Utility Advisor Review

EPCOR Water Services

2025-2027 Performance Based Regulation Application

Wastewater Services

September 16, 2024

1. Purpose of this report

The purpose of this report is to provide advice to the City of Edmonton Utility Committee and Council regarding this subject application. The role of the Utility Advisor (UA) is to provide expertise on regulatory principles and to assist the Utility Committee and Council in their roles as regulator of EPCOR Water Services (EWS).

This report offers a high-level review of the EWS 2025-2027 Performance Based Regulation (PBR) application presented by EWS. The UA has attempted to avoid repetition with the role of the consultant hired by the City of Edmonton to review this application in detail.

2. Executive Summary

The UA provides the following advice to the Utility Committee and Council as the regulators of EWS and other EPCOR Utilities subject to City of Edmonton rate regulation:

- In future applications, EPCOR should specifically identify capital and operating, and maintenance efficiencies achieved in the prior PBR period, and how those efficiencies have been incorporated into their current application
- EPCOR should be more precise in describing the rates resulting from each PBR application. As described below, “stable and predictable” can be misleading.
- The quality of EPCOR’s Public Consultation could be improved by including customer representatives and utility regulatory experts in the formulation of the consultation.
- The Return on Equity (ROE) component of EWS’s revenue requirement forecast should be lowered. The expert witness used by EWS to provide return on equity recommendation routinely recommends an ROE that is on average 1.1% higher than the utility commissions before which he has testified are prepared to approve. In addition, the expert provided no evidence on why he chose 10.8% from the range of ROE calculated. Reducing the ROE to the minimum of the range calculated (10.5%) results in a generous award to EWS. Proposed adjustments to the 2025 and 2026 ROEs are detailed below.
- Additional clarity of the regulator’s expectations for justification of capital expenditures should be provided to EPCOR, along with a directive to meet those expectations in future rate applications.
- EPCOR should strive to make their applications as complete as possible, eliminating the need to flip back and forth among multiple documents.

3. Operation of Performance Based Regulation

Unlike traditional utility regulation which reviews and approves a utility's revenue requirements and rates on a year-by-year basis, PBR reviews and approves the utility's revenue requirements and rates on the first year of the PBR period and adjusts rates for the remaining term of the PBR period based on a formula. This approach significantly reduces the regulatory burden and provides incentives for the utility to find operational and investment opportunities to increase efficiency, and thereby increase the utility earnings (return on equity or ROE) over the course of the PBR period.

To ensure the utility does not "cut corners" in its operations, the utility is held accountable to several performance measures, which are present in this application.

Once the PBR period concludes, the utility files a subsequent PBR rate application. This subsequent application includes a process of rebasing the utility revenue requirement. This rebasing process is the same process which would occur if the utility was regulated in the traditional utility regulatory basis of annual rate applications. The difference is that the approval of the rebased revenue requirement forms the basis for the formulaic adjustments of revenue requirements and rates for the remaining term of the PBR.

In this application, EPCOR is requesting approval of its 2025 revenue requirements and the formulaic adjustments which will determine 2026 and 2027 Wastewater Services rates.

Under PBR, the utility is free to make operational and capital decisions which may be different from those included in the original application. Ideally such decisions should be taken with an eye to long term reductions in future revenue requirements of the utility. However, the regulator must be conscious that forecast expenditures during the PBR period may be deferred simply to increase the utility's earnings over the PBR. This issue was explored in detail with EWS in the UA's Information Request
UA-EWS-1.

EWS is correct in pointing out that the performance measures included in the PBR, and the frequency of reporting on PBR progress to the Utility Committee act to remove incentives to "game" the PBR.

EWS agrees that under a PBR framework, there is an incentive to identify and implement permanent and sustainable reductions to operating and maintenance expenditures. However, until requested to provide examples of such permanent and sustainable reductions in UA-EWS-1 (vi), such information was not readily available. The UA recommends that EPCOR provides detailed information on permanent and sustainable reductions in expenses in all future PBR applications.

One area of concern often raised with PBR is the opportunity for the applicant to make "windfall" rates of return. This concern is often addressed by placing a cap on how high the rate of return can go before sharing returns higher than the cap with customers. Such an approach is not

necessary since EPCOR has, in the past, agreed that such windfalls would be refunded to customers through the non-routine adjustment mechanism.

4. Stable and Predictable Rates

A key claim of this application is the resulting stable and predictable rates that it will deliver. EWS views this as a significant benefit of the PBR approach and provides customer consultation results to justify this approach. The UA will comment on the customer consultation in a subsequent section of this report.

To be precise, the rates which will result from this application are neither stable nor predictable.

Stable rates do not change over time. The rates proposed in this application do change on a yearly basis because of the formulaic adjustment mechanism. Using the adjective stable to describe these rates is confusing to most customers.

Predictable rates are not subject to unexpected changes. However, there is a mechanism in the Bylaw governing this application for non-routine adjustments. When a non-routine adjustment is approved, current and/or future rates will be impacted by such an adjustment. While non-routine adjustments are rare, using the adjective predictable to describe these rates does not impart the full story to most customers.

5. Public Consultation

In section 1.9 of the application, EPCOR stated that they performed a public engagement survey which resulted in strong community support for stability in billing. The UA explored this statement in Information Request UA-EWS-5.

To paraphrase the EPCOR response to UA-EWS-5, EPCOR continues to resist exploring any de-risking regulatory approaches which might cause the regulator to award a lower Return on Equity than that requested by EWS. As a result, their survey questions did not yield any evidence related to customer willingness to accept the effects of deferral accounts in return for lower rates. The UA is disappointed that EPCOR has not investigated this approach, particularly given the attention the regulator placed on this issue at EPCOR's last PBR application (which resulted in the imposition of a deferral account).

The UA has reviewed the ROE requested by EWS in a subsequent section of this report. The UA recommends that EPCOR provide more evidence in future PBR applications on the potential affects of de-risking their operations on ROE and customer preferences.

6. Return on Equity

The UA reviewed the work done by the EWS consultant on ROE. To summarize, the consultant recommended an ROE of 10.8%. For reference the current Alberta Utilities Commission approved generic ROE for utilities is 9.28% which is 1.52% lower than the rate included in the application. EWS has proposed phasing in the 10.8% rate of return at 9.00% for 2025, 9.90% for 2026 and 10.8% for 2027.

The UA takes no exception to the work done by the EWS consultant. It is a good example of the work that such consultants routinely do to provide a recommendation for a utility.

However, it is well known in the utility regulatory world that regulators rarely accept the recommendations of utility consultants on ROE. Most regulators view such evidence as being of limited probative value. The UA explored this issue in Information Request UA-EW-4.

The response to this IR confirms that the consultant has never provided ROE evidence on behalf of customers, and that EWS is unaware of qualified experts who have represented both utilities and customer groups.

Using the information provided with UA-EWS-4 iii), the UA compared this expert's recommended ROE with the ROE approved by the regulatory bodies to which his evidence was presented. The details of this review are contained in Appendix A to this report.

With one exception of the 98 examples provided by the consultant, the regulatory body approved a lower ROE than that recommended by the consultant. The average difference between the consultant's recommended ROE and the ROE approved by the regulatory body was 1.1%, which is significant.

If EWS's requested rate of return is approved, and the consultant subsequently updated the table provided in UA-EWS-4 iii), the City of Edmonton would show up as a significant outlier among regulatory bodies.

The UA notes that regulatory bodies across North America have concluded that ROE recommendations prepared by consultants who work solely for utilities and who use industry standard approaches to arrive at recommended ROEs result in recommended ROEs that are too high.

The UA accepts that in the absence of de-risking approaches to regulating a water utility that the risks faced by a water utility are higher than those faced by gas, electric and pipeline utilities regulated by the Alberta Utilities Commission. The EWS Consultant has taken this into account in formulating the recommendations.

The EWS Consultant concluded that the recommended ROE should fall within the range of 10.5%-12.2% and recommends an ROE for EWS of 10.8%. In the consultant's evidence, there is no evidence given for choosing 10.8%. Based on the analysis comparing the consultant's

recommendations to the regulatory decisions, a reduction to the consultant's recommendations is warranted. The UA's advice to the Utility Committee and Council would be a reduction to the recommended ROE with a suggestion to reduce the final 2027 ROE to 10.5%. With this reduction, the 2025 ROE would be 8.75% and the 2026 ROE would be 9.63%.

