation rates for 2017 to 2021 and 2022 to 2026 broken down by union and non-unionized employees, as well as the supporting background (basis) for the escalation rates.

EPCOR RESPONSE:

i) Table COE-EWSI-17.a-1 provides a breakdown of the 2017 to 2026 actual/forecast staff costs and employee benefits by operational function. Table COE-EWSI-17.a-2 provides the 2017 to 2021 approved staff costs and employee benefits by operational function, and Table COE-EWSI-17.ca-3 provides the variance between the 2017-2021 Decision and 2017-2021 actuals/forecast.

Table COE-EWSI-17.a-1
Water Services
Staff Costs and Employee Benefits by Function
2017A-2026F
($ millions)

	Operational Function	A 2017A	B 2018A	C 2019A	D 2020F	E 2021F	F 2022F	G 2023F	H 2024F	I 2025F	J 2026F
1	Water Treatment Plants	14.1	15.0	15.2	17.0	17.7	18.2	18.6	18.9	19.3	19.7
2	Water Distribution and Transmission	17.1	17.4	17.0	15.8	15.9	15.9	15.6	15.9	16.3	16.6
3	Operational Support Services	8.0	8.2	8.4	7.2	7.4	7.5	7.6	7.8	7.9	8.1
4	Capitalized Overhead	(7.1)	(7.5)	(8.3)	(8.5)	(8.8)	(9.1)	(9.3)	(9.5)	(9.7)	(9.9)
5	Billing, Meters and Customer Service	6.3	5.6	6.0	6.2	6.6	6.4	5.7	4.7	3.6	3.6
6	EWSI Shared Services	3.4	3.1	2.8	3.5	3.5	3.6	3.7	3.7	3.8	3.9
7	**Total Staff Costs and Benefits**	**41.7**	**41.7**	**41.1**	**41.2**	**42.4**	**42.6**	**41.9**	**41.6**	**41.3**	**42.1**

Over the 2023-2026 period all labour costs have been escalated using the inflation factor of 2.31% less the 0.25% efficiency factor as discussed in Section 4.2 of the Application. The only exception to this are: a reduction of $0.7 million in 2023 driven by operational synergies gained by Water D&T and Drainage Operations operating out of a shared facility; and decreases of $0.9 million in 2023, $1.1 million in 2024, and $1.3 million in 2025 as the AMI Deployment Project is implemented over the PBR term and costs savings are realized.

Table COE-EWSI-17.a-2
Water Services
Staff Costs and Employee Benefits by Function
2017-2021 Decision
($ millions)

	Operational Function	A 2017D	B 2018D	C 2019D	D 202D	E 2021D
1	Water Treatment Plants	15.1	15.4	15.7	16.0	16.3
2	Water Distribution and Transmission	17.0	17.4	17.7	18.1	18.4
3	Operational Support Services	8.5	8.7	8.8	9.0	9.2
4	Capitalized Overhead	(7.1)	(7.3)	(7.4)	(7.6)	(7.8)
5	Billing, Meters and Customer Service	6.6	6.7	7.0	7.1	7.4
6	EWSI Shared Services	3.2	3.2	3.3	3.3	3.4
7	**Total Staff Costs and Benefits**	**43.3**	**44.1**	**45.1**	**46.0**	**47.0**

Table COE-EWSI-17.a-2
Water Services
Staff Costs and Employee Benefits by Function
2017A-2021F Variance
($ millions)

	Operational Function	A 2017A	B 2018A	C 2019A	D 2020F	E 2021F
1	Water Treatment Plants	(1.0)	(0.4)	(0.4)	1.0	1.4
2	Water Distribution and Transmission	0.1	0.0	(0.7)	(2.2)	(2.5)
3	Operational Support Services	(0.5)	(0.5)	(0.5)	(1.8)	(1.8)
4	Capitalized Overhead	(0.0)	(0.3)	(0.8)	(0.9)	(1.1)
5	Billing, Meters and Customer Service	(0.3)	(1.1)	(1.0)	(0.9)	(0.7)
6	EWSI Shared Services	0.2	(0.1)	(0.5)	0.1	0.1
7	**Total Staff Costs and Benefits**	**(1.6)**	**(2.4)**	**(4.0)**	**(1.6)**	**(4.6)**

2017 Variance Explanations

- Water Treatment Plants – Higher than forecast proportion of internal labour on capital projects, which increased capital recoveries ($0.5 million) and reductions in fringe benefit costs, primarily associated with lower pension contribution rates, provided additional savings in salary costs ($0.3 million).
- Operational Support Services – Lower Staff Costs and Employee Benefit expenses, resulting from lower fringe benefit costs and delays in filling unanticipated staff vacancies in Project and Asset Management.

2018 Variance Explanations

- Operational Support Services – Lower Staff Costs and Employee Benefit expenses, resulting from lower fringe benefit costs and vacancies in Project and Asset Management.

- Billing, Meters and Customer Service – Meter reading process improvements provided cost savings in staff costs ($1.2 million).

2019 Variance Explanations

- Water Distribution and Transmission – A colder than average winter resulted in higher than normal volumes of emergency repairs (main breaks and frozen services) resulting in increased overtime costs ($0.7 million). These increases were partially offset by

reductions in fringe benefit costs of ($1.0 million) related to lower pension contributions.

- Operational Support Services – The variance in this function is primarily attributable to lower staff costs of $0.9 million related to vacant positions within the Project and Asset Management functions and a transfer of the Knowledge Management function to Corporate Shared Service in 2019.
- Capitalized Overhead – Higher than forecast capitalized overheads is attributable to the addition of Supply Chain Management into the capitalized overhead calculation ($0.6 million) and higher than forecast levels of internal labour on capital projects.
- Billing, Meters and Customer Service – Meter reading process improvements provided cost savings in staff costs ($1.0 million).
- EWSI Shared Services – The favorable variance in this category reflects delays in filling vacant positions in Regulatory Services ($0.3 million).

2020 Variance Explanations

- Water Treatment Plant – An increase in staff cost related to 12 custodians transferred from the Supply Chain group to the Water Treatment Plant Maintenance group ($0.8 million).
- Water Distribution and Transmission – Higher than forecast levels of internal labour on capital projects. ($1.0 million), largely attributable to capitalization of replacements of valve casings and service boxes which used to be expensed in operations but are more appropriately capitalized because they are assets that are being replaced, and reductions in fringe benefit costs of ($0.9 million) related to lower pension contributions.
- Operational Support Services – A reduction in staff costs as 12 custodians transferred from Supply Chain Management to Water Treatment Plant Maintenance group ($0.8 million), a decrease in Project and Asset Management costs due to staff reductions ($0.6 million), and a decrease in staff costs due to the Knowledge Information Services group being transferred to Corporate ($0.6 million).
- Capitalized Overhead – Higher than forecast capitalized overheads is attributable to the addition of Supply Chain Management into the capitalized overhead calculation $ 0.7 million) and higher than forecast levels of internal labour on capital projects.

- Billing, Meters and Customer Service – Meter reading process improvements provided cost savings in staff costs ($0.9 million).

2021 Variance Explanations

- Water Treatment Plant – A increase in staff cost related to 12 custodians transferred from the Supply Chain group to the Water Treatment Plant Maintenance group ($0.8 million), the remaining variance relates to additional resources mainly to support the increase in capital project work ($0.4 million).
- Water Distribution and Transmission – Higher than forecast levels of internal labour on capital projects. ($1.6 million), largely attributable to capitalization of replacements of valve casings and service boxes which used to be expensed in operations but are more appropriately capitalized because they are assets that are being replaced, and reductions in fringe benefit costs of ($0.9 million) related to lower pension contributions.
- Operational Support Services – A reduction in staff costs as 12 custodians transferred from Supply Chain Management to Water Treatment Plant Maintenance group ($0.8 million), a decrease in Project and Asset Management costs due to staff reductions ($0.6 million), and a decrease in staff costs due to the Knowledge Information Services group being transferred to Corporate ($0.6 million).
- Capitalized Overhead – Higher than forecast capitalized overheads is attributable to the addition of Supply Chain Management into the capitalized overhead calculation (0.6 million) and higher than forecast levels of internal labour on capital projects.
- Billing, Meters and Customer Service – Meter reading process improvements provided cost savings in staff costs ($0.7 million).

ii) EWSI prepares the MFR Schedules and annual PBR Progress Reports based on the requirements approved by the Utility Committee on March 14, 2013. The MFR schedules were developed through a collaborative process between EWSI, City Administration and the Utility Advisor to provide a consistent structure for EWSI to report actual and forecast financial (revenue requirement, cost of service, rate) and non-financial (performance) information. EWSI's internal reporting system is setup to track the information required to complete the MFR Schedules and PBR Progress Reports. EWSI does not actively track full time equivalents, and is unable to provide a breakdown of full time equivalents by operational function.

iii) Table COE-EWSI-17.a-3 provides the 2017 to 2026 actual/forecast escalation rates by union. For the 2023 to 2026 period all labour costs have been escalated using the inflation factor of 2.31% less the 0.25% efficiency factor as discussed in Section 4.2 of the Application. The calculation and backup supporting the inflation factor is provided in response to information request GT-EWSI-6. Over the PBR term EWSI will bear the risk if actual wage increases are higher than the rate of inflation.

Table COE-EWSI-17.a-3
Water Services
Staff Costs and Employee Benefits Escalation Rates
2017A-2026F
($ millions)

		A	B	C	D	E	F	G
		2017A	**2018A**	**2019A**	**2020A**	**2021F**	**2022F**	**2023-2026**
1	CSU 52	2.15%	2.35%	2.75%	2.75%	2.00%	2.00%	2.06%
2	CUPE 30	2.15%	2.45%	2.65%	2.75%	2.00%	2.00%	2.06%
3	IBEW	2.50%	2.35%	2.65%	2.75%	2.75%	2.75%	2.06%
4	Out of Scope	1.97%	2.48%	2.90%	1.52%	2.00%	2.00%	2.06%

Question: **COE-EWSI-17.b**

Topic: **Staff Costs and Employee Benefits**

Sub-Topic: **Drainage Services Staff Costs and FTEs**

Reference: **Drainage Services Application, Section 6.0**

i) Please provide a table breaking down the Staff Costs and Employee Benefits (dollars) shown in Table 6.1.1 into each of the operational functions as broken down in Table 6.2.1. In addition to the years 2021 to 2024 shown in Tables 6.1.1 and 6.2.1, please include the PBR approved and actual/forecast costs for each of the years 2017 to 2021. Please include a variance explanation for any significant changes or variances.

ii) Using the same format as requested in i., please provide a table breaking down the Full-time Equivalents into each of the operational functions for the years 2022 to 2024 as well as the PBR approved and actual/forecast costs for each of the years 2017 to 2021. Please include a variance explanation for any significant changes or variances.

iii) iii. Please provide a Table showing the actual/forecast escalation rates for 2017 to 2021 and 2022 to 2024 broken down by union and non-unionized employees, as well as the supporting background (basis) for the escalation rates.

EPCOR RESPONSE:

i) Table COE-EWSI-17.b-1 provides a breakdown of the 2018 to 2024 actual/forecast staff costs and employee benefits by operational function.

Table COE-EWSI-17.b-1
Drainage Services
Staff Costs and Employee Benefits by Function
2018A-2024F
($ millions)

	Operational Function	A 2018A	B 2019A	C 2020F	D 2021F	E 2022F	F 2023F	G 2024F
1	Drainage Operations	23.2	25.0	25.9	27.4	26.4	26.2	26.7
2	One Water Planning & Project Support	11.5	13.2	11.0	13.5	13.7	13.8	14.1
3	Operational Support Services	1.8	4.5	(1.3)	4.4	4.4	4.4	4.4
4	Drainage Services Administration	8.5	9.3	8.9	9.1	9.0	9.2	9.4
5	SIRP	-	-	1.1	2.4	2.4	2.4	2.5
6	CORe	-	-	0.8	1.7	1.8	1.8	1.8
7	**Total Staff Costs and Benefits**	**45.1**	**52.0**	**46.5**	**58.4**	**57.6**	**57.8**	**58.9**

2018 to 2019 Variance Explanations:

- Drainage Operations – increase in pipeline maintenance related to emergency repairs.
- One Water Planning & Project Support – implementation of EPCOR accounting practices, resulted in expensing costs, such as preliminary design, that would have been budgeted as capital by the City of Edmonton.
- Operational Support Services - introduction of revised processes for labour and cost recoveries for fleet services and equipment dispatch. The increase in staff costs and employee benefits was offset by an increase in fleet recoveries (see Financial Schedule 7-2, line 19).
- Drainage Services Administration - re-alignment of administrative functions so that these service were provided at a Drainage level, rather than at a centralized EWSI level.