DR-EWS-3 raises the question of inclusion of a 0.5% flotation rate in the EWS ROE recommendation even though EWS does not issue any securities. EWS is correct in identifying that the Alberta Utilities Commission does not differentiate between utilities that issue securities and those who do not in setting the Generic ROE.

7. Capital Business Cases

In response to Information Requests UA-EWS-23-26, EWS provided additional explanations, provided material that was missed in the original application, and refiled a number of business cases.

The UA believes it would be helpful for future EPCOR PBR applications to clarify the Utility Committee's expectations around business cases.

Capital investments fall into three categories:

- New capital projects
- Sustaining capital projects
- Program spending.

New capital projects are required when significant additions are made to the utility system. Sustaining capital projects are required to maintain an existing asset at an acceptable level of utility performance. Program spending is repetitious capital spending which is most easily forecast using trends of previous spending.

The regulatory bar for new capital projects is quite high. An applicant is expected to research ALL feasible alternatives to achieve the required objective. Simply comparing a preferred alternative to the status quo (do nothing) approach is unacceptable. Unless there are specific legal or technical reasons to present a single solution, multiple solutions should be explored and disclosed to the regulator. This disclosure should contain the annual capital spend on each alternative, the incremental Operating and Maintenance expenses associated with each alternative, and any Operating and Maintenance savings associated with each alternative. These forecast expenses/savings should be presented in tabular and graphical formats, with the graphical format being the Net Present Value of Revenue Requirements of each alternative explored.

If an alternative with a higher Net Present Value than another alternative is recommended, the rationale for that decision must be presented.

Sustaining capital projects generally present few if any alternatives. If there are alternatives, they should be analyzed in a manner like new capital projects. Often the only alternatives are a recommended solution and the status quo. In this case, the business case for the recommended sustaining capital project should explain in detail why there are not alternatives.

Program spending is usually based on trending past expenditures. However, it is good regulatory practice to review each program during the rebasing discussion of each PBR. The questions that can be answered include:

- Is the program still necessary
- Should the program be speeded up of slowed down
- Are there any external actions (legal, regulatory, technological etc.) which require a wholesale review of the program.

8. Complete Application

Finally, a PBR application should be a standalone document. It is not helpful to the regulator to have reference made to progress reports over the course of time. All of the evidence necessary to ensure just, reasonable, and not unduly discriminatory rates should be presented in one place, the PBR application.

Appendix A

Comparison of EWS Return on Equity

Consultant Recommended

vs.

Approved Return on Equity

Attachment 1

Date	Case/Applicant	Subject	Final Recommended ROE (%)	Ordered ROE (%)	Settled Vs. Fully Litigated	Ordered ROE -Final Recommended ROE (%)
08/22	ENSTAR Natural Gas Company	Rate of Return	12.95	11.88	Litigated	-1.07
07/21	Cook Inlet Natural Gas Storage Alaska, LLC	Rate of Return	11.90	10.60	Partially Stipulated	-1.30
09/20	Alaska Power Company	Rate of Return	12.67	10.95	Settled	-1.72
09/20	Goat Lake Hydro, Inc. & BBL Hydro, Inc.	Rate of Return	12.66	10.95	Settled	-1.71
2//23	AltaLink, L.P., and EPCOR Distribution & Transmission, Inc.	Determination of Cost-of-Capital Parameters	10.30	9.00	Litigated	-1.30
12/22	Arizona Water Company – Eastern Group	Rate of Return	9.95; 9.60 (Rebuttal Company Requested)	9.56	Litigated	-0.39
08/22	EPCOR Water Arizona, Inc.	Rate of Return	9.75 (Company Requested); 9.375 (Rebuttal Company Requested)	9.49	Litigated	-0.26
06/20	EPCOR Water Arizona, Inc.	Rate of Return	9.94	8.93	Litigated	-1.01
12/19	Arizona Water Company – Western Group	Rate of Return	10.15	9.00	Litigated	-1.15
08/18	Arizona Water Company – Northern Group	Rate of Return	10.80	9.33	Litigated	-1.47
07/21	Southwestern Electric Power Company	Return on Equity	10.35	9.5	Fully Litigated	-0.85
04/18	Colorado Natural Gas Company	Rate of Return	11.90	10.30	Settled	-1.60
04/23	Artesian Water Company, Inc.	Rate of Return	10.40	9.50	Settled	-0.90
12/22	Delmarva Power & Light Co.	Return on Equity	10.50	9.6	Settled	-0.90
01/22	Delmarva Power & Light Co.	Return on Equity	10.30	9.60	Settled	-0.70
11/20	Delmarva Power & Light Company	Return on Equity	10.30	9.60	Partially Settled	-0.70
10/20	Delmarva Power & Light Company	Return on Equity	10.30	9.60	Settled	-0.70

04/22	Washington Gas Light Company	Rate of Return	10.40	9.65	Fully Litigated	-0.75
09/20	Washington Gas Light Company	Rate of Return	10.40	9.25	Settled	-1.15
10/20	LS Power Grid California, LLC	Rate of Return	10.82	9.80	Approved without hearing or settlement	-1.02
04/23	Peoples Gas System, Inc.	Rate of Return	11.00	10.15	Fully Litigated	-0.85
04/21	Tampa Electric Company	Return on Equity	10.75	9.95	Settled	-0.80
09/20	Peoples Gas System	Rate of Return	10.75	9.90	Settled	-0.85
06/20	Utilities, Inc. of Florida	Rate of Return	11.75	9.75	Litigated	-2.00
1-23	Ameren Illinois Company d/b/a Ameren Illinois	Return on Equity	10.5	8.72	Fully Litigated	-1.78
1-23	Ameren Illinois Company d/b/a Ameren Illinois	Return on Equity	10.7	9.44	Fully Litigated	-1.26
02/21	Utility Services of Illinois, Inc.	Rate of Return	10.80	9.52	Litigated	-1.28
07/20	Ameren Illinois Company d/b/a Ameren Illinois	Rate of Return	10.50	9.67	Litigated	-0.83
07/19	Atmos Energy Corporation	Rate of Return	9.90	9.10	Litigated	-0.80
2-23	Bluegrass Water Utility Operating Company	Return on Equity	11.65	10.1	Litigated	-1.55
6-22	Water Service Corporation of KY	Rate of Return	10.6	9.55	Litigated	-1.05
07/21	Atmos Energy Corporation	PRP Rider Rate	10.35	9.13	Litigated	-1.22

06/21	Atmos Energy Corporation	Rate of Return	10.35	9.23	Fully Litigated	-1.12
06/21	Duke Energy Kentucky, Inc.	Return on Equity	10.30	9.375	Settled	-0.93
10/20	Bluegrass Water Utility Operating Company	Return on Equity	11.80	9.90	Litigated	-1.90
05/21	Utilities, Inc. of Louisiana	Rate of Return	11.00	9.5	Settled	-1.50
12/20	Southwestern Electric Power Company	Return on Equity	10.35	9.5	Partially Settled	-0.85
5/23	Northern Utilities, Inc. d/b/a Unitil	Rate of Return	10.35	9.35	Settled	-1.00
09/21	The Maine Water Company	Rate of Return	10.25	9.70	Settled	-0.55
5/23	Washington Gas Light Company	Rate of Return	10.75	9.50	Litigated	-1.25
3/23	Potomac Edison Company	Rate of Return	10.6	9.5	Litigated	-1.10
08/20	Washington Gas Light Company	Rate of Return	10.45	9.70	Litigated	-0.75
08/18	Potomac Edison Company	Rate of Return	10.80	9.65	Litigated	-1.15
9-23	Fitchburg Gas & Electric Co. (Elec.)	Rate of Return	10.5	7.46	Litigated	-3.04
9-23	Fitchburg Gas & Electric Co. (Gas)	Rate of Return	10.75	7.46	Litigated	-3.29
12/19	Fitchburg Gas & Electric Co. (Elec.)	Rate of Return	10.50	9.70	Settled	-0.80
12/19	Fitchburg Gas & Electric Co. (Gas)	Rate of Return	10.50	9.70	Settled	-0.80
11/21	Northern States Power Company	Rate of Return	10.50	9.57	Settled	-0.93
10/21	Northern States Power Company	Return on Equity	10.20	9.25	Litigated	-0.95
1-23	Confluence Rivers Utility Operating Company, Inc.	Rate of Return	11.35	9.9	Litigated	-1.45
12/20	Spire Missouri, Inc.	Return on Equity	9.95	9.37	Litigated	-0.58
10/17	Indian Hills Utility Operating Company, Inc.	Rate of Return	15.20	12.00	Settled	-3.20

Attachment 1

9-23	Southwest Gas Corporation	Return on Equity	10	9.5	Settled	-0.50
09/21	Southwest Gas Corporation	Return on Equity	9.90	9.4	Stipulated	-0.50
08/20	Southwest Gas Corporation	Rate of Return	10.00	9.25 (Northern) 9.25 (Southern)	Litigated	-0.75
12/20	Aquarion Water Company of New Hampshire, Inc.	Rate of Return	10.25	9.10	Settled	-1.15
5-23	Middlesex Water Company	Rate of Return	10.45	9.6	Settled	-0.85
3-23	Jersey Central Power & Light Co.	Rate of Return	10.4	9.6	Settled	-0.80
2-23	Atlantic City Electric Company	Rate of Return	10.5	9.6	Settled	-0.90
05/21	Middlesex Water Company	Rate of Return	10.65	9.6	Stipulated	-1.05
12/20	Atlantic City Electric Company	Return on Equity	10.30	9.6	Stipulated	-0.70
02/20	Jersey Central Power & Light Co.	Rate of Return	10.15	9.60	Settled	-0.55
12/18	Aqua New Jersey, Inc.	Rate of Return	10.90	9.60	Settled	-1.30
11-22	Southwestern Public Service Co.	Return on Equity	10.75	9.5	Settled	-1.25
01/21	Southwestern Public Service Company	Return on Equity	10.50 (Rebuttal)	9.35	Settled	-1.15
7-22	Carolina Water Service, Inc.	Rate of Return	10.45	9.8	Litigated	-0.65
6-22	Aqua North Carolina, Inc.	Rate of Return	10.4	9.8	Litigated	-0.60
07/21	Carolina Water Service, Inc.	Rate of Return	10.50	9.4	Settled	-1.10
03/21	Piedmont Natural Gas Company	Return on Equity	10.25	9.6	Settled	-0.65
07/20	Duke Energy Carolinas, LLC	Rate of Return	10.50	9.60	Settled	-0.90
07/20	Duke Energy Progress, LLC	Rate of Return	10.50	9.60	Settled	-0.90
12/19	Aqua North Carolina, Inc.	Rate of Return	11.00	9.40	Settled	-1.60

06/19	Carolina Water Service, Inc.	Rate of Return	10.20	9.50	Litigated	-0.70
07/18	Aqua North Carolina, Inc.	Rate of Return	10.80	9.70	Litigated	-1.10
09/21	Northern States Power Company	Rate of Return	10.50	9.80	Settled	-0.70
11/20	Northern States Power Company	Rate of Return	10.20	9.5	Settled	-0.70
11-22	Aqua Ohio, Inc.	Rate of Return	10.5	9.5	Settled	-1.00
05/23	Columbia Water Company	Rate of Return	11.25	9.75	Litigated	-1.50
07/19	C&T Enterprises	Rate of Return	10.60	9.73	Litigated	-0.87
07/19	C&T Enterprises	Rate of Return	10.30	9.31	Litigated	-0.99
07/19	C&T Enterprises	Rate of Return	10.30	9.54	Litigated	-0.76
07/20	Piedmont Natural Gas Company	Return on Equity	10.30	9.80	Settled	-0.50
2-23	Southwestern Public Service Co.	Return on Equity	10.65	9.55	Settled	-1.10
2-23	CSWR – Texas Utility Operating Company, LLC	Rate of Return	12.15	9.53	Litigated	-2.62
05/22	Oncor Electric Delivery Co. LLC	Return on Equity	10.3	9.7	Litigated	-0.60
10/20	Southwestern Electric Power Company	Rate of Return	10.35	9.25	Litigated	-1.10
05/23	Atmos Pipeline – Texas, a Division of Atmos Energy Corporation	Rate of Return	13.5	11.45	Settled	-2.05
6-22	Washington Gas Light Company	Return on Equity	10.75	9.65	Settled	-1.10
04/21	Virginia Natural Gas, Inc.	Return on Equity	10.35	9.5	Litigated	-0.85
12/20	Massanutten Public Service Corp.	Return on Equity	9.25	9.25	Litigated	0.00
07/20	Aqua Virginia, Inc.	Rate of Return	11.20	9.30	Settled	-1.90
07/18	Washington Gas Light Company	Rate of Return	10.30	9.20	Litigated	-1.10
05/18	Atmos Energy Corporation	Rate of Return	10.60	9.20	Litigated	-1.40
08/17	Aqua Virginia, Inc.	Rate of Return	10.60	9.25	Settled	-1.35

08/14	Massanutten Public Service Corp.	Rate of Return	10.40	9.25	Settled	-1.15
5-23	Monongahela Power Company and The Potomac Edison Company	Return on Equity	10.85	9.8	Settled	-1.05
12/21	Monongahela Power Company and The Potomac Edison Company	Return on Equity	10.75	9.8	Settled	-0.95
11/21	Monongahela Power Company and The Potomac Edison Company	Return on Equity	10.75	9.8	Litigated	-0.95

Average Difference	-1.10
Maximum Difference	-3.29
Minimum Difference	0.00

Appendix B

EWS Responses to
Utility Advisor Information Requests

Request: **UA-EWS-1**

Topic: **Cost Forecast Process**

Reference: **Application Section 1.2**

Preamble: One of the goals of PBR is to incent the utility to lower operating and maintenance costs over the course of the PBR period, and then capture the resultant efficiencies in subsequent PBR periods. The Alberta Utilities Commission encourages such efficiency capture by scrutinizing the forecast methodology used for subsequent PBR applications. EPCOR states that a bottom-up approach is used to forecast the first year operating and maintenance costs (i.e. 2025), with the PBR forecast inflation applied to subsequent years (i.e. 2026 and 2027) in the application.

i) How does the bottom-up forecast methodology ensure efficiency capture from the previous PBR?

ii) How can the regulator ensure that efficiencies captured in the previous PBR (which increased the utility's rate of return) were not the result of deferrals of activity to a future PBR period.

iii) Did EPCOR explore a mechanistic forecast methodology such as suggested by the AUC in its recent Generic Cost of Capital proceeding? If not, why not?

iv) Does EPCOR agree that there is an incentive for a utility operating under PBR to forecast operating and maintenance expenditures during a PBR period, but to then defer the expenses to a future PBR period?

v) What safeguards does EPCOR employ to avoid the temptation to increase rate of return by deferring forecast operating and maintenance expenditures?

vi) Please identify any efficiencies gained during the previous PBR which are incorporated into this application.