2019 to 2020 Variance Explanations

- One Water Planning and Project Support – increased capitalization of contract management staff costs and employee benefits in accordance with EPCOR accounting practices.

- Operational Support Services – one-time changes in accounting practices resulted in re-categorization of fleet and equipment cost recoveries from the "vehicles" and "other" cost categories to staff costs and employee benefits.
- SIRP & CORe – introduction of new functions for SIRP and CORe.

2020 to 2021 Variance Explanations

- Continuing organizational refinements and revisions to accounting presentation for labour pools and labour cost transfers to capital projects contributed to differences in staff costs and employee benefits for One Water Planning & Project Support and Operational Support Services.
- SIRP & CORe – additional staff costs and employee benefits needed to support growth in these programs.

2021 to 2022 Variance Explanations

- Drainage Operations – reduction in pipeline maintenance following clearing of backlog.

2022 to 2024 Variance Explanations

- Drainage Operations – annual escalation of labour costs (see COE-EWSI-17.b(iii)) partially offset by operational synergies gained by Water D&T and Drainage Operations operating out of a shared facility.

ii) See response COE-EWSI-17.a.ii.

iii) Table COE-EWSI-17.b-2 provides the 2017 to 2024 actual/forecast escalation rates by union. For the 2023 to 2024 period all labour costs have been escalated using the inflation factor of 2.33% less the 0.25% efficiency factor as discussed in Section 4.2 of the Application. The calculation and backup supporting the inflation factor is provided in response to information request GT-EWSI-6. Over the PBR term EWSI will bear the risk if actual wage increases are higher than the rate of inflation.

Table COE-EWSI-17.b-2
Drainage Services
Staff Costs and Employee Benefits Escalation Rates
2018A-2024F
($ millions)

		A **2018A**	B **2019A**	C **2020A**	D **2021F**	E **2022F**	F **2023-2024**
1	CSU 52	2.35%	2.75%	2.75%	2.00%	2.00%	2.08%
2	CUPE 30	2.45%	2.65%	2.75%	2.00%	2.00%	2.08%
3	IBEW	2.35%	2.65%	2.75%	2.75%	2.75%	2.08%
4	Out of Scope	2.48%	2.90%	1.52%	2.00%	2.00%	2.08%

Question: **COE-EWSI-17.c**

Topic: **Staff Costs and Employee Benefits**

Sub-Topic: **Wastewater Treatment Staff Costs and FTEs**

Reference: **Wastewater Treatment Application, Section 5.0**

i) Please provide a table breaking down the Staff Costs and Employee Benefits (dollars) shown in Table 5.1.1 into each of the operational functions as broken down in Table 5.2.1. In addition to the years 2021 to 2024 shown in Tables 5.1.1 and 5.2.1, please include the PBR approved and actual/forecast costs for each of the years 2017 to 2021. Please include a variance explanation for any significant changes or variances.

ii) Using the same format as requested in i., please provide a table breaking down the Full-time Equivalents into each of the operational functions for the years 2022 to 2024 as well as the PBR approved and actual/forecast costs for each of the years 2017 to 2021. Please include a variance explanation for any significant changes or variances.

iii) Please provide a Table showing the actual/forecast escalation rates for 2017 to 2021 and 2022 to 2024 broken down by union and non-unionized employees, as well as the supporting background (basis) for the escalation rates.

EPCOR RESPONSE:

i) Table COE-EWSI-17.c-1 provides a breakdown of the 2017 to 2024 actual/forecast staff costs and employee benefits by operational function. Table COE-EWSI-17.c-2 provides the 2017 to 2021 approved staff costs and employee benefits by operational function, and Table COE-EWSI-17.c-3 provides the variance between the 2017-2021 Decision and 2017-2021 actuals/forecast.

Table COE-EWSI-17.c-1
Wastewater Treatment
Staff Costs and Employee Benefits by Function
2017A-2024F
($ millions)

	Operational Function	A 2017A	B 2018A	C 2019A	D 2020F	E 2021F	F 2022F	G 2023F	H 2024F
1	Wastewater Treatment and Operational Support Services	17.3	17.9	17.4	18.9	19.2	20.1	20.7	21.5
2	Capital Overhead	(3.1)	(2.9)	(3.1)	(2.9)	(3.2)	(3.3)	(3.3)	(3.4)
3	EWSI Shared Services	0.3	1.1	1.3	1.5	1.4	1.4	1.5	1.5
4	**Total Staff Costs and Benefits**	**14.5**	**16.0**	**15.7**	**17.5**	**17.5**	**18.3**	**18.8**	**19.6**

Over the 2023-2024 period all labour costs have been escalated using the inflation factor of 2.26% less the 0.25% efficiency factor as discussed in Section 4.2 of the Application. The only exception to this is an increase of $0.4 million in staff costs associated with the new dewatering facility going into service in 2024.

Table COE-EWSI-17.c-2
Wastewater Treatment
Staff Costs and Employee Benefits by Function
2017-2021 Decision
($ millions)

	Operational Function	A 2017D	B 2018D	C 2019D	D 2020D	E 2021D
1	Wastewater Treatment and Operational Support Services	19.5	19.9	20.3	20.7	21.1
2	Capital Overhead	(2.3)	(2.4)	(2.4)	(2.5)	(2.5)
3	EWSI Shared Services	1.2	1.3	1.3	1.3	1.3
4	**Total Staff Costs and Benefits**	**18.4**	**18.7**	**19.1**	**19.5**	**19.9**

Table COE-EWSI-17.c-2
Wastewater Treatment
Staff Costs and Employee Benefits by Function
2017-2021F Variance
($ millions)

	Operational Function	A 2017A	B 2018A	C 2019A	D 2020F	E 2021F
1	Wastewater Treatment and Operational Support Services	(2.2)	(2.0)	(2.8)	(1.8)	(1.9)
2	Capital Overhead	(0.8)	(0.5)	(0.7)	(0.4)	(0.6)
3	EWSI Shared Services	(0.9)	(0.2)	0.0	0.2	0.1
4	**Total Staff Costs and Benefits**	**(3.9)**	**(2.7)**	**(3.5)**	**(2.0)**	**(2.4)**

2017 Variance Explanations

- Wastewater Treatment and Operational Support Services – Lower than forecast costs reflect a higher than forecast proportion of internal labour on capital projects ($1.1 million), where projects with a high component of contractor costs were replaced by capital maintenance and repair projects completed by Wastewater personnel. Staff costs and employee benefit costs were also affected by savings from lower than forecast fringe benefit rates ($0.4 million) related to lower pension contributions, and delays in filling vacancies in Wastewater's engineering areas ($0.2 million).

- Capital Overhead – Higher than forecast capitalized overheads is consistent with the higher than forecast levels of internal labour on capital projects noted in the Wastewater Treatment Plant and Operations Support Services functions.

- EWSI Shared Services – Lower than forecast costs in this category result from two adjustments to long-term disability, including a $0.6 million one-time premium refund, and a $0.4 million annual true-up, related to the low number of staff receiving long-term disability support.

2018 Variance Explanations

- Wastewater Treatment and Operational Support Services – Lower than forecast costs reflect a higher than forecast proportion of internal labour on capital projects ($2.0 million), and lower than forecast fringe benefit rates ($0.4 million) related to lower pension contributions.

- Capital Overhead – Higher than forecast capitalized overheads is consistent with the higher than forecast levels of internal labour on capital projects noted in the Wastewater Treatment Plant and Operations Support Services functions.

2019 Variance Explanations

- Wastewater Treatment and Operational Support Services – Lower than forecast costs reflect a higher than forecast proportion of internal labour on capital projects ($1.7 million), and lower forecast fringe benefit rates ($0.8 million) related to lower pension contributions.

- Capital Overhead – Higher than forecast capitalized overheads is consistent with the higher than forecast levels of internal labour on capital projects noted in the Wastewater Treatment Plant and Operations Support Services functions.

2020 Variance Explanations

- Wastewater Treatment and Operational Support Services – Lower than forecast costs reflect a higher than forecast proportion of internal labour on capital projects ($1.3 million), and lower forecast fringe benefit rates ($0.4 million) related to lower pension contributions.

- Capital Overhead – Higher than forecast capitalized overheads is consistent with the higher than forecast levels of internal labour on capital projects noted in the Wastewater Treatment Plant and Operations Support Services functions.

2021 Variance Explanations

- Wastewater Treatment and Operational Support Services – Lower than forecast costs reflect a higher than forecast proportion of internal labour on capital projects ($1.9 million), and lower forecast fringe benefit rates ($0.3 million) related to lower pension contributions.

- Capital Overhead – Higher than forecast capitalized overheads is consistent with the higher than forecast levels of internal labour on capital projects noted in the Wastewater Treatment Plant and Operations Support Services functions.

ii) See response COE-EWSI-17.a.ii.

iii) Table COE-EWSI-17.c-3 provides the 2017 to 2024 actual/forecast escalation rates by union. For the 2023 to 2024 period all labour costs have been escalated using the inflation factor of 2.26% less the 0.25% efficiency factor as discussed in Section 4.2 of the Application. The calculation and backup supporting the inflation factor is provided in response to information request GT-EWSI-6. Over the PBR term EWSI will bear the risk if actual wage increases are higher than the rate of inflation.

Table COE-EWSI-17.c-3
Wastewater Treatment
Staff Costs and Employee Benefits Escalation Rates
2017A-2024F
($ millions)

		A	B	C	D	E	F	G
		2017A	**2018A**	**2019A**	**2020A**	**2021F**	**2022F**	**2023-2024**
1	CSU 52	2.15%	2.35%	2.75%	2.75%	2.00%	2.00%	2.01%
2	CUPE 30	2.15%	2.45%	2.65%	2.75%	2.00%	2.00%	2.01%
3	IBEW	2.50%	2.35%	2.65%	2.75%	2.75%	2.75%	2.01%
4	Out of Scope	1.97%	2.48%	2.90%	1.52%	2.00%	2.00%	2.01%

EPCOR Water Services Inc.
2022-2024 and 2022-2026 PBR Applications
COE-EWSI-18

Question: **COE-EWSI-18.a**

Topic: **Special Rate Adjustment for 90 Day Deferral Program**

Sub-Topic: **Incremental Bad Debts**

Preamble: *For each of Water, Drainage, and Wastewater Treatment, EWSI is proposing a Special Rate Adjustment in 2022 to recover the costs for the 90 Day Deferral Program. This Special Rate Adjustment will be removed from customer bills in 2023.*

EWSI also proposes to adjust its final rate to reflect the actual costs incurred for this program as part of its 2022 Rates Filing, which would be approved by the City Manager. EPCOR's utility payment deferral program was structured to be in compliance with the Utility Payment Deferral Program Act for its electricity and gas customers. The Act allows carrying charges to be applied to the deferral account balances to be calculated at the regulated rate service provider's weighted average cost of capital.