EWS RESPONSE:

i) The bottom-up forecast methodology is informed by actual results experienced during the current as well as previous PBR terms. Any efficiencies realized over the course of the current and previous PBR terms are therefore reflected in the development of the forecasts utilized for future PBR terms. Permanent efficiencies and savings realized during the previous PBR term reduces future costs incurred by the utility and forms the new baseline when developing budgets and forecasts.

ii) EWS optimally prioritizes projects and programs during the PBR term to maintain service quality, to ensure uninterrupted provision of services and to meet emerging needs. As a result, at times, certain medium-low risk projects are shifted to facilitate the delivery of urgent and/or emerging high-risk requirements. This nimble approach affords EWS the flexibility to address critical risks as they emerge while making prudent and responsible investment decisions. These deviations are communicated to Edmonton City Council in the Annual PBR Progress Reports. In addition to the annual reporting requirements, EWS' PBR framework also includes a robust set of performance measures which ensures EWS meets various standards in the areas of Health & Safety, Environment, Service Quality, and Customer Service which ensures EWS meets its obligations to provide safe and reliable utility service.

iii) No, EWS did not explore a formulaic approach for setting ROE for this PBR as was done in the recent Generic Cost of Capital proceeding. The formulaic approach for establishing ROE for the AUC regulated utilities was initiated by the Commission and not the Applicants. In Decision 27084-D02-2023, the Commission based its decision for the formula by utilizing the equity risk premium (ERP) methodology. EWS is open to exploring a formulaic approach for its future applications, provided all parties can agree on the framework, parameters and methodology, which recognizes the fundamental differences in risks between AUC regulated electric and gas utilities versus water utilities such as EWS. If the question is asking whether EWS has explored a "mechanistic forecast methodology" for determining the operating and capital cost forecasts included in the PBR, refer to EWS' response to DL-EWS-01.

iv) Under a PBR framework, there is an incentive for a utility to identify and implement permanent and sustainable reductions to operating and maintenance expenditures. However, EWS' PBR framework incorporates mechanisms to ensure that planned work is completed within the PBR term and not deferred to a future period. These mechanisms include a robust PBR performance measures framework which includes penalties for not meeting approved performance standards, annual reporting requirements to Utility Committee detailing financial performance, and a traditional cost-of-service style rebasing approach which is informed by historical results. EWS' PBR forecasts are developed on a bottom-up basis based on the best available information regarding expected work activity and cost levels for the upcoming year. EWS does not follow the practice of forecasting costs that are not required during a PBR.

v) See response to iv) above. Furthermore, EWS performs an extensive and regular review of expenditures against its forecast as part of its internal monthly, quarterly and annual financial reporting, which are reviewed by EWS senior management. Deviations or variances on expenditures

forecasted in the PBR are also communicated to City Council as part of the annual Progress Reports. An additional safeguard included in EWS' PBR framework is the comprehensive performance measures component which requires annual reporting to EWS' regulator and can also result in financial penalties being assessed against EWS if performance measures are not met.

vi) Following are some of the operating efficiencies gained during the previous PBR which forms the new baseline for costs forecasted in this application. In addition, EWS points to certain capital savings and cost avoidances, which are expected to benefit ratepayers over multiple PBR terms. These efficiencies and savings include:

- Ongoing operating savings related to facility maintenance by consolidating nine service centres across Edmonton into a single service centre at Aurum, refer to attachment labelled UA-EWS-06-iii-Attachment 1.doc;

- Optimization of in-house resources to reduce the use of contracted tandem truck services and other cost savings achieved through a number of process improvement initiatives involving adopting common practices combining teams and optimizing delivery of services, refer to attachment labelled UA-EWS-06-iii-Attachment 1.doc;

- Reduction in meter reading costs as a result of the implementation of Advanced Metering Infrastructure (AMI); $1.4 million reduction in Wastewater Treatment and
  $0.4 million reduction in Wastewater Collection, see Section 6.2.3 and 14.2.3 of the PBR Application;

- Corporate cost reductions of $0.8 million reflected in the 2022-2024 PBR Application for Wastewater Treatment, which forms the new baseline for costs forecasted in this Application. Overall corporate costs are in line with the previous PBR, with the exception of Information Services. The higher corporate information services costs are related to initiatives such as Service Management, Service Desk Transition and the migration of the Corporate website to a new platform due to the existing technology reaching end of life;

- Overall capital savings related to flood mitigation through the implementation of the Stormwater Integrated Resource Planning (SIRP) program, which is expected to be delivered over a 20-30 year period. Net savings realized through this program in comparison to the City-Wide Flood Mitigation Plan (CWFM) previously proposed by the City of Edmonton is expected to be in the range of $0.6

billion to $2.9 billion. These savings will continue to be realized over multiple PBR terms as this program advances; and

- Future capital cost avoidance of $90 - $100 million related to large trunk lines in southwest Edmonton that are no longer required as part of the standards modernization work and the transition to an integrated resource planning approach. These were identified and avoided by taking a One Water approach and integrated resource planning principles to develop strategies for the sanitary and stormwater systems, including the Gold Bar Wastewater Treatment plant and the Clover Bar Biosolids Management Facility.

UA-EWS-2

Request: **UA-EWS-2**

Topic: **Capital Plan**

Reference: **Application Section 1.3**

i) Is one goal of the proposed capital plan to reduce the risk to the utility?

EWS RESPONSE:

i) EWS' PBR capital plan, much like that of any other regulated utility, is developed to address various requirements and includes a broad range of projects and programs for supporting ongoing operations to ensure reliability, safety, efficiency, customer growth, and regulatory compliance while also aligning with the objectives of the City Plan. In addition to ensuring that EWS continues to provide safe, reliable wastewater services to its customers, the capital plan is designed to prudently manage the various risks inherent to providing wastewater services, such as public health and environmental risks, while considering the impact on customer service levels and customer rates.

UA-EWS-3

Request: **UA-EWS-3**

Topic: **Standardized Overhead Capitalization Methodology**

Reference: Application Section 1.5

i) Please provide details on the need to change this methodology, and what the changes are.

EWS RESPONSE:

i) Please see the response provided in MV-EWS-4

Request: **UA-EWS-4**

Topic: **Proposed Cost of Capital**

Reference: **Application Section 1.6**

i) Has the external cost of capital expert ever provided evidence on cost of capital for customers during regulatory proceedings?

ii) Did EPCOR seek out an external cost of capital expert with a history of providing evidence to utilities and to customer groups?

iii) Please provide a comparison over the last five years of your cost of capital expert's recommended fair return versus the final allowed return at all proceedings in which the expert participated.

EWS RESPONSE:

i) No. Mr. D'Ascendis has testified as an expert witness on over 150 occasions regarding rate of return, cost of service, rate design, and valuation before more than 40 regulatory jurisdictions in the United States and Canada, an American Arbitration Association panel, and the Superior Court of Rhode Island.

ii) It is EWS' understanding that there are a limited number of qualified cost of capital experts available across North America and EWS is unaware of qualified experts who represent both the utilities and the customer groups. EWS engaged a cost of capital expert based on their qualifications, skills and expertise in providing expert testimony on various complex financial and regulatory matters including the return on common equity (ROE). As noted in response to i) above, Mr. D'Ascendis has testified as an expert on over 150 occasions regarding rate of return and other regulatory matters. In addition, Mr. D'Ascendis holds the professional designations of Certified Rate of Return Analyst (CRRA) and Certified Valuation Analyst (CVA). Mr. D'Ascendis also holds a B.A. in economic history from the University of Pennsylvania and an M.B.A. with concentrations in finance and international business from Rutgers University.

iii) See UA-EWS-4-iii Attachment 1.xlsx.

Request: **UA-EWS-5**

Topic: **Stakeholder Consultation**

Reference: **Application Section 1.9**

Preamble: EPCOR performed a public engagement survey which resulted in strong community support for stability in billing.

i) Please provide the specific questions and the responses from the survey which resulted in strong community support for stability in billing.

ii) Did the survey seek to understand community reaction to trade-offs between stability in billing and lower rates which might result from decreased risk arising from the use of deferral accounts?

iii) Were the survey questions developed by EPCOR, or was an expert consultant in the design of survey questions utilized?

EWS RESPONSE:

i) Following are the survey questions and a summary of responses for the questions pertaining to rate stability. Note that in the second and third questions "stormwater" should have been replaced with "sanitary".

1. How do you think rates for wastewater and drainage services have changed over the past two years?

- Commercial customers (59%) are more likely than residents (43%) to opine that rates have increased by more than inflation

2. The cost of managing stormwater can change from month to month, based on things like weather and the amount of rainfall. On a scale, how important is it to you that EPCOR tries to keep bills stable and consistent every month?

- The majority of Edmontonians place a high level of importance on keeping bills "stable and consistent every month" (62%) ○ Commercial and multi-residential operators place a high level of importance on consistent and predictable billing (71%)

3. Because the cost to manage stormwater can change based on weather, EPCOR could potentially see billing surpluses or deficits in a given season. How would you prefer EPCOR manage this in terms of your bill? Please choose your first choice by putting a 1 beside your most preferred answer, and second choice by putting a 2 beside your second most preferred answer:

- o Hold and manage seasonal surpluses to offset seasonal deficits to keep bills stable and predictable over time. (85% of residential customers and 93% of commercial customers selected this as their first or second choice)
- o Return any surplus back to customers in a given month or season, even if it means there may be a large increase in bills the following month or season. (61% of residential customers and 61% of commercial customers selected this as their first or second choice)
- o Monitor seasonal surplus/deficits over a two year period, creating the potential for a larger one-time bill or credit. (54% of residential customers and 46% of commercial customers selected this as their first or second choice)

ii) No, EWS did not seek to understand community reaction to trade-offs between stability in billing and lower rates resulting from decrease in return on equity related to the use of deferral accounts. In its questions on rate stability, EWS did not suggest that there would be a potential reduction in return on equity as a result of adopting deferral accounts because EWS is not aware of any accepted methodologies that could be used to make such an adjustment. EWS' cost of capital expert has applied widely used and accepted approaches for assessing the return on equity. These approaches rely on US and Canadian proxy groups from which to establish a recommended return for EWS and they do not incorporate any mechanisms to adjust the recommended ROE for specific elements of the regulatory framework such as deferral accounts. This is consistent with EWS' understanding of how return on equity is determined based on its conversations with other cost of capital experts. Refer also to EWS' response to CC-EWS-34.

iii) EPCOR collaborated with its research company of record, Stone-Olafson, on the development of all survey tools, questions and reports related to this PBR application.

Stone-Olafson is an expert in the design of survey questions.

Request: **UA-EWS-6**

Topic: **Creation of the Integrated Management Structure**

Reference: **Application Section 2.0, Paragraph 45**

Preamble: The application states that the applicant undertook relocation of various resources, and that consolidating these resources is expected to positively impact service delivery while promoting efficient resource allocation and improved operational performance.

i) Why was this relocation done with only an "expectation" of positive impact?

ii) Was a business case performed to analyze whether the expected benefits out-weighed the cost of the changes?

iii) Please provide any internal justification relied on to make these changes, such as a business case.

EWS RESPONSE:

i) This relocation was undertaken based on a business case analysis which concluded that co-locating the Wastewater Collection and Water Services distribution and transmission workforces and supporting services into a single service centre (at the Aurum site) would be beneficial relative to the status quo alternative of maintaining nine service centres in different locations within Edmonton.

The original business case supporting the Real Estate Consolidation Project was provided as Appendix F-5 to EWS' 2022-2024/2026 PBR Applications. This business case supported the decision to purchase the land at the Aurum site in 2021. Following the land purchase and completion of detailed design for the redevelopment, EWS updated this business case to reflect revised actual and forecasts costs including higher redevelopment costs based on detailed design and higher forecast operational efficiencies. Based on the updated analysis, EWS concluded that even with increased renovation costs, the relocation to Aurum remains the best alternative to realize synergies and to support **UA-EWS-6**

growth in the business. Based on this analysis, EWS decided to continue with the Real Estate Consolidation Project at Aurum.

ii) Yes. Refer to EWS' response to UA-EWSI-06-iii.

iii) The updated analysis referred to in EWS' response to UA-EWSI-06-i is summarized in UAEWS-06-iii-Attachment 1.

Request: **UA-EWS-7**

Topic: **System Overview**

Reference: **Application Section 3.0**

Preamble: The involvement of EWS and ARROW Utilities in sanitary wastewater collection and treatment requires careful planning processes.

i) Please describe the planning processes used by EWS and ARROW

ii) Is the sanitary wastewater collection and treatment infrastructure planned and developed on a one-system basis without regard to ownership?

EWS RESPONSE:

i) The Edmonton Regional Wastewater Services oversight is governed by a joint ARROW and EWS Steering Committee, supported by three working groups; Biosolids, Operations and Planning and Regulatory.

Steering Committee - Manages the implementation and performance of the following three agreements between ARROW and EWS:

1. Biosolids Agreement - Management of biosolids in the Edmonton Capital Region;
2. Regional Wastewater Exchange Agreement - Exchange of transmission and treatment services for certain areas for ARROW, which are within the City of Edmonton boundary and for EWS areas outside of the City boundary, which are serviced by ARROW; and
3. Southeast Edmonton Regional Trunk Sewer (SERTS) – ARROW owns and operates this regional trunk sewer line and a portion is located within the boundary of the City of Edmonton.

This committee discusses regional wastewater services issues and improvement opportunities, collaborates on communication material for City of Edmonton Utility Committee and the ARROW Board, and reviews, recommend amendments and initiates negotiations for renewal of agreements. The Steering Committee meetings occur multiple times per year.

Biosolids Working Group - Operational oversight of the Biosolids Agreement to manage digested sludge, supernatant quality and flow data between the ARROW and EWS Gold Bar wastewater treatment plants (WWTPs) to the Clover Bar Biosolids Resource Recovery Facility and biosolids program updates. The Biosolids Working Group meets monthly.

Operations and Planning Working Group - Collaborates on plant and collection system challenges and operational data collection for reporting of wastewater exchange and wet weather flows. This working group also discusses coordination of capital improvements, connection requests, emergency work and short and long-term planning strategies. This working group includes planning coordination of the North Edmonton Sanitary Trunk (NEST) operation, cleaning and commissioning of new trunk sections that provide sanitary flows from the city to the ARROW WWTP. The Operations and Planning Working Group meets quarterly or additional meetings on specific topics are initiated on as needed basis.

Regulatory Working Group - Collaborates on Edmonton and regional Alberta Environment and Protected Areas (AEPA) wastewater system Approvals and Total Loading Plan, as well as, proposed regulatory changes and impacts. This group monitors and reviews Water Management Framework Programs and reporting required by AEPA such as WWTP effluent, effluent characterization and river sampling programs. In addition, the Integrated Watershed Management Strategy, which summarizes loading to the North Saskatchewan River (NSR) and relative impact, is reviewed. The Regulatory Working Group meets semi-annually or additional meetings are initiated on as needed basis.

ii) ARROW and EWS work together to ensure reliable wastewater services to the Edmonton region to meet operational regulatory requirements and ensure environmental protection of the NSR. There are joint planning efforts to maximize operation of existing wastewater infrastructure and upgrades to address growth and industry but planning is also managed independently to focus on specific wastewater treatment plant processes unique to the individual plant and its service area.

Request: **UA-EWS-8**

Topic: **System Overview**

Reference: **Application Section 3.1**

Preamble: The involvement of EWS and ARROW Utilities in wastewater collection and treatment requires careful planning processes.

i) Please describe the planning processes used by EWS and ARROW

i) Is the sanitary wastewater collection and treatment infrastructure planned and developed on a one-system basis without regard to ownership?

EWS RESPONSE: See response to UA-EWS-7

Request: **UA-EWS-9**

Topic: **Accounting Policies**

Reference: **Application Section 4.1**

i) Please confirm that capitalizing cloud computing costs instead of treating them as operating costs will increase EWS earnings over the lifetime of the capitalized assets.

EWS RESPONSE:

i) Similar to other capital costs, EWS would earn a return on capitalized cloud computing costs. Capitalizing cloud costs spreads the costs over the period during which the benefits are expected to be received from these investments. In addition, treating these costs as operating costs would result in volatility, as well as a higher than necessary increase to the revenue requirement and rates paid by ratepayers, as treatment as operating costs would result in an accelerated recovery of these costs (operating costs are reflected in rates when the expenditure is incurred, instead of being recovered over an extended period of time which is the case for capital expenditures).

Request: **UA-EWS-10**

Topic: **Staff Costs and Employee Benefits**

Reference: **Application Section 4.2.2.1**

i) Please confirm that incentive payments are forecast to be paid out in the application, and that the payments, if not awarded, will increase EWS returns.

EWS RESPONSE:

i) Confirmed. Actual costs that are lower than forecast in the application will result in higher earnings. Conversely, actual costs that are higher than forecast in the application will result in lower earnings.

Request: **UA-EWS-11**

Topic: **PBR Capital Plan Development Process**

Reference: **Application Section 4.2.3.1 Paragraph 110**

i) In the absence of formal business cases for Wastewater Treatment projects under $5.0 million, and Wastewater Collection projects under $10.0 million, how are such projects justified?