The forecast costs for the Utility Payment 90 Day Deferral Program for Water, Drainage and Wastewater Treatment are $3.5 million in total, with special rate adjustments adding $0.76 to the average residential bill in 2022, comprised of the following:

- *$1.3 million total costs comprised of $0.9 million incremental bad debt, $0.2 million late payment charges, $0.2 million carrying costs (Water Services Application Table 12.2.3-1; $0.29 bill impact in 2022);*
- *$1.6 million total costs comprised of $1.2 million incremental bad debt, $0.2 million late payment charges, $0.2 million carrying costs (Drainage Services Application Table 13.3.2-1; $0.32 bill impact in 2022); and*
- *$0.6 million total costs comprised of $0.4 million incremental bad debt, $0.1 million late payment charges, $0.1 million carrying costs (Wastewater Treatment Application Table 12.2.2-1; $0.15 bill impact in 2022).*

EPCOR Water Services Inc.
2022-2024 and 2022-2026 PBR Applications
COE-EWSI-18

i) Please explain in detail the process that has been completed to date by EPCOR and will continue to be completed for the collection of incremental bad debts under the 90 Day Deferral Program.

ii) Please quantify the proportion of deferred payments under the 90 Day Deferral Program that have resulted in incremental bad debt.

EWSI RESPONSE:

i) During the deferral period customers were encouraged to contact EEA to set up payment arrangements for deferred debt to be paid fully on or before June 19, 2021. EEA provided an auto-dialer call out and letters encouraging customers to make arrangements. If the customer failed to contact EEA to set up an arrangement they were put on a default arrangement of 10 equal monthly payments for the amounts owed in, and prior to, the 90 day deferral period.

During the repayment period, broken arrangements could be remade if another acceptable short or long term arrangement was accepted by EEA. Otherwise, and after the end of the repayment period, EEA will proceed through normal collections processes. Normal collections processes include providing a minimum of two notices of delinquency to customers with overdue balances prior to disconnection of service and distribution of the account to a collections agency. EEA waived late fees during repayment period for customers who successfully kept their long-term arrangements.

ii) As the deferral period ends June 18, 2021 and collections activities will continue after that time, the total quantum of incremental bad debts associated with the Utility Payment Deferral period will not be known until the end of 2022. Including provisions taken against active receivables, to date EWSI's bad debts for 2020 have been $1.6 million above historical levels of $2.2 million.

While official instructions regarding the steps to be taken at the conclusion of the Utility Payment Deferral Program are outstanding from the AUC at this time, EPCOR anticipates that there will be a generic proceeding after the conclusion of the repayment period in June 2021. In combination with this proceeding, EPCOR Energy Services expects to apply

for recovery of any incremental bad debts, foregone late payment charges or carrying charges on regulated electricity receivables in its upcoming 2021+ Non-Energy Application. As part of its annual rate filing for 2022, EWSI will apply for recoveries in its Special Rate Adjustment consistent with the guidance provided by the AUC once available.

EPCOR Water Services Inc.
2022-2024 and 2022-2026 PBR Applications
COE-EWSI-18

Question: **COE-EWSI-18.b**

Topic: **Special Rate Adjustment for 90 Day Deferral Program**

Sub-Topic: **Weighted Average Cost of Capital**

i) Please explain why it is appropriate for EPCOR Water Services Inc. to calculate carrying charges based on the weighted average cost of capital (includes return on equity and long term debt) given the shorter term nature of the deferral program and recovery of the costs through the special rate adjustment. Wouldn't these amounts be financed by EPCOR Water Services Inc. through short-term debt and therefore the carrying charges should also be based on short term debt rates?

ii) Please provide the rate(s) being used by EPCOR Water Services Inc. to calculate the weighted average cost of capital for the Special Rate Adjustment.

iii) Further to ii), please provide the comparable short term debt rate(s) for EPCOR Water Services Inc.

EWSI RESPONSE:

i) EWSI applied the same approach that is being used by the AUC approach which allowed the Alberta electric and gas utilities to apply the weighted average cost of capital to calculate carrying costs on the outstanding balances. This approach is set out in the *Utility Payment Deferral Program Act* (Bill 14) which includes article 7 which states:

> ***Deferral accounts***
>
> *7(1) Notwithstanding anything to the contrary in the Regulated Rate Option Regulation (AR 262/2005), a regulated rate provider may establish a deferral account with the approval of the Commission for the purposes of the administration of payments under this Part.*
>
> *(2) A deferral account approved by the Commission under subsection (1) must use the weighted average cost of capital to determine the carrying costs that may be collected in respect of the deferred payments.*

EPCOR Water Services Inc.
2022-2024 and 2022-2026 PBR Applications
COE-EWSI-18

These balances are being financed with short-term debt. However, in accordance with the *Utility Payment Deferral Program Act*, Alberta utilities are entitled to earn the weighted average cost of capital on these balances.

ii) Table COE-EWSI-18b-1 provides the weighted average cost of capital rates that were used to calculate the Special Rate Adjustments. The weighted average cost of capital rates are based on an approved/proposed return on equity of 10.175% and 9.95%, and each business's forecast average cost of debt.

Table COE-EWSI-18b-1
Weighted Average Cost of Capital

		A **2020**	B **2021**	C **2022**
1	Water Services			
2	Average Cost of Debt (60%)	4.54%	4.27%	4.22%
3	Return on Equity (40%)	10.18%	10.18%	9.95%
4	**WACC**	**6.79%**	**6.63%**	**6.51%**
5	Wastewater Treatment			
6	Average Cost of Debt (60%)	4.16%	4.02%	3.88%
7	Return on Equity (40%)	10.18%	10.18%	9.95%
8	**WACC**	**6.56%**	**6.48%**	**6.31%**
9	Drainage Services			
10	Average Cost of Debt (60%)	2.98%	2.71%	3.32%
11	Return on Equity (40%)	10.18%	10.18%	9.95%
12	**WACC**	**5.86%**	**5.70%**	**5.97%**

iii) Table COE-EWS-18b-2 provides the forecast short term debt rates used in the 2022-2024 and 2022-2026 PBR Applications.

Table COE-EWSI-18b-2
Short Term Debt Rates

		A **2020**	B **2021**	C **2022**
1	Water Services	2.45%	2.45%	2.45%
2	Wastewater Treatment	2.45%	2.45%	2.45%
3	Drainage Services	2.45%	2.45%	2.45%

EPCOR Water Services Inc.
2022-2024 and 2022-2026 PBR Applications
COE-EWSI-18

Question: **COE-EWSI-18.c**

Topic: **Special Rate Adjustment for 90 Day Deferral Program**

Sub-Topic: **City Manager Approval of Costs**

Please confirm the level of information that will be provided to the City Manager for the review and approval of the actual costs as part of the 2022 Rates Filing.

EWSI RESPONSE:

As part of the 2022 Annual Rates Filing, EWSI will provide a schedule supporting the special rate adjustment calculations for each business unit. This schedule with be similar to other special rate adjustment schedules submitted by EWSI in the past and will include:

- Total incremental bad debt costs;
- Total foregone late payment charges during the 90 day program; and
- Total carrying costs associated with bad debts and forgone late payment charges.

The outstanding balances for bad debt costs, late payment charges and associated carrying costs in these schedules will reflect, to the extent possible, the methodology that the AUC has applied to Alberta utilities subject to the *Utility Payment Deferral Program Act.*

EPCOR Water Services Inc.
2022-2024 and 2022-2026 PBR Applications
COE-EWSI-19

Question: **COE-EWSI-19.a**

Topic: **Reconciliation of Non-Routine Adjustments**

Sub Topic: **Water Services Non-Routine Adjustments**

i) For each of the Water Services non-routine adjustments approved during the 2017-2021 PBR term (i.e. Corporate Cost Reduction, Lead Mitigation, Leduc County Annexation, LRT Relocations), please provide a table comparing the total operating costs, capital expenditures, and revenue requirement impacts approved for the 2017-2021 term versus the forecast/actual amount for 2017-2021.

ii) For each of the non-routine adjustments in i. above, please provide a description of the work and accomplishments completed in 2017-2021 under this program relative to the intended objectives.

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EPCOR RESPONSE:

i) Tables COE-EWSI-19.a-1 to COE-EWSI-19.a-4 provide the total operating costs, capital expenditures and revenue requirement for non-routine adjustments comparing the approved amounts with the actual/forecast amounts for the 2017-2021 PBR term.

Note that capital expenditures include total system capital expenditure for EWSI's three regulated Edmonton customer segments including In-City, Fire Protection and Regional Customers. This is because the cost of service model allocates costs amongst these customer segments based on their portion of rate base rather than capital expenditures.

Table COE-EWSI-19.a-1
Water - Corporate Cost Reduction NRA
2017-2021 PBR Term
($ millions)

		A **Approved**	B **Actual / Forecast**	C **Variance [1]**
1	Operating costs[2]	(11.5)	(12.6)	(1.1)
2	Capital Expenditures	n/a	n/a	n/a
3	Revenue Requirement Impact	(11.4)	(12.6)	(1.2)

[1] The variance reflects both the reduction in corporate shared service cost allocations resulting from the transfer of Drainage from the City of Edmonton to EPCOR, as well as cost savings in EUI's corporate functions.

[2] Includes franchise fees.

Table COE-EWSI-19.a-2
Water - Lead Mitigation Strategy NRA
2017-2021 PBR Term
($ millions)

		A **Approved**	B **Actual / Forecast**	C **Variance**
1	Operating costs[1]	1.5	0.6	(0.8)
2	Capital Expenditures	15.7	17.7	2.0
3	Revenue Requirement Impact	3.4	1.5	(1.9)

[1] Includes franchise fees.

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Table COE-EWSI-19.a-3
Water - LRT Relocations NRA
2017-2021 PBR Term
($ millions)

		A **Approved**	B **Actual / Forecast**	C **Variance**
1	Operating costs[1]	n/a	n/a	n/a
2	Capital Expenditures	14.5	16.0	1.5
3	Revenue Requirement Impact	1.5	1.6	0.1

[1] Includes franchise fees.

Table COE-EWSI-19.a-4
Water - Leduc County Annexation NRA
2017-2021 PBR Term
($ millions)

		A **Approved**	B **Actual / Forecast**	C **Variance**
1	Operating costs[1]	0.3	0.2	(0.1)
2	Capital Expenditures	9.3	9.7	0.4
3	Revenue Requirement Impact	2.2	1.6	(0.6)

[1] Includes franchise fees.

ii) A description of the work and accomplishments completed in 2017-2021 under each program relative to the intended objective are detailed below.

a. **Corporate Cost Reduction** – This NRA reflected the reduction in corporate administration cost allocations resulting from the transfer of Drainage Services to EPCOR. With the transfer of Drainage in September 2017, lower corporate service charges for EWSI's In-City Water and Wastewater operations were reflected in adjustments to water and wastewater treatment rates beginning in 2018 through negative NRAs.

b. Lead Mitigation Strategy – The Lead Mitigation Strategy includes both phosphoric injection and lead service line (LSL) replacements.

Phosphoric Injection

The Lead Mitigation Strategy Business case (March 22, 2019) was based on the projection that construction of phosphoric acid dosing facilities at both the

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Rossdale and E.L. Smith water treatment plants would be completed by the end of 2020, with injection of phosphoric acid beginning in early 2021. An updated schedule was provided in the Water PBR Application (paragraph 290) with construction completion by the end of 2021 and phosphoric injection starting in early 2022.

As shown in Rows 1 and 3 of Table 6.1-1 of the Water Application, the full $2.0 million increase in capital expenditures for the Lead Mitigation Strategy is attributable to the phosphoric injection portion of the program. The increased capital expenditure is due to an increase in the construction cost estimates compared to costs estimates that were used for the NRA Application and business case which were developed based on initial conceptual designs. Phosphoric injection requires a new system with new risks, so understanding operational and maintenance needs has taken longer than anticipated. Adequate levels of reliability and redundancy need to be included in the design, but the higher cost estimate from the contactor resulted in the project team re-evaluating project requirements to identify where changes could be made and costs reduced overall. A value engineering analysis was jointly conducted by Stantec, EPCOR and BIRD. Both system designs were revised. This analysis and redesign increased design costs and extended the schedule, but reduced the overall project costs by $2.2 million. Construction of the phosphoric injection system is being competitively bid to ensure costs reflect current market and economic conditions.

EWSI is now able to provide an updated schedule. Design is now complete for the E.L. Smith system with construction to begin in the second quarter of 2021. Design for the Rossdale system is nearly complete with construction to start early in the fourth quarter of 2021. Both systems will be started together and completion is expected in 2022.

LSL Replacements

The LSL replacement portion of the program includes both the elimination of partial LSL replacements as well as replacements of LSLs identified as High Priority.

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Elimination of partial LSL replacements: Private side replacements of LSLs identified through the EWSI's water main maintenance programs are recorded under the NRA's Lead Mitigation Program, while the cost of utility side LSL replacements identified through maintenance programs continues to be recorded under those maintenance programs. EWSI has successfully eliminated 100% of identified partial LSL replacements as of 2020. In 2020, EWSI executed 58 private side replacements under this portion of the program. EWSI projects future activity (2021) on this portion of the program based on historical activity, as the number of replacements depends upon the number of private side LSL replacements identified through the execution of EWSI's maintenance programs.

High Priority replacements: The costs of both private and public side replacements of High Priority LSLs are recorded against the NRA. Replacements are identified as High Priority when lead levels will continue to exceed the MAC[1] after the addition of orthophosphate. As shown in Table COE-EWSI-19.a-, EWSI has executed 83 High Priority replacements over 2019-2020, as compared with the 72 replacements projected in the Lead Mitigation Strategy Business case. Based on the results of a hydrovac exploration program completed in 2020, EWSI is projecting a minimum of 100 High Priority replacements for 2021, which exceeds the 72 replacements projected. However, COVID-19 restrictions have the potential to delay this work, thus potentially reducing the number of LSL replacements EWSI is able to execute.

Table COE-EWSI-19.a-5
Approved NRA and Actual/Forecast LSL Replacements
(2019-2021)

		A	B	C	D	E	F	G	H
		Approved NRA Forecast				Actual/Forecast			
		2019	2020	2021	2019-2021	2019	2020	2021	2019-2021
1	Public	0	12	12	**24**	6	4	N/A	**10**
2	Private	0	22	22	**44**	8	28	48	**84**
3	Full	0	38	38	**76**	0	37	52	**89**
4	Total	0	72	72	**144**	14	69	100+	**183+**

[1] Maximum Acceptable Concentration for lead in drinking water of 5 µg/L at the tap in the home.

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In addition, EWSI executed a pilot program in Strathcona Neighbourhood to finalize construction methodology in 2019. In 2020, EWSI recruited and assembled the LSL EPCOR internal project team and secured contractor resources through a competitive bid process.

c. **LRT Relocations** – As stated in paragraph 93 of the Water Application, EWSI has completed 65% of water relocates for the West Valley Line and projects to complete the remaining 35% in the 2022-2026 PBR term.

EWSI's accomplishments on this work are on track with the plans contemplated in the NRA application. The LRT Water Relocations Business Case (June 28, 2019) stated "In 2019, EWSI is planning to complete approximately 37 water relocation projects. EWSI has also begun concept planning and preliminary design for future years' construction work." In 2019, EWSI completed exactly 37 individual water relocation projects with focus to 104 Avenue East of 109 Street and Stony Plain Road between 142 Street and 156 Street, accounting for 20% of water relocates for The West Valley Line.

In 2020, EWSI completed 13 large scale individual water relocation projects with focus on Phase 1 of 2 of Glenora work and downtown utility conflicts accounting for 30% of water relocates for the West Valley Line.

In 2021, EWSI plans to complete 14 water relocation projects with focus to downtown utility mitigation and Phase 2 of 2 of Glenora neighbourhood work and the 87 Avenue corridor accounting for 15% of water relocates for the West Valley Line, for a total of 65% completed over the 2017-2021 term.

Paragraph 412 of the Water Application provides the source of the $1.5 million variance: "changes to track alignments, as well as the accelerated construction schedule for the West Valley Line LRT project have resulted in increases to the projected costs of water main, hydrant and sewer relocations for this project."

Table COE-EWSI-19.a-6 provides an update to Table 5.0-1 from the LRT Water Relocations Business Case (June 29, 2019). As indicated in column D, each of the goals has been met or exceeded.

Table COE Table COE-EWSI-19.a-6
Reporting on Measures of Success
LRT Water Relocates Program

	A **Criteria**	B **Approved**	C **Goal**	D **Results**
1	Water quality in the system is not disrupted by construction.	# of water quality events caused by construction.	0	0
2	The environment is protected during construction.	# of environmental incidents, including the release of chlorinated water to the environment, storm system	0	0
3	Compliance with PBR measures for notice delivery for service interruption requiring temporary hoses.	Five days advance notice	95.8%	100%
4	Compliance with PBR measures for advertised length of planned interruptions based on the length of time customers are on temporary hoses.	Underground construction completed within specified time frame.	95.8%	100%

d. **Leduc County Annexation** – The Leduc Country Annexation was comprised of two separate transactions with 3rd parties. The first was the acquisition of a reservoir at Discovery Park (now known as Cross Roads) which was developed and owned by Remington Developments (& partner). The second was the acquisition of a transmission pipeline and booster station from the Capital Region Southwest Water Service Commission (CRSWSC). The purchase price for both acquisitions was determined prior to the NRA filing (Reservoir at $7,267,188 and pipeline/booster station at $1,573,523). The acquisition of the reservoir closed November 16, 2020 while the pipeline/booster station closed December 18, 2020. Both transactions closed at the prior agreed to prices.

Both transactions closed later than originally anticipated (resulting in less operational expenditures than originally forecast). Inspections of the reservoir revealed leaks in the membrane covering the roof. Remington was required to correct these, and other deficiencies, prior to the reservoir passing construction completion certificate (CCC). Passing CCC was a contractual condition for closing the transaction. This work took several months to complete resulting in the delay of the close. The pipeline/booster station was also delayed as the CRSWSC completed internal considerations for the transfer of the asset and the development of their new booster station.

The NRA included approximately $400,000 to complete the transition of these assets to EPCOR operations (installation of EPCOR communication equipment, equipment to align with safety standards, etc.). These improvements were more extensive than originally anticipated, resulting in higher than forecast capital expenditures noted in Table COE-EWSI-19.a-4 above.

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Question: **COE-EWSI-19.b**

Topic: **Reconciliation of Non-Routine Adjustments**

Sub Topic: **Drainage Services Non-Routine Adjustments**

i) For each of the Drainage Services non-routine adjustments approved during the 2017-2021 PBR term (i.e. SIRP, Corrosion and Odor Reduction, LRT Relocations), please provide a table comparing the total operating costs, capital expenditures, and revenue requirement impacts approved for the 2017-2021 term versus the forecast/actual amount for 2017-2021.

ii) For each of the non-routine adjustments in i. above, please provide a description of the work and accomplishments completed in 2017-2021 under this program relative to the intended objectives.

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EPCOR RESPONSE:

i) Tables COE-EWSI-19.b-1 to COE-EWSI-19.b-3 provide the total operating costs, capital expenditures and revenue requirement impacts of non-routine adjustments comparing the approved amounts to the actual/forecast amounts for the 2018-2021 PBR term (January 1, 2018 to March 31, 2022).

Table COE Table COE-EWSI-19.b-1
Drainage - SIRP NRA
2018-2021 PBR Term
($ millions)

		A **Approved**	B **Actual / Forecast**	C **Variance**
1	Operating costs	8.3	8.0	(0.3)
2	Capital Expenditures	n/a	n/a	n/a
3	Revenue Requirement Impact	8.3	8.0	(0.3)

Table COE Table COE-EWSI-19.b-2
Drainage - CORe NRA
2018-2021 PBR Term
($ millions)

		A **Approved**	B **Actual / Forecast**	C **Variance**
1	Operating costs	8.1	7.4	(0.7)
2	Capital Expenditures[1]	62.1	109.7	47.6
3	Revenue Requirement Impact	10.8	14.8	4.0

[1] Actual/forecast capital expenditures include ¼ of the 2022 total capital expenditure forecast.

Table COE Table COE-EWSI-19.b-3
Drainage - LRT Relocations NRA
2018-2021 PBR Term
($ millions)

		A **Approved**	B **Actual / Forecast**	C **Variance**
1	Operating costs	0.1	-	(0.1)
2	Capital Expenditures[1]	64.3	59.6	(4.7)
3	Revenue Requirement Impact	5.3	3.2	(2.1)

[1] Actual/forecast capital expenditures include ¼ of the 2022 total capital expenditure forecast.

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ii) Descriptions of the work and accomplishments completed in 2018-2021 under each program relative to the intended objectives are detailed below.

a. **SIRP NRA -** EWSI's Stormwater Integrated Resource Plan (**SIRP**) is a $1.6 billion system wide integrated approach to mitigate flood risks over the next 20 to 30 years. The SIRP program is summarized into five themes of investment: Slow; Move; Secure; Predict and Respond. Operating expenditures for SIRP are forecast to be $0.3 million lower than the approved NRA. No capital expenditures were included in the SIRP NRA as the SIRP capital expenditures are included in "Base Flood Mitigation" capital expenditures (refer to the explanation in section 7.1 of the Drainage PBR Application). Accomplishments over 2019-2020 under SIRP are described in detail in section 7.0 of Appendix I-1 of the PBR Applications.

The **SIRP Slow** theme includes investments and activities intended to slow the flow of stormwater. Investments under this theme are for dry ponds and low impact development (LID) features. Construction of the dry ponds planned for the 2019-2021 period has progressed well, with some delays related to the COVID-19 pandemic. Of the three ponds planned to be constructed by the end of 2021, two are substantially complete (Parkallen, Steinhauer) and the third (Idylwylde), after discussions with the City of Edmonton, was rescheduled to be completed at the same time as other work being planned by the City. Design work for future pond construction is continuing according to the plan. Work to plan and construct LID features is also progressing generally in accordance with the approved plan.

The **SIRP Move** theme includes capital expenditures related to relocating and/or separating collection system components. In the SIRP NRA Application, no operating costs were anticipated under this theme, and no operating expenses have been incurred.

The **SIRP Secure** theme is broken down into the following components: backwater valve subsidy program; building flood-proofing; ditches, culverts and swales, inflow and infiltration reduction and outfall gates. The SIRP NRA Application included funding to increase the back water valve subsidy program. For the 2019-

2021 time frame, funding for an additional 3,000 homes was included in the SIRP NRA Application. Unfortunately, COVID-19 delayed EWSI's expansion of this program by precluding on-site inspections. By using smartphone video streaming and picture technology and working interactively with applicants, EWSI has developed alternate methods of completing the inspections and its efforts to expand the program are underway. The NRA Application also included funding for EWSI to expand its building flood-proofing program. EWSI has expanded this program as planned in the NRA Application, hiring four new positions to assess the flooding risks and coordinate the installation of the additional flood mitigation components on the residential, multi-residential and commercial properties. The SIRP NRA provided for additional funding to perform maintenance of ditches, culverts and swales. With the COVID-19 restrictions limiting the ability to move forward with activities related to in-home property-specific enhanced flood proofing, the focus shifted to developing strategies to reduce the historical ongoing flooding risks related to ditches and swales. Operating costs in the period are anticipated to be higher than approved NRA amounts as a result of the additional work completed to address overland flooding risk. Planned activities to reduce inflow and infiltration are being completed generally in alignment with the approved plans and amounts. Installation of additional outfall gates, partially funded through government grants, was included within the SIRP program. A program to design and construct the additional gates has been initiated, with construction to start in late 2021.

Under the **SIRP Predict** theme, the monitoring network was to be expanded and a new software tool (SIRP Dashboard) developed to provide situational awareness by integrating information from a variety of monitoring systems. Expansion of the monitoring network is underway, and the SIRP Dashboard will be functional in the summer of 2021.

The **SIRP Respond** theme provided for a new position to lead development of emergency plans and coordinate development of emergency response facilities and equipment. This work is progressing in accordance with the approved plan in the NRA Application.

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b. **CORe NRA -** The Corrosion and Odour Reduction Strategy (**CORe**) is a comprehensive strategy for reducing odours and corrosion resulting from H_2S gas generated in the collection system. The CORe program is organized into the following themes: Prevent; Optimize; Monitor and Control. Additional information related to these expenditures and accomplishments for 2019-2020 under CORe can be found in Appendix I-2 of the PBR Application. Overall capital expenditures under CORe are forecast to be $47.6 million higher than the approved NRA and operating expenditures are forecast to be $0.7 million lower than the approved NRA.