EWS RESPONSE:

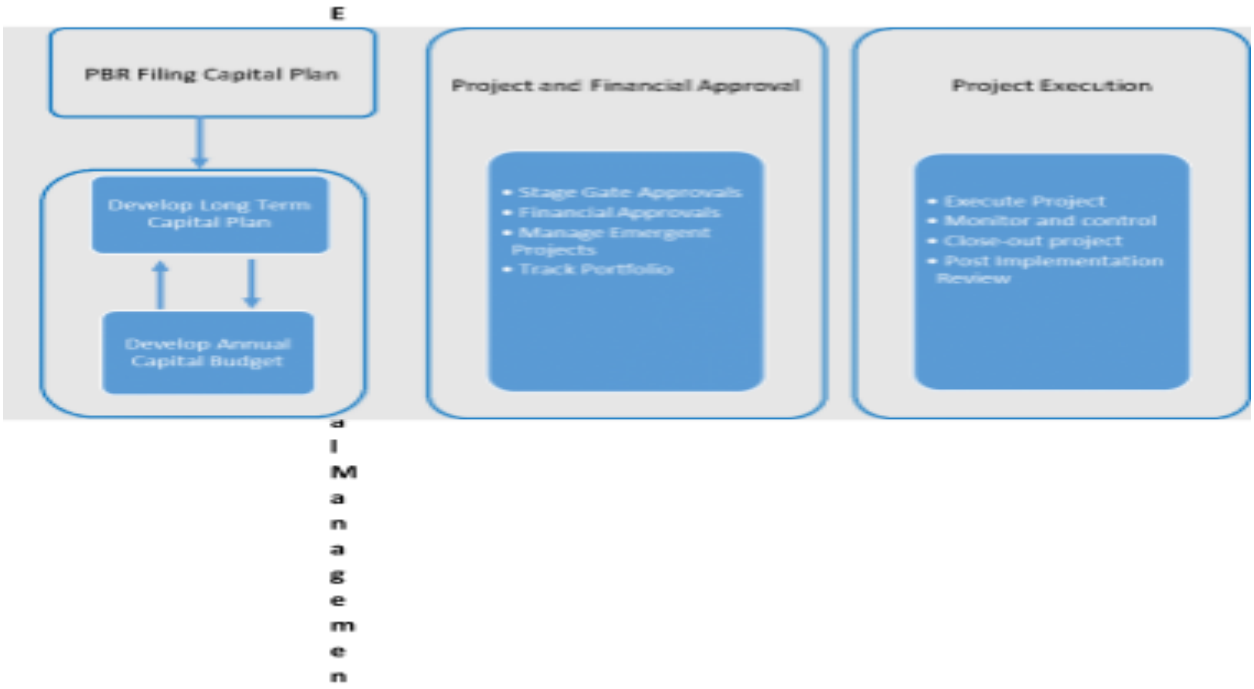
i) All capital projects, regardless of size, follow EPCOR's internal capital plan development process as described in Figure UA-EWS-11-i including documenting the project justification and alternatives considered. This is also explained in paragraph 109 of the application. The $5 million and $10 million thresholds, established for Wastewater Treatment and Wastewater Collections projects/programs respectively, were set as part of EWS' minimum regulatory filing requirements to help focus the regulatory review on capital projects and programs that had a material financial impact on rates.

As described in EWS' 2022-2024 PBR Applications, an organizational project management improvement initiative with representatives of each EPCOR business unit was initiated to further align, develop and share project management best practices across the organization. One of the results of this initiative was the design and implementation of a standardized Capital Delivery Model. Adjustments to EWS mapped processes were made to align with the developed Model. At a high level, the Capital Delivery Model is a standardized yet flexible model that prescribes how Capital Projects and Programs are delivered at EPCOR. Aligned with industry best practices, it separates projects and programs into four major phases: initiate, plan, execute and closeout, that are further broken down into stages, such as Investment Justification, Detailed Design or Construction, depending on a project scope complexity and requirements. Accordingly, through a project lifecycle, projects will move through Stage Gates by completing defined requirements to demonstrate operational readiness before moving to the next stage. The model was developed with scalability in mind to ensure that the appropriate level of governance is applied to different project types. Therefore, although minimum stage gate requirements have been established, not all projects and programs will need to complete the same requirements at each stage gate. Through this initiative, tools and templates were improved to ensure consistency and efficiency in how projects are planned, reviewed and executed. For example, once a standardized structure is established to manage standard project documents, forms and workflows can then be used to automate the creation or dissemination of information. Similarly, by using standardized Work and Cost Breakdown Structures, performance data can then be compared and

analyzed to identify additional efficiency opportunities. Other tools have also aligned and improved to support scheduling, estimating, cost control and reporting. Together, the objective of these initiatives are to improve clarity, efficiency and risk reduction for the delivery of capital projects, while also improving predictability, resources management and reducing project costs.

EWS' capital management processes provide the governance and gating (approval) stages through which project execution occurs. These processes also include the annual budgeting of capital projects. The capital management processes are well-established and are illustrated in Figure UA-EWS-11-i. Capital projects are subject to review and approval by the Senior Vice President of EPCOR Water Services, the Financial Review Council of EPCOR and EPCOR Board of Directors.

Figure UA-EWS-11-i



- **Long Term Plan –** On an annual basis, EWS develops high level forecasts of capital expenditures to support EUI's corporate long-term plan development. This exercise also provides the starting point for capital expenditure estimates for the next PBR renewal application.
- **PBR Plan** – EWS prepares a capital plan for the PBR term, as detailed above. This plan is ultimately approved by EWS' regulator, Edmonton City Council, and, as a result, it establishes the baseline against which all capital activities are determined and measured.
- **Annual Capital Budget -–** The PBR capital plan provides the starting point for the annual capital budget. An extensive process is undertaken where all projects identified for that year are reviewed,

project justifications updated, and each project is vetted and prioritized by the Capital Steering Committee before inclusion in the annual budget. Prior to commencing any project identified in the PBR plan, the cost estimate is updated using the most current understanding of the scope and work breakdown and using the most current labour and material costs. The project is also assessed to ensure it remains viable from both technical and priority perspectives. Once approved by the EWS executive, the annual capital budget is then reviewed by EUI executive (Financial Review Council). Once approved by EUI executive, the annual budget is submitted for approval to EUI's Board of Directors. Projects that were not identified in the PBR plan (referred to as unbudgeted projects) are occasionally required due to unforeseen circumstances or occurrences such as equipment failures, emergencies, safety hazards or process changes. These projects are identified through the annual capital budget process where the need for the project is evaluated and considered for approval. Unbudgeted projects over $5 million require additional review and approval at EUI executive level.

- **Project and Financial Approvals** – In this process, the projects are approved through the stage gate process. The project justifications prepared during the annual budget are updated for any new information and a formal request is sent to approvers to review for financial approval to execute the projects. The approvers include members of the Capital Steering Committee.
- **Project Execution and Monitoring –** At this stage, it is the project manager's responsibility to execute the project. Monitoring, control, quality and safety are critical aspects of this phase. Oversight of the execution is maintained by both the Project Management Office and the Capital Steering Committee. The Capital Steering Committee meets monthly to review the status of projects, including review of budget variances. The Controller, EWS Finance, is responsible for ensuring appropriate internal controls around capital financial accounting and reporting. Project close-out includes formal approval from asset owners and operations that the assets can be turned over to Operations to operate and maintain. Post Implementation Reviews are undertaken for projects over $5 million where the variance between the final completion costs and the originally approved budget is more than 20%. At a minimum, the documentation will include:

- Actual Capital Expenditures versus the original budget
- Preliminary scope versus final scope
- Timing of completion
- Actual benefits realized versus expected
- Process improvements/corrective action identified during the project that may be incorporated in future capital projects (i.e., learnings from the project)

UA-EWS-12

Request: **UA-EWS-12**

Topic: **Rate of Return on Equity**

Reference: **Application Section 4.3.1**

Preamble: EWS justifies a rate of return higher than the AUC Generic Cost of Capital partly on the absence of de-risking tools within AUC regulated utilities PBR structures. EWS further states that EWS has no deferral accounts for any of its expenses, unlike AUC regulated utilities1. EWS assumes in its application that the consumption deferral account is removed for the 2025-2027 PBR term.

i) Was the rate of return consultant instructed to prepare his evidence on the assumption that the consumption deferral account would be removed?

ii) If the answer to the above question is yes, why was the sensitivity of rate of return to the existence of the deferral account not investigated?