The majority of the capital expenditure variance is attributable to reclassifying EWSI's CORe Large Trunk Rehabilitation Program within the CORe strategy under the **CORe Prevent** theme because these projects target rehabilitation of large trunks with high levels of corrosion in emerging odour areas in the network (refer to Section 7.1 and Appendix I-2 of the PBR Application for further explanation). Also under the CORe Prevent theme is the Duggan Tunnel (PBR Appendix H-4) project and the CORe Access Manhole program (Appendix H-2) which are underway . In-house construction crews have completed approximately 20 access manholes and construction costs using in-house construction services has been found to be significantly lower than the estimates used in the approved NRA. Operating costs under the Prevent theme are related to the inspection and cleaning of sewer trunks and are forecast to be below approved NRA amounts because additional due diligence to re-visit the CORe risk rankings was completed before filling new positions for this work.

The objectives of the **CORe Optimize** theme include optimization and modifications to pumping and storage systems to reduce odour and corrosion. Operating costs for this work are expected to be below NRA amounts because additional due diligence to re-visit the CORe risk rankings was completed before filling new positions for this work. Inspections of the pump stations identified numerous deficiencies which must be corrected before the odour treatment components of many of the pump stations can be returned to service and optimized. Optimization of other pump stations and storage systems is continuing.

The **CORe Monitor** theme contemplated the purchase of suitable odour monitoring equipment and the measurement of odour concentrations at various locations. Purchasing of the equipment was actually completed using capital funds while obtaining the measurements remained as operating costs. Most of the planned monitoring work will be completed by the end of the NRA period.

Capital expenditures for the 2019-2021 period under the **CORe Control** theme are forecast to be lower than approved amounts as a result of delays in initiating drop shaft modification projects and limited availability of in-house resources partially reallocated to emergency projects. An increase in capital expenditures on this component is planned for the 2022-2024 PBR term.

c. Drainage LRT Relocates – This NRA includes relocation to accommodate the construction of both the Metro Line and the West Valley Line. In order to accommodate the City's schedule, EWSI had projected to complete construction on the Metro Line in 2020 and on the West Valley Line in 2022. Construction has been completed on the Metro Line during the period. The detailed design on the West Valley Line was completed in 2019, and EWSI is on track for completion of the EPCOR-performed Drainage construction work by the end of 2022. Work executed on the West Valley Line to date includes the construction of several working shafts and tunneling activities needed for the installation of the large diameter trunks, and the installation of several hundred metres of new sewer.

The NRA also includes relocation construction on Area 3A and 3B to be completed by the City's LRT contractor, but funded by EWSI. The City has signed a contract with a new contractor for the West Valley Line construction, leading to delays in this portion of the construction schedule. Much of the work expected to be performed by the new contractor has shifted into 2022 and later, and is included in the LRT Relocates Program described in Appendix H-09, the Drainage Services LRT Relocates Program Business Case.

Paragraph 5 of Appendix H-09 states: "The approved NRA was based on the City's original schedule, which has been delayed as the City's original Request for Quotes (RFQ) had to be cancelled due to contractors' withdrawal. There has since been an increase in scope, including the cost to add 80 steel casings for pipes crossing

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the LRT tracks, as well as a revised cost of construction due to changes in the market conditions." Thus, the $4.7 million forecast decrease in capital expenditures relative to the NRA Application (as shown in Table COE- EWSI-19.b-3) is primarily due to a delay on the portion to be completed by the City's LRT contractor for the West Valley Line and lower costs relative to the approved amount due to the Metro Line being executed more efficiently than forecast.

Question: **COE-EWSI-19.c**

Topic: **Reconciliation of Non-Routine Adjustments**

Sub Topic: **Wastewater Treatment Non-Routine Adjustments**

i) For each of the Wastewater Treatment non-routine adjustments approved during the 2017-2021 PBR term (i.e. Corporate Cost Reduction), please provide a table comparing the total operating costs, capital expenditures, and revenue requirement impacts approved for the 2017-2021 term versus the forecast/actual amount for 2017-2021.

ii) For each of the non-routine adjustments in i. above, please provide a description of the work and accomplishments completed in 2017-2021 under this program relative to the intended objectives.

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EPCOR RESPONSE:

i) Table COE-EWSI-19.c-1 provides the 2017-2021 total operating costs, capital expenditures and revenue requirement impacts approved for the 2017-2021 term versus the forecast/actual amounts for 2017-2021.

Table COE Table COE-EWSI-19.c-1
Wastewater Treatment - Corporate Cost Reduction NRA
2017-2021
($ millions)

		A **Approved**	B **Actual / Forecast**	C **Variance [1]**
1	Operating costs[2]	(4.2)	(3.8)	0.4
2	Capital Expenditures	n/a	n/a	n/a
3	Revenue Requirement Impact	(4.2)	(3.8)	0.4

[1] The variance reflects both the reduction in corporate shared service cost allocations resulting from the transfer of Drainage from the City of Edmonton to EPCOR, as well as cost savings in EUI's corporate functions.
[2] Includes franchise fees.

ii) A description of the work and accomplishments completed in 2017-2021 under each program relative to the intended objective are detailed below.

Corporate Cost Reduction – This NRA reflected the reduction in corporate administration cost allocations resulting from the transfer of Drainage Services to EPCOR. With the transfer of Drainage in September 2017, lower corporate service charges for EWSI's In-City Water and Wastewater operations were reflected in adjustments to water and wastewater treatment rates beginning in 2018 through negative NRAs.

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Question: **COE-EWSI-19.d**

Topic: **Reconciliation of Non-Routine Adjustments**

i) Please provide EWSI's understanding of the regulatory treatment for the variances between the 2017-2021 approved and actual/forecast revenue requirement impacts of the non-routine adjustments for Water, Drainage and Wastewater Treatment.

ii) Please confirm whether any adjustments have been incorporated into the 2022-2026 (2022-2024) PBR applications for the variances.

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EPCOR RESPONSE:

i) Under the constructs of the PBR, EWSI bears the risk of capital projects cost variances as well as any associated operating costs variance for any project approved as part of the PBR application. That is, there is no "true-up" mechanism during a PBR term where adjustments are made to the revenue requirement/rates for any variances from what was initially approved. As with all other cost variances, adjustments are made through the rebase process at the start of the next PBR term. EWSI views all non-routine adjustments as operating in the same manner. Effectively, non-routine adjustments can be viewed as any other project, with the only difference being that they are approved at a different point in time rather than as part of the PBR application approval. As such, they follow the same mechanisms as any other project. This perspective is supported by the fact that the bylaws do not specify any other process as part of the NRA mechanisms. Moreover, none of EWSI's NRA Applications and none of the City's Approvals of the NRAs contemplated any type of true-up mechanism following the end of the NRA period

ii) Adjustments in the rebase amounts included in the 2022-2024/26 PBR applications take into account both positive and negative capital expenditure variances from what was initially approved for all NRAs. In effect, NRAs are treated as any other capital project. For NRA operating cost variances in the 2018-2021 PBR term, there are no adjustments in the 2022-2024 period. As with NRA capital expenditure variances, NRA operating cost variances are treated the same as other operating cost variances in that EWSI bears the risk of variances from approved amounts within the PBR term.

Question: **COE-EWSI-20.a**

Topic: **City Initiated Capital Projects**

Reference: **Water, Wastewater Treatment and Drainage PBR Applications**

Please clarify the capital programs EWSI has included in the water, wastewater treatment and drainage PBR applications to align with City initiated projects (e.g. LRT line relocates, neighborhood renewal, etc). Please include a table showing the capital dollars approved by Council each year as part of the 2017 to 2021 PBR applications as well as the actual/forecast dollars each year for 2017 to 2021, and the requested capital dollars as part of the 2022-26 (Water PBR application) and 2022-24 (Drainage and Wastewater PBR applications).

EPCOR RESPONSE:

Refer to Table COE-EWSI-20a-1 for capital expenditures for the City-Initiated Drainage Capital Projects/Programs and Table COE-EWSI-20a-2 for the capital expenditures for the City-Initiated Water Capital Projects/Programs.

Table COE-EWSI-20.a-1
Drainage City-Initiated Projects Capital Expenditures
2018-2024 ($ millions)

	Category	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
		City LTP/Approved NRAs					Actuals / Forecast					Forecast				Variance	Variance
		2018	2019	2020	2021	2018-2021 Total	2018	2019	2020	2021	2018-2021 Actual/ Forecast Total	2022	2023	2024	2022-2024 Forecast Total	2018-2021 Actual/Fcst vs City LTP (J-E)	2022-2024 Forecast vs 2018-2021 Actual/Fcst (N-J)
1	**Drainage Neighbourhood Renewal**	**37.8**	**42.5**	**43.8**	**51.8**	**175.8**	**25.9**	**24.6**	**35.7**	**35.9**	**122.2**	**28.0**	**21.3**	**27.3**	**76.5**	**(53.6)**	**(45.7)**
	Drainage System Expansion																
2	105 Avenue Sewer Lateral/Servicing Downtown	0.9	1.7	4.6	10.4	17.7	0.2	0.2	0.8	9.0	**10.2**	1.0	0.2	0.0	**1.2**	(7.5)	**(9.0)**
3	Yellowhead Trail Freeway						0.5	1.5	3.1	2.4	**7.6**	0.5	3.6	5.0	**9.2**	7.6	**1.6**
4	Transportation Construction Co-ordination						0.2	0.2	0.4	0.4	**1.1**	0.4	0.4	0.4	**1.3**	1.1	**0.1**
5	50St Wide & CPR Sewer Relocate						0.0	0.1	0.1	0.2	**0.3**	0.0	0.0	0.0	**0.0**	0.3	**(0.3)**
6	Downtown Stormwater Drainage Servicing	0.0	0.0	0.0	0.0	0.0	0.0	0.0	(0.0)	0.0	**(0.0)**	0.0	0.0	0.0	**0.0**	(0.0)	**0.0**
7	**Sub-total: Drainage System Expansion**	**0.9**	**1.7**	**4.6**	**10.4**	**17.7**	**0.9**	**2.0**	**4.3**	**11.9**	**19.0**	**2.0**	**4.2**	**5.5**	**11.7**	**1.3**	**(7.3)**
	Drainage System Rehabilitation																
8	Arterial Roadway Co-ordination						1.9	2.5	1.1	2.1	**7.6**	3.3	2.3	3.1	**8.6**	7.6	**1.0**
9	West Valley LRT Rehabilitation						0.4	2.4	0.3	0.0	**3.1**	0.0	0.0	0.0	**0.0**	3.1	**(3.1)**
10	**Sub-total: Drainage System Expansion**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**2.3**	**4.9**	**1.4**	**2.1**	**10.8**	**3.3**	**2.3**	**3.1**	**8.6**	**10.8**	**(2.1)**
	SIRP																
11	Imagine Jasper Ave Streetscape						0.3	0.4	0.4	3.5	**4.6**	4.8	0.0	0.0	**4.8**	4.6	**0.3**
12	**Sub-total: Drainage System Expansion**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.3**	**0.4**	**0.4**	**3.5**	**4.6**	**4.8**	**0.0**	**0.0**	**4.8**	**4.6**	**0.3**
	NRA – LRT																
13	West Valley Line LRT Sewer Relocation	**0.0**	**4.8**	**19.2**	**31.4**	**55.4**	0.5	5.3	7.7	32.0	**45.5**	21.8	12.9	13.8	**48.5**	(9.9)	**3.0**
14	Metro LRT Sewer Relocation	**0.0**	**0.0**	**4.8**	**0.7**	**5.5**	0.0	0.1	7.2	1.4	**8.7**	0.0	0.0	0.0	**0.0**	3.2	**(8.7)**
15	**Sub-total: LRT NRA**	**0.0**	**4.8**	**24.0**	**32.1**	**60.9**	**0.5**	**5.4**	**14.9**	**33.4**	**54.2**	**21.8**	**12.9**	**13.8**	**48.5**	**(6.7)**	**(5.7)**
16	**Total City Initiated Projects**	**38.7**	**49.0**	**72.4**	**94.3**	**254.4**	**30.0**	**37.3**	**56.7**	**86.8**	**210.7**	**59.9**	**40.7**	**49.6**	**150.2**	**(43.7)**	**(60.5)**