EWS RESPONSE:

i) No. Mr. D'Ascendis was not given specific instructions regarding the consumption deferral account. EWS' cost of capital expert has applied widely used and accepted approaches for assessing the return on equity. These approaches rely on US and Canadian proxy groups from which to establish a recommended return for EWS and they do not incorporate any mechanisms to adjust the recommended ROE for specific elements of the regulatory framework such as deferral accounts. Furthermore, by relying on a "traditional approach", an adjustment for deferral accounts is not warranted as there would be no relative risk since mechanisms, similar to the deferral account, would be reflected in regulatory framework of the proxy group companies.

ii) Not applicable, see response to i) above.

UA-EWS-13

Request: **UA-EWS-13**

Topic: **Inter-Affiliate Transactions Summary**

Reference: **Application Section 4.7**

Preamble: EWS states that every year it undertakes a rigorous cost allocation process to

ensure that charges for Corporate Shared Services are reasonable.

i) Does this process focus solely on the appropriateness of the allocation process?

ii) How does EWS ensure that the magnitude of costs being allocated are reasonable compared to providing the services itself, or contracting out the services?

iii) Is EWS required to source these services from EUI, or allowed to refuse the services if they are not priced competitively?

EWS RESPONSE:

i) No, this process also reviews the magnitude and appropriateness of the overall corporate costs and their allocated portions to each EPCOR business unit.

ii) EPCOR or EUI's cost allocation process is designed to ensure that the allocation of Corporate Shared Services costs among business units is appropriate, fair and reasonable, cost-effective, predictable, reflects the benefit received by function (i.e., cost causation), and is consistent with the transfer pricing principles in EPCOR's Inter-Affiliate Code of Conduct. The allocation methodology and the magnitude of corporate costs is also reviewed by various other regulators including the AUC. Corporate Services charges were carefully reviewed by EUI and EWS senior management to confirm that the process set out above was properly applied, and that the resulting charges were reasonable.

iii) Corporate services are comprised of activities that are centrally managed within the EPCOR group due to their nature and/or for the purpose of realizing economies of scale and greater effectiveness. EWS senior management carefully reviews the allocated costs to EWS to ensure they're reasonable. In this Application, allocated corporate costs remain at the same level as approved in the 2022-2024 Application, with the exception **UA-EWS-13**

Information Services cost increases related to initiatives such as the migration of the Corporate website to a new platform, Service Desk Transition, etc.

Request: **UA-EWS-14**

Topic: **Insurance**

i) Please describe the EWS approach to ensuring adequate insurance coverage is in place ii) What is the forecast premium cost for 2025 for all insurance policies?

iii) Does EWS self-insure any aspects of its business through a reserve account to cover noninsured losses or deductibles? How is such a reserve account funded?

EWS RESPONSE:

i) The Risk Management function within EPCOR Utilities Inc. ("EUI" or "EPCOR") performs periodic reviews of its insurable exposures to determine whether insurance policy limits are sufficient to cover reasonably-expected maximum foreseeable losses. External advisors and actuaries are typically engaged to perform these reviews, which may include benchmarking studies against similar industries and/or actuarial studies of maximum foreseeable losses or major loss exposures. EPCOR's Risk Management function also completes periodic insurance reviews to ensure that EPCOR's current and emerging risks are reasonably insured with reputable insurers at the lowest total cost of risk. EPCOR insurance coverage and limits are also informed by EPCOR's ongoing Enterprise Risk Management program.

ii) The 2025 forecast insurance cost for Wastewater Treatment is $2.1 million and for Wastewater Collection is $1.7 million.

iii) EWS does not currently self-insure any aspects of its business through a reserve account.

UA-EWS-15

Request: **UA-EWS-15**

Topic: **Capital Expenditures 2022-2024 PBR Term**

Reference: **Application Section 15.1**

Preamble: Some 2022-2024 Capital Expenditures were not forecast in the previous PBR application, but are now being requested to be included in opening rate base. These amounts have not been scrutinized by the regulator in a rate application.

i) Service Connections were not previously forecast, but expenditures of $6.9 million are identified. Please provide the same rationale for these expenditures as would have been provided in the previous PBR if these amounts had been identified in the previous PBR.

ii) Real Estate Projects were not previously forecast, but expenditures of $25.2 million are identified. Please provide the same rationale for these expenditures as would have been provided in the previous PBR if these amounts had been identified in the previous PBR.

EWS RESPONSE:

i) In the 2022-2024/2026 PBR, Service Connections were forecast to be fully contributed by the customer requesting the service connection. This assumption was based on EWS' update to service connection fees (Schedule I, Part II of the Drainage Services and Wastewater Treatment Bylaw 19627) from the previous fee schedule to a cost of service basis. This change was proposed because the previous fee schedule did not allow EWS to fully recover its costs because it was not updated since 2015. The previous fee schedule remained unchanged from when Drainage Operations was transferred to EWS.

The number of service line requests has increased with the increase in infill development numbers, as the City Plan has been implemented with reduced barriers to develop. The average service connections from 2014-2016 was 248 service connections. This increased to 298 service connections between 2018-2020. This increase in service connections coupled with the out-of-date standard fixed fee schedule resulted in EWS under recovering costs associated with service connections.

EWS worked with developers to change the fee schedule so that, going forward, actual costs would be paid. This change took longer than expected and the fee schedule was updated mid-2023. As a result, EWS is forecasting to be under recovered by $6.9 million in the 2022-2024 test period. Service Connections are forecast to be fully recovered in the 2025-2027 test period and are in Financial Schedule 15-5-1 row 9.

ii) As highlighted in table 15.1-1 and mentioned in paragraph 407 of the application, the capital expenditure for the Real Estate Consolidation Project was not completed in 2021 as expected. The document labelled UA-EWS-06-iii-Attachment 1 describes the cost increases and the re-justification of the project. Overall, capital expenditure increased by $25.1 million to a total capital expenditure of $80.2 million compared to the approved capital expenditure of $55.1 million. However, additional annual savings in operating costs have made up the difference to ensure no impact to the customer as a result of the capital expenditure increases as described in the UA-EWS-06-iii-Attachment 1.

The Aurum Facility was completed and placed into service at the end of 2022. Overall, the Aurum Facility ended with a $112.4 million NPV total revenue requirement compared to $110.2 million. The main reason for the higher NPV revenue requirement is due to the assumptions used from an external consultant in its cost estimate to renovate were significantly lower than actual as explained in UA-EWS-06-iii-Attachment 1.

The original approved total capital expenditure of $55.1 million was not fully spent prior to 2022 and partially carried forward into the 2022-2024 period. The $25.2 million capital expenditure represents Wastewater Collection's portion of the carried forward approved amount and its portion of the capital increase noted above.

UA-EWS-16

Request: **UA-EWS-16**

Topic: **Drainage Neighbourhood Renewal Program**

Reference: **Application Section 15.1 Paragraph 407**

Preamble: The justification for spending $23.7 million less than forecast during the 2022-2024 PBR term is that EWS targets proactive renewals based on risk.

i) Why wasn't this proactive renewals based on risk approach not included in the forecast for 2022-2024?

ii) Is this proactive renewals base on risk approach included in this application?

EWS RESPONSE:

i) The variance noted is for the Local Sewer Rehabilitation program. Starting in the 20222024 PBR period, this program was no longer focused solely on neighbourhood renewal work. The higher cost is reflective of more local sewer pipe throughout the City requiring rehabilitation based on inspection results versus what was known at the time of the original filing. Prior to this change, costs associated with rehabilitation of these higher risk pipes were not included in the Drainage Neighbourhood renewal program and EWS made an estimate of the amount of pipe that would require full rehabilitation and ones that would require lower cost relining. Based on the inspection results, the required dollar amounts shifted to require full rehabilitation as opposed to lower cost relining.

ii) For additional background, the shift to a risk-based approach for the Drainage Neighbourhood renewal programs occurred in the previous PBR Application (2022 to 2024). The program was expanded to include renewal of higher risk local sewer mains in locations without planned neighbourhood renewal and to have the coordinated work occur in the year immediately prior to the mobilization of the road renewal work occurring. This included inspections of pipes that had not previously been inspected as they were not within the identified priority area for neighbourhood renewal.