Table COE-EWSI-20.a-2
Water Services City-Driven Capital Expenditures
2017-2026 ($ millions)

		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
		2017-2021 PBR Plan/Approved NRAs						Actuals / Forecast						2022-2026 PBR Plan						Variance	Variance
	Category	2017	2018	2019	2020	2021	2017-2021 Total	2017	2018	2019	2020	2021	2017-2021 Total	2022	2023	2024	2025	2026	2022-2026 Total	2017-2021 Actual/Fcst vs. PBR Plan	2022-2026 PBR Plan vs. 2017-2021 Actual/Fcst
	LRT Relocates																				
1	LRT Relocates - West (NRA Portion)[1]	(0.26)	1.34	5.79	3.85	3.80	**14.51**	0.00	0.00	3.03	6.97	6.00	**16.01**							**1.49**	**(16.01)**
2	LRT Relocates - West							0.00	0.25	3.24	0.00	0.00	**3.49**	5.00	5.25	0.00	0.00	0.00	**10.25**	**3.49**	**6.76**
3	LRT Relocates (Southeast)	5.53	0.31	0.21	2.15	2.20	**10.41**	5.28	1.50	0.15	-0.01	0.00	**6.92**							**(3.49)**	**(6.92)**
5	**Sub-total: LRT Relocates**	**5.28**	**1.65**	**6.00**	**6.00**	**6.00**	**24.92**	**5.28**	**1.75**	**6.42**	**6.97**	**6.00**	**26.42**	**5.00**	**5.25**	**0.00**	**0.00**	**0.00**	**10.25**	**1.49**	**(16.17)**
	Franchise Agreement Relocates																				
6	Distribution System Modifications	1.42	1.45	1.10	1.01	1.03	**6.02**	1.32	0.66	1.58	2.12	1.36	**7.04**	1.14	1.17	1.20	1.23	1.26	**6.00**	**1.02**	**(1.04)**
7	Yellowhead Trail Upgrades / Relocates													1.50	0.98	0.72	0.74	1.06	**5.00**		**5.00**
8	**Sub-total Franchise Agreement Relocates**	**1.42**	**1.45**	**1.10**	**1.01**	**1.03**	**6.02**	**1.32**	**0.66**	**1.58**	**2.12**	**1.36**	**7.04**	**2.64**	**2.15**	**1.92**	**1.97**	**2.32**	**11.00**	**1.02**	**3.96**
	Accelerated Water Main Renewals																				
9	Accelerated Water Main Renewal - Gross of Contributions	9.92	10.14	10.37	10.61	10.85	**51.90**	9.68	9.85	10.96	12.66	1.00	**44.16**							**(7.74)**	**(44.16)**
10	Contributions							0.00	0.00	0.00	-0.57	-0.69	**-1.26**							**(1.26)**	**1.26**
11	**Accelerated Water Main Renewal – Net of Contributions**	**9.92**	**10.14**	**10.37**	**10.61**	**10.85**	**51.90**	**9.68**	**9.85**	**10.96**	**12.09**	**0.31**	**42.90**							**(9.00)**	**(42.90)**
12	**Total City Initiated Projects**	**16.62**	**13.24**	**17.47**	**17.62**	**17.88**	**82.84**	**16.28**	**12.26**	**18.96**	**21.18**	**7.67**	**76.36**	**7.64**	**7.4**	**1.92**	**1.97**	**2.32**	**21.25**	**(6.49)**	**(55.11)**

[1] Capital expenditures for the NRA reflect the incremental expenditures above the 2017-2021 PBR Forecast.

Question: **COE-EWSI-20.b**

Topic: **City Initiated Capital Projects**

Reference: **Water, Wastewater Treatment and Drainage PBR Applications**

Please provide explanations for any major variances between the PBR approved and actual/forecast dollars for 2017 to 2021. Also please provide a detailed explanation for the increases or decreases in the requested amounts for 2022 to 2026 versus 2017 to 2021.

EPCOR RESPONSE:

Drainage Services (Table COE-EWSI-20.a-1):

- **Drainage Neighbourhood Renewal –** EWSI is forecasting capital expenditures for Drainage Neighbourhood Renewal Program to be $53.6 million lower than the City's 2018-2021 LTP forecast primarily due to a reduction in sewer upgrading costs of $45.4 million based on reprioritization to more efficiently complete this work by including it into individual neighbourhood renewal projects where required or by using lower cost SIRP Strategy options such as capturing peak stormwater volumes at the source by using green infrastructure (LID and dry ponds) or by proactive relining of pipes and manholes to reduce inflow and infiltration. EWSI has updated its prioritization of this work based on the risk-based approach using new information from CCTV inspection data along with its further understanding of impacts of failures on customers. The remaining decrease in capital expenditures of $8.2 million reflects the latest City timelines along with a partial deferral of some neighbourhoods into 2022, due to a reflection of the impact of COVID-19 on schedules in 2020 and 2021. Additionally the forecasts also reflect favourable pricing achieved on open cut and relining contracts. EWSI is forecasting capital expenditures for this program to be $45.7 million lower at $76.5 million in the 2022-2024 PBR Term relative to $122.2 million in the 2018-2021 PBR term. As explained in Appendix H-10 (Drainage Services Neighbourhood Renewal Program Business Case), this reflects a slightly lower annual average spending of $26 million per year in 2022-2024 PBR compared to $31 million per year in 2018-2021 PBR term. The workload is expected to be similar to prior years where historically EWSI has completed 5 to 6 neighbourhoods per year under this program.
- **Servicing for Downtown Intensification Project –** EWSI is forecasting a $7.5 million decrease in this project relative to the City LTP forecast. This project was originally forecast to be

complete in 2022 and is now expected to be completed in 2023 due to schedule change required to revisit the project design due to utility conflicts at the 109st intersection requiring extra relocations of adjacent utilities and a deeper tunnel. The original design scope was revised to remove the requirement of the deep trunk connection across 109 Street and achieve the project goals through a combination of shallow trunks and LID installation along the 105 Avenue alignment allowing this project to also align with the SIRP objectives. A reduced scope is planned to improve the drainage between 108 and 107 Street. EWSI is forecasting a $9.0 million decrease in this project in the 2022-2024 PBR term relative to the 2018-2021 PBR term. This reflects anticipated completion of the project in 2023.

- **Yellowhead Trail Freeway** – EWSI is forecasting additional capital expenditures of $7.6 million for the Yellowhead Trail Freeway project. This project was not identified as a separate major project in the approved 2018-2021 City LTP. EWSI does not have the individual project detail behind the programs included in the 2018 – 2021 City LTP, therefore it is possible that this project may have been included within another program (e.g. sewers rehabilitation) in the City LTP. The increase in forecast capital expenditures from 2018-2021 to 2022-2024 of $1.6 million reflects the increasing scope of work based on relocations identified at each of the individual locations along the freeway.

- **Arterial Roadway Coordination** – EWSI is forecasting capital expenditures to be $7.6 million higher. This project was not identified as a separate major project in the approved 2018-2021 City LTP. EWSI does not have the individual project detail behind the programs included in the 2018 – 2021 City LTP therefore it is possible that this project may have been included within another program (e.g. sewers rehabilitation). The increase in forecast capital expenditures from 2018-2021 to 2022-2024 of $1.0 million reflects additional scope of 5km of local sewer rehabilitation for assets located along the Yellowhead Trail Freeway that are being proactively rehabilitated in order to minimize the impact on the Yellowhead Trail Freeway relocation project.

- **West Valley LRT Rehabilitation** - EWSI is forecasting capital expenditures to be $3.1 million higher than the City LTP for the period 2018-2021. This project was not identified as a separate major project in the approved 2018-2021 City LTP as this project was a proactive rehabilitation project required to address infrastructure issues that did not require relocation as part of the West Valley LRT project. The rehabilitation work needed to be conducted prior to relocation in order to minimize potential disruption to the LRT project and so was

completed in the 2018 – 2021 period. The $3.1 million decrease in this project in 2022-2024 relative to 2018-2021 reflects completion of the project in the 2018-2021 PBR term.

- **West Valley LRT (NRA) -** EWSI expects capital expenditures on the West Valley LRT to be $9.9 million lower than forecast in the NRA Application due to changes in the schedule for the project which occurred subsequent to the NRA filing. At the time of the Drainage LRT NRA Application, EWSI planned to begin priority area 2 relocation work in early 2020 and complete prior to the 2022-2024 PBR application. However, the received bids were significantly higher than expected due to a limited number of bidders and project complexity created by tight timelines and conflicting utilities. As a result, there was a delay in procurement while EWSI held further negotiations in an effort to negotiate lower contract prices and obtain its internal approvals for increased costs. Additionally a conflict with another utility delayed the start of a section of the Project for several months. The $3.0 million increase in capital expenditures from 2018-2021 to 2022-2024 PBR term reflects the anticipated scheduling of work for completion of the relocations.
- **Metro LRT (NRA)** – EWSI expects capital expenditures on the Metro LRT to be $3.2 million higher than the approved NRA forecast due to: (i) a 120 meter increase in the length of the sewer to align with the latest LRT platform design and Blatchford Airport Neighbourhood design; (ii) an increase in the sewer pipe size from 1200 mm diameter to 1,350 mm diameter to accommodate pipe grade variations; (iii) additional scope to remove existing and abandoned airport runway and utilities within the construction perimeter; and (iv) additional rehabilitation to address a void that was discovered in a section of pipe. The $8.7 million decrease in capital expenditures from 2018-2021 PBR to the 2022-2024 PBR term reflects the expected completion of this work in 2021.

Water Services (Table COE-EWSI-20a-2):

- **Water LRT Relocates Program**: The 2022-2026 PBR Application includes the projected cost of LRT relocates for which EWSI has received formal notification from the City of Edmonton. The capital expenditure projection of $10.3 over the 2022-2026 term for LRT relocates includes relocation work on the West Valley Line based on the accelerated schedule provided to EWSI from the City. The amount is similar to the base capital projection of $10.4 million applied for in the 2017-2021 PBR Application. The $16.2 million

variance between the 2022-2026 PBR Application vs. the 2017-2021 Actual/Forecast spend is mainly attributable to the NRA spend of $16.0 million over 2017-2021.

As stated in the LRT Water Relocations Business Case (June 28, 2019):

"When the documentation for EWSI's 2017-2021 Performance Based Regulation ("PBR") application was prepared in 2015/2016, EWSI did not have specific information on the timing and scheduling of the next phase of the LRT. The City had not yet determined if the West leg of the Valley Line LRT would be the next phase of LRT construction, nor was any specific timing or scope available. Accordingly, EWSI included a forecast capital expenditures of $10.4 million for years 2017-2021 for LRT relocation costs as a placeholder in the 2017-2021 PBR."

In letters received in 2017 and 2018, the City requested additional relocations to be completed within the 2017-2021 term, which were approved to be recovered through the aforementioned NRA. In the event that the City of Edmonton requests additional water relocations for LRT expansions not included in the 2022-2026 PBR Application, EWSI will assess whether the work meets the criteria for an NRA.

- **Water Franchise Agreement Relocates Program**: This program includes relocating or modifying existing water mains and appurtenances to eliminate conflicts arising from City of Edmonton projects, primarily related to road or sidewalk widening. As explained in Paragraph 413 of the Water PBR Application, the variance of $1.0 million between forecast and actual spend over the 2017-2021 term is due to "higher than forecasted City of Edmonton modification requests during the current PBR term." The capital expenditures included in the 2022-2026 PBR Application for Franchise Agreement Relocates is $5.0 million higher than the 2017-2021 Approved spend which is attributable to the Yellowhead Trail Conversion portion of the program. As explained in the Appendix F-9, the Franchise Agreement Relocates Program Business Case, "The base volume of work and total expenditures for this program are forecast at a level similar to the 2017-2021 term, with an additional $5.0 million projected for the Yellowhead Trail relocates."
- **Accelerated Water Main Renewals Program**: As explained in Paragraph 448 of the Water Application, the $9.0 million variance between the approved and actual spend over the 2017-2021 term "is primarily due to the reprioritization of other more critical lifecycle and reliability programs". That reprioritization continues into EWSI's capital plan for the 2022-

2026 term, as explained in Paragraph 451 of the Water Application: "A new Risk Based Renewals Program is introduced, which combines accelerated, proactive and reactive work into a single program, enabling consistent risk-ranking to ensure that the limited funding is directed toward the Distribution main assets with the highest risk." See EWSI's response to COE-EWSI-19-.a.ii for more information.

Question: **COE-EWSI-20.c**

Topic: **City Initiated Capital Projects**

Reference: **Water, Wastewater Treatment and Drainage PBR Applications**

Please clarify how EPCOR and the City of Edmonton will ensure the capital budgets (and resulting PBR applications for EPCOR) are aligned for these City initiated capital projects. Are the budgets, forecasts, or work plans updated on an annual basis by EPCOR and the City of Edmonton?

EPCOR RESPONSE:

EWSI makes its best efforts to ensure its capital forecast included in the PBR Applications are aligned with City-Initiated capital projects. EWSI's assumptions regarding the City-Driven capital projects are included in the capital business cases in Appendices F, G and H. EWSI updates its work plans and internal forecasts annually based on the latest information provided by the City of Edmonton. This takes place through a number of channels. First, every year, EWSI sends an email request to the City of Edmonton requesting notice of potential work to be completed in the following year. The City then responds with projects in the following year that require EWSI infrastructure to be relocated. Additionally, the City of Edmonton invites EWSI to conceptual design meetings to discuss potential relocation requirements. Finally, EWSI, along with other departments at EPCOR, meet with the City monthly as the Capital Working Group, which is a venue for both parties to share information regarding potential projects that may be funded in the next budget cycle.

Until detailed designs for City projects are known, it is not always possible for EWSI to know the full extent of the capital work required for Water and Drainage relocations. For example, there is considerable variability in the amount of utility relocation work across projects and EWSI is not able to estimate the amount of work until design details are known. Depending on changes in road configurations or alignment of access points to arterial roads, underpasses, overpasses and LRT track alignments. Without the detailed design for these road elements it is not possible to fully estimate the extent of relocations required. As the City of Edmonton refines its detailed designs, EWSI is able to identify the scope of work required for a given year and updates its capital forecasts accordingly. Another challenge is the shifting timelines for execution on projects for arterial roads and LRT as the detailed design and in some cases grant negotiations with other

levels of government can introduce uncertainty on the timing of expenditure with many of these major road initiatives crossing PBR periods. Due to these challenges of forecasting water and drainage work associated with City-Drive projects for the upcoming PBR term, EWSI considers the capital plans included in the PBR applications as an estimate of the known work, rather than a complete forecast.

For the upcoming PBR terms, EWSI is required to establish a 5-year forecast for Water capital expenditures and a 3-year forecast for Wastewater Treatment and Drainage capital expenditures to establish the PBR rates. EWSI bears the risk on any variations from these capital expenditure forecasts. In other words, if capital expenditures on City-Driven projects are higher than forecast, EWSI's net income for the PBR term will be reduced below the approved amount and if capital expenditures are lower than forecast, EWSI's net income for the PBR term will be higher than forecast. This process increases risk to EWSI. City initiated work exceeding the NRA threshold is likely to qualify for NRA recovery. However, increased capital expenditure on City initiated projects not exceeding the NRA threshold will reduce EWSI's net income, increasing the risk that EWSI is not able to achieve its approved level of return on equity.

Question: **COE-EWSI-20.d**

Topic: **City Initiated Capital Projects**

Reference: **Water, Wastewater Treatment and Drainage PBR Applications**

Preamble: *With the full implementation of the Alley Renewal Program by the City of Edmonton, the scale of roadway renewal will be significantly increased in the 2023-2026 budget cycle (including approximately 40 KM per year of alley renewal).*

Please elaborate on the analysis and factors considered by EWSI in determining when it is appropriate to replace its water or drainage infrastructure as part of projects being undertaken by the City under its neighborhood renewal programs, and any changes (and if so why) to this between the 2017-2021 PBR application compared to the current 2022-26 and 2022-24 PBR submissions.

EPCOR RESPONSE:

EWSI's Drainage Neighbourhood Renewal Program is described in detail Appendix H-10 of the PBR Application. EWSI has established criteria for infrastructure renewal under this program based on asset condition graded poor or very poor, assets graded moderate where renewal would address operational needs, or where type and severity of defects are sufficient for renewal. The infrastructure requires CCTV inspection to determine asset conditions. Based on those inspections, the drainage infrastructure will be given a grade according to North American standards. Once the infrastructure has been reviewed and graded, a risk assessment and evaluation will be undertaken for each segment to determine which pipes require open cut replacement or relining. Pipes with a high likelihood of failure will move forward for open cut replacement or relining. There may also be an operational and maintenance reason for renewal or replacement of a lower likelihood of failure pipe such as roots or infiltration. During the 2022-2024 PBR term, this program will include inspections of 129 km of sanitary, storm and combined pipes with a diameter of 750 mm or less as well as manholes (MHs), catch basins (CBs), and CB leads within 18 neighbourhoods.

EWSI currently estimates there is $554 million of aging local sanitary and stormwater infrastructure in poor or very poor condition that would qualify for replacement under this

program. As explained in EWSI's response to COE-EWSI-a) above, EWSI is planning a similar level of expenditure for this program for the 2022-2024 PBR term.

EWSI's Water Services addresses distribution water main renewals under its Water Services - Risk Based Renewals Program. As stated in paragraph 2 of Appendix F-20 (Risk Based Renewals Program Business Case), the purpose of the Risk Based Renewals Program for the 2022-2026 PBR term is to "replace the Reactive, Proactive and Accelerated Renewal programs with a single risk-based program that targets the highest consequence of failure (COF) and probability of failure (POF) mains within the distribution system. This will ensure optimal return for the investment." The business case also states "Candidates will no longer be prioritized for accelerated replacement in coordination with City of Edmonton neighborhood work."

The Water's Risk Based Renewal Program will target the highest risk mains first. Every year, as new information arises from the City of Edmonton's Neighbourhood Renewal programs, the risk scores will be re-evaluated as part of the selection process for this program. Renewal work by the City will increase the consequence of failure (e.g. increasing the cost of pavement repairs and customer disruption), and will thus increase the probability of a main being selected within the risk ranking.

Additionally, EWSI has shared documentation with the City of Edmonton to aid in selecting candidates for neighbourhood renewals. Figure COE-EWSI-20-1 illustrates all of the cast iron mains that are located in alleyways within the city. These pipes could be eligible for replacement because they are cast iron, however, as shown in Figure COE-EWSI-20-2, very few of experienced more than 5 breaks in their lifetime. This is likely because of a change in the manufacturing techniques that began in 1940.

Figure COE-EWSI-20-2 demonstrates that the majority of the remaining cast iron mains in back alleys in Edmonton are in fair condition and do not require replacement in coordination with the City's neighborhood renewal work. The City of Edmonton could elect to renew alleyways where EWSI has no plans to replace pipes due to low number of breaks. Using this information, the City of Edmonton will see the higher POF mains within the water network, and will be able to use this information to plan neighbourhood renewal projects.

In the 2017-2021 PBR term, renewals were analyzed differently. Any watermains located under paved areas within the City's Neighbourhood Renewal programs that had experienced at least 1 main break within the last 5 years would be replaced as part of the Accelerated Water Renewal Program. This previous approach, initiated in 2010, has allowed EWSI and the City to reduce the quantity of pipe at higher risk of failure to the point that water main breaks in Edmonton are at their lowest levels since the 1960's. The change in approach for the 2022-2026 PBR submission was deemed necessary to ensure a holistic risk-based methodology was applied to all renewals to the water network.

For the Drainage system, Figure COE-EWSI-20d-2 indicates there are limited locations where drainage pipes in alleyways are in poor or very poor condition. Based on this information, EWSI and the City can coordinate to strategically select lanes for the City's paving plans to meet paving targets and coordinate with any water/drainage pipes that would need to replaced at the same time. This approach will enable both groups to manage their respective budget capacities.

Figure COE-EWSI-20.d-1
Cast Iron Water Mains in Alleyways

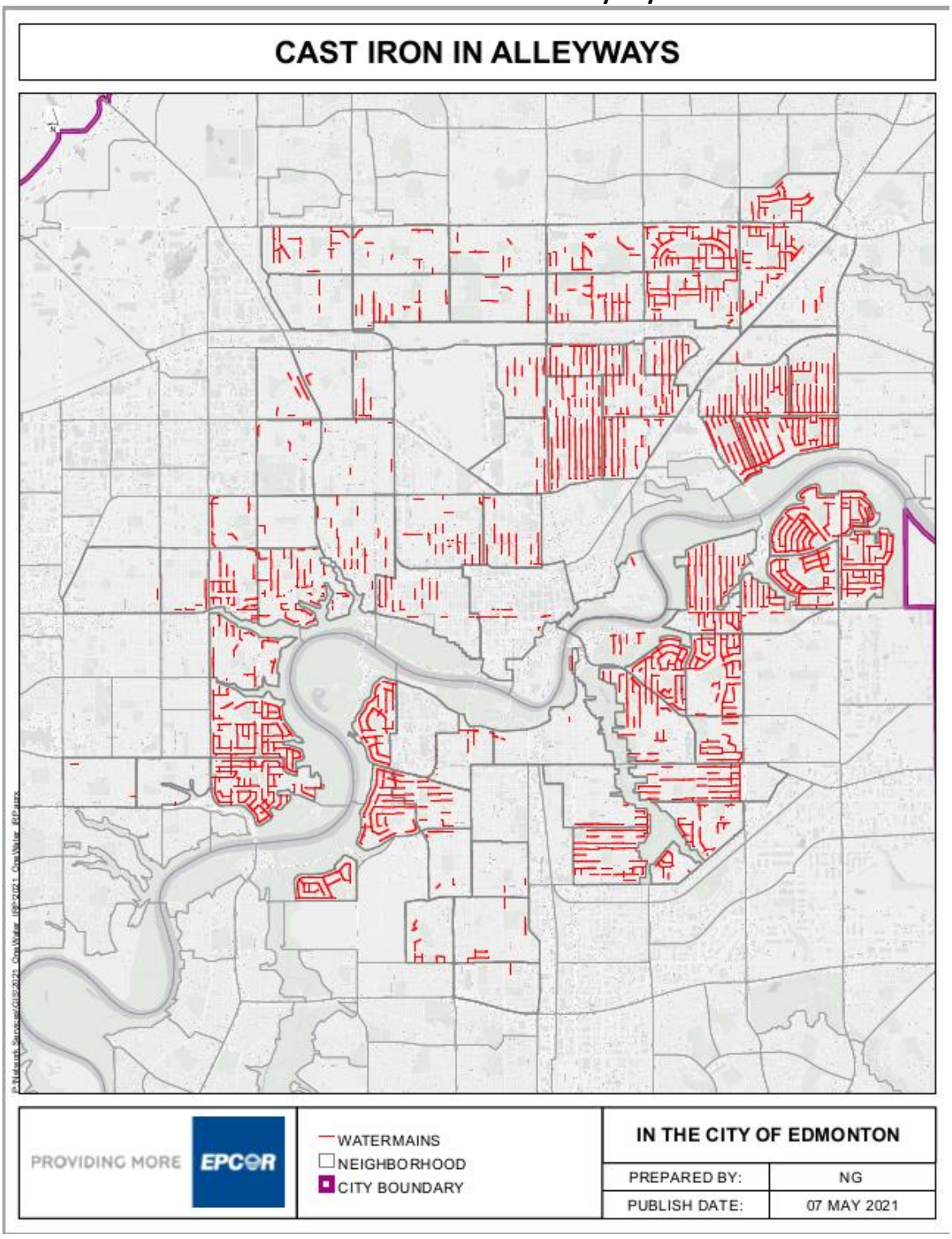


Figure COE-EWSI-20.d-2
Water Mains with Over 5 Breaks Since Installation

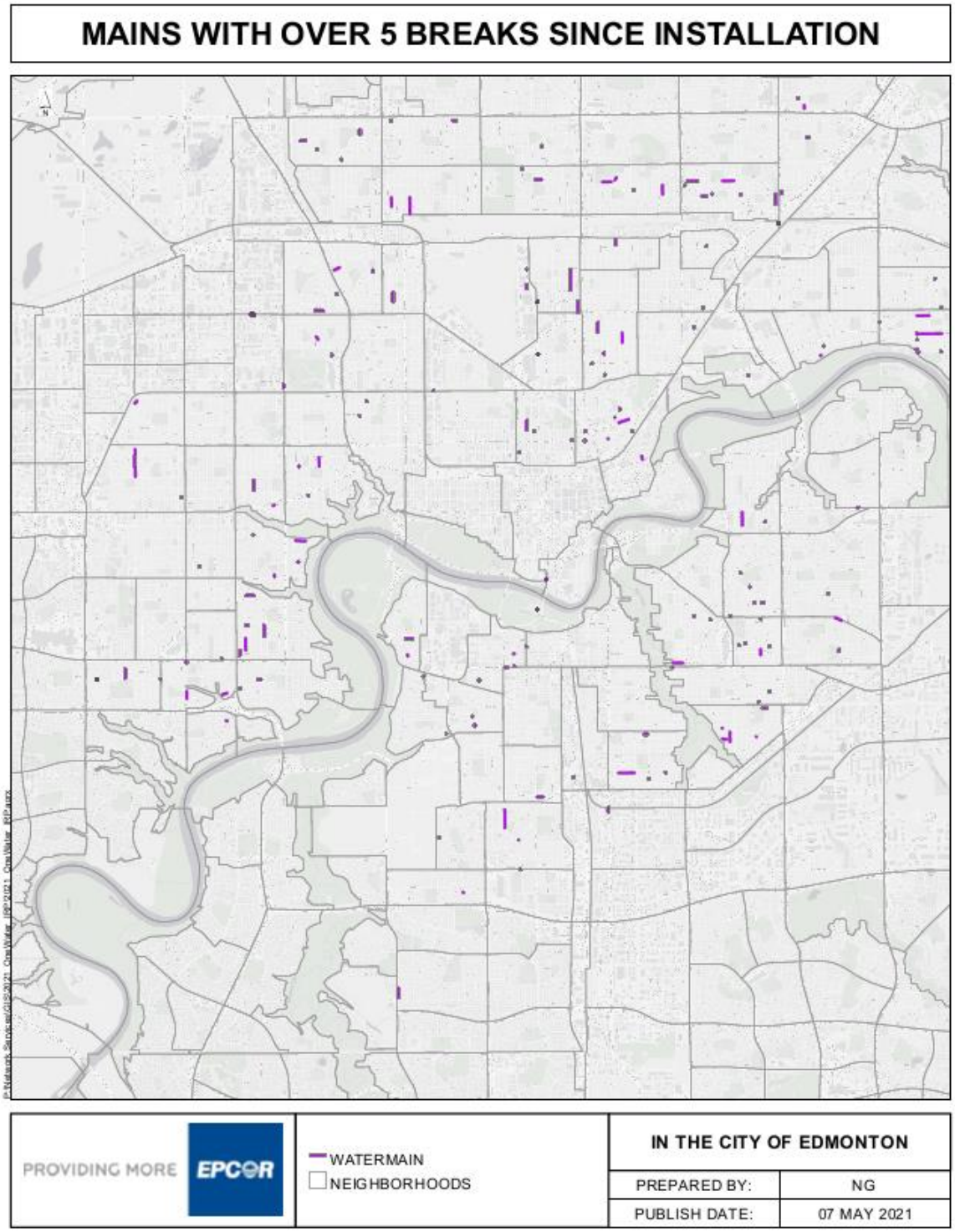
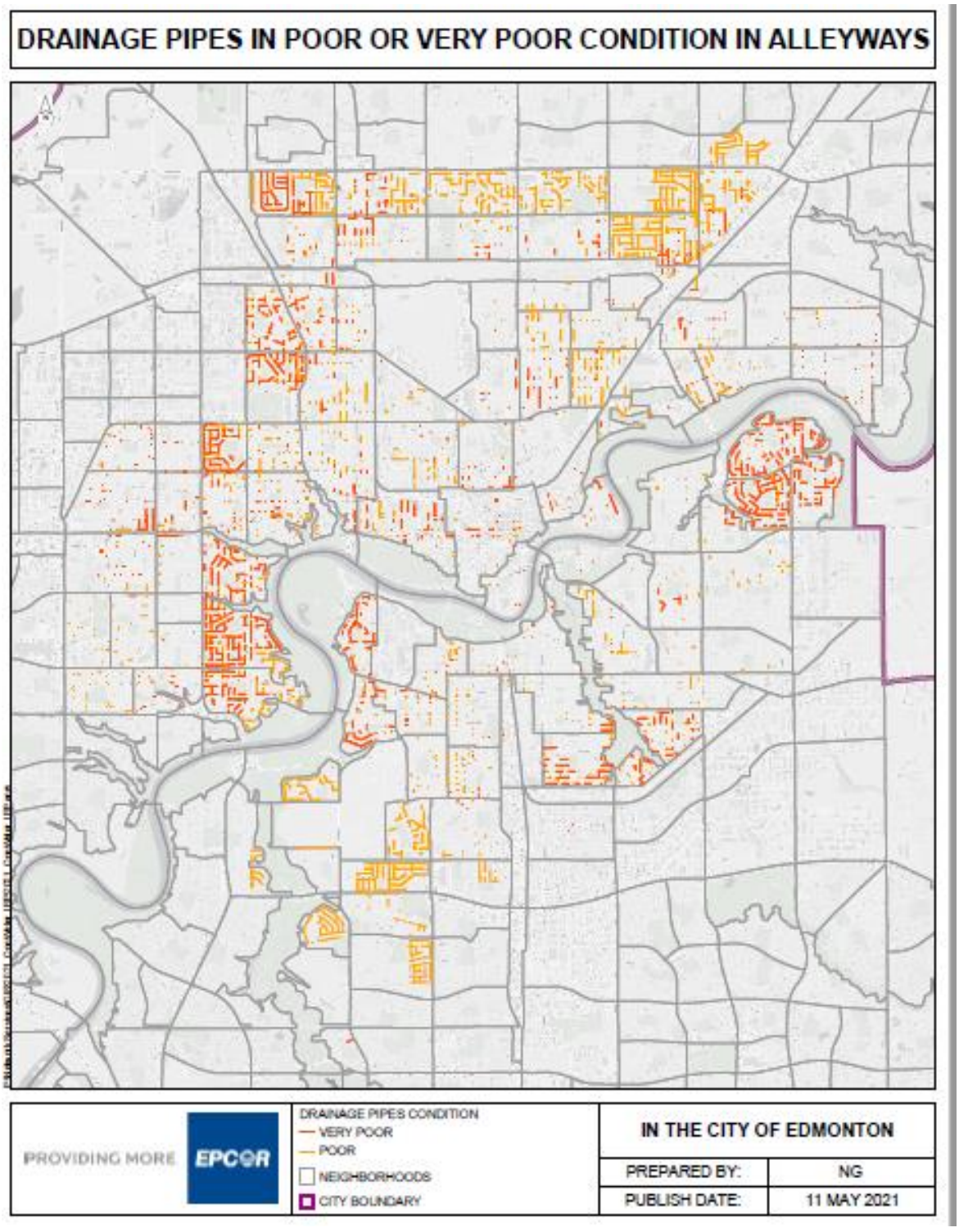


Figure COE-EWSI-20.d-3
Drainage Pipes in Alleyways in Poor/Very Poor Condition



Question: **COE-EWSI-20.e**

Topic: **City Initiated Capital Projects**

Reference: **Water, Wastewater Treatment and Drainage PBR Applications**

Preamble: *Deferral accounts are warranted in circumstances that are outside the control of the Company, material in dollar value, and are not reasonably forecasted.*

Given the PBR applications and capital forecasts are for a 3 to 5 year term, please explain whether the existing non-routine adjustments (i.e. revenue requirement impact of $500k or more) are adequate for addressing any unforeseen city-initiated capital projects, or whether another mechanism such as a 100% deferral account (i.e. no revenue requirement impact threshold), or an annual update to the customer rates (special rate adjustment) at the beginning of each year is warranted to incorporate the annual updates to the work plans.

EPCOR RESPONSE:

Changes to capital forecasts from factors outside of EWSI's control, whether they be from City renewal projects or from green field water projects where developers determine the pace and level of development, are difficult to predict. EWSI addresses this challenge through working with respective 3rd parties and defining their plans as accurately as possible. Forecasts are also based on both the historic levels of expenditure as well as all known planned developments. As noted above, EWSI's approach to managing these types of risk also continues to evolve in order to prioritize the most critical replacements across the entire system. EWSI believes that the current approach balances the need to ensure the continued renewal of assets across the entire system, alignment with City programs and a reasonable rate increase for ratepayers.

The implementation of either a deferral account, or changes to the non-routine adjustment criteria/financial threshold, would allow EWSI to mitigate any forecast risk from 3rd party derived variances by passing the variances on to ratepayers. In effect, the risk would be transferred from EWSI to ratepayer with the end result being an erosion of the stability and predictability of rates.

Under the current approach, EWSI – and not its customers - bears the forecast risk. This approach ensures that rates charged to customers remain stable and predictable throughout the PBR term and do not require annual rate adjustments to pass forecast variances to customers. As noted

in other IR's, rate stability and predictability are important principles of rate setting noted by the American Water Works Association and other rate setting guidelines (AWWA Principles of Water Rate Setting M1 Manual). This has been one of foundational principles that has underpinned the PBR framework that has been in place for EWSI's water operations since 2002 when the PBR was first established. EWSI considers that this PBR framework provides a reasonable and straightforward approach to provide EWSI's customers with stable and predictable rates.

EWSI would also argue that the incentives and objectives of Performance-Based Regulation (PBR) are philosophically inconsistent with cost of service/deferral account regulation. The essence of "performance-based regulation" is that utilities should be placed at risk and should reap the rewards or suffer the losses for superior or inferior performance, including that related to forecasting. Philosophically and practically, the use of deferral accounts blunts the very purpose and incentives for which PBR was created in the first place. The danger in departing from these overarching goals and selectively instituting deferral accounts is that parties to the regulatory process are then encouraged to "cherry pick" based on whether they believe that outcomes will benefit utilities or customers; and utilities will be encouraged to spend fewer resources on superior performance in areas where deferral accounts exist and focus instead on superior performance in areas where they are placed fully at risk. In short, the use of deferral accounts for all but the most extraordinary risks is philosophically antithetical to the goals and objectives of performance-based regulation.

In EWSI's view, adding deferral accounts to EWSI's PBR Structure for a single factor such as 3rd party variances would lead to the potential to reduce the return on equity. Such an outcome is undesirable and problematic because it is difficult to reliably estimate the individual risk factors reflected in the equity risk premium resulting from the single factor. EWSI's approach to determining the appropriate risk premium above the GCOC was not based on a quantification of the individual risk factors identified in Appendix D. As explained in Appendix D, discussions with the cost of capital experts revealed that quantifying the individual risk factors to derive a risk premium is problematic as there is no basis to adequately do so. Thus, a more reliable approach to estimating an appropriate risk premium is to consider the difference between a fair return for EWSI (supported by traditional cost of capital methods) and the AUC's GCOC. This was the approach used by Grant Thornton in its 2016 Report to derive EWSI's risk premium.