UA-EWS-16

Before 2022, this program's funding focused on areas identified as planned for neighborhood renewal work. This resulted in some cases where the Drainage work was occurring three to five years ahead of the road work planning. The previous program also included inspections of full neighborhoods where the City was planning to complete neighbourhood renewal within the next few years. This meant inspecting every pipe in each neighbourhood. EPCOR reviewed the quantity of pipe that was requiring renewal from these inspections prior to last PBR and confirmed that the inspections were only resulting in approximately 30% of the pipes inspected requiring full rehabilitation within a neighbourhood. By following neighbourhood boundaries and City schedules, EWS was ineffectively using resources to inspect many pipes that were in good condition versus focusing on pipes throughout the City that could be at higher risk of failure.

For the 2025-2027 PBR application, the forecast. capital expenditures for this program have been increased to $60.1M over the three years due to this improved understanding of the pipes that were not considered in the previous neighbourhood programs. The majority of the costs are allocated to addressing pipes identified through the risk based approach to inspections thoughout the City.

Coordination with neighbourhood renewal also continues with expenditures forecast to align with historical actual needs for these pipes. This is detailed in Appendix G-11.

UA-EWS-17

Request: **UA-EWS-17**

Topic: **Flood Mitigation and SIRP Investment**

Reference: **Application Section 15.1 Paragraph 407**

i) $41.3 million of expenditures forecast for the 2022-2024 PBR has been deferred to future PBR periods. Please quantify the revenue impact to customers associated with including these non-expenditures in the 2022-2024 proceeding

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EWS RESPONSE:

i) As explained in section 15.0 of the Application, during the execution of the capital plan, actual capital expenditures may deviate from the approved amounts due to project advancement or delays caused by aging infrastructure, to accommodate growth, or to meet City requirements. These deviations are communicated to Edmonton City Council in the Annual PBR Progress Reports.

During the 2022-2024 PBR term, capital spending on SIRP and Flood Mitigation was delayed due to the need for additional coordination with the City and other stakeholders to finalize the dry pond designs, to determine the amenities to be included with dry ponds, and to obtain full approvals from the City to begin excavation in areas that had not previously experienced extreme flooding.

EWS has calculated that the reduction in 2022-2024 revenue requirements from delaying SIRP and Flood Mitigation capital expenditures is approximately $14.9 million. At the same time, during the current PBR term, EWS identified needs for additional capital investments in the Drainage System Rehabilitation and Corrosion and Odour Remediation project categories that more than offset delays in SIRP projects. The total shifts in project spending over the 2022-2024 PBR term are summarized in the following table:

UA-EWS-17

Table US-EWS -17-1 2022-2024 Capital Expenditures ($ millions)

	A	B	C
	2022-2024		
Major Category and Project	Decision	Actual/ Forecast	Difference
1 Drainage Neighbourhood Renewal Program	76.5	52.8	(23.7)
2 Drainage System Expansion	38.8	41.3	2.5
3 Drainage System Rehabilitation	166.0	207.3	41.3
4 Flood Mitigation	34.1	19.1	(15.0)
5 SIRP	205.6	178.2	(27.4)
6 SSSF	4.5	3.4	(1.1)
7 CORe	180.4	198.1	17.8
8 LRT Relocates Program	48.5	58.6	10.1
9 Real Estate	-	25.2	25.2
10 Total Capital Expenditures	754.3	784.1	29.7

This table shows that total capital expenditures over the 2022-2024 PBR term are expected to exceed approved amounts by $29.7 million. As noted in the application, any costs associated with higher than forecast capital spending over the PBR term are borne entirely by EWS.

UA-EWS-18

Request: **UA-EWS-18**

Topic: **GOLD BAR WASTEWATER TREATEMENT PLANT ODOUR CONTROL IMPROVEMENTS PROJECT**

Reference: **Application Appendix F-1**

i) Please provide the incremental operating and maintenance costs associated with this project over the application period.

EWS RESPONSE:

i) The project is expected to go into service at the end of 2027 and therefore no incremental operating and maintenance (O&M) costs are included over the application period. Once placed in service, the annual incremental (O&M) costs are expected to vary between $120K - $150K, depending on the amount of chemical required each year for the treatment of the additional foul air collected from the Diversion Structure and Primary Clarifiers 5-8.

UA-EWS-19

Request: **UA-EWS-19**

Topic: **CLOVER BAR EWMC GROUNDWATER TRANSFER PROJECT**

Reference: **Application Appendix F-2**

i) Does the much-appreciated Figure 5.5-1 include operating and maintenance costs associated with the two alternatives?

EWS RESPONSE:

i) The two alternatives do not include any operating and maintenance (O&M) costs since there are no material ongoing O&M costs associated with the conveyance and treatment of the expected volume of groundwater. Ongoing costs related to pumping the groundwater are expected to be incurred by the City of Edmonton.

Request: UA-EWS-20

Topic: PRIVATE DEVELOPMENT CONSTRUCTION COORDINATION PROGRAM

Reference: Application Appendix G-3

i) By capitalizing these costs, current and future customers pay for the work done through their rates. Why are these costs not charged directly to the private developers?

EWS RESPONSE:

i) The approach to capitalize these costs for inclusion in rates is consistent with the approach used in EWS' Water PBR Private Development Construction Coordination Program which dates back to when the water operations were part of the City of Edmonton Water Branch. While the costs included in this program are to support the development of new neighbourhoods and infill development within the city of Edmonton, the costs reflected in this program are related to very early stage planning activities that are completed by EWS staff. There is currently no process either within the water or wastewater operations to fully allocate these costs to the infill and greenfield developers or to the City, when it is in the role of a developer.

The costs under this program involve EWS' planning and operational staff time to respond to inquiries from developers and the City supporting their preparation of the design reports for new neighbourhoods and infill development, primarily focused on confirming capacity of the existing system to have the new infrastructure connect and support the developer in determining the appropriate design assumptions for the specific development planned. The costs also include EWS time for design reviews supporting City of Edmonton plans for upgrades for water and sewer servicing within City owned lands such as parks and recreation facilities and supporting reviews where the City of Edmonton is acting as the developer.

The only costs which are partially offset by developer contributions within this program are EWS' costs for inspections completed as part of the commissioning of new infrastructure. Developer contributions are obtained through the City administered

servicing agreement process and this fee for inspections is determined on a per hectare basis of area being developed.

This program also includes costs for the City of Edmonton's staff time allocated for review of neighbourhood design reports and drawing reviews consistent with the approach for these comparable activities for Water operations completed by EWS staff.

As indicated in the table below, which is an expansion of Table 6.0-1 in Appendix G-3, the costs of this program represent a small portion of the costs related to new developments relative to the total developer contributed capital within EWS' overall portfolio.

Table 6.0-1 - Updated 2019-2023 Private Development Construction Coordination Program Costs ($ millions)

Year	COE Activity Costs	EWS Costs (salaries, mileage, overhead, etc.)	Recoveries (Inspection Fees)	Total PD Construction Program	Total Developer Contributed WWC Capital $M
1. 2019	$2.2	$1.6	($0.2)	$3.6	$137.9
2. 2020	$2.1	$1.5	($0.3)	$3.3	$96.6
3. 2021	$2.1	$1.9	($0.2)	$3.8	$76.1
4. 2022	$2.3	$2.4	($0.3)	$4.4	$74.2
5. 2023	$2.5	$2.0	($0.9)	$3.6	$126.1

EWS will review potential approaches to recover private development construction coordination costs from infill, greenfield developers and the City for both the water and wastewater operations. In its upcoming 2028 Water and Wastewater consolidated PBR Applications, EWS will bring forward a recommendation on the recovery of these costs for both water and wastewater operations in a coordinated manner at the same time. To implement any changes to the approach for wastewater for the 2025-2027 PBR would be very complex to administer since this would result in a different process for water and wastewater private development additions. Different cost recovery mechanisms would need to be developed for infill developments, greenfield developments and for the City, as a developer. Consultation with the development community will also be required prior to implementation.

Request: **UA-EWS-21**

Topic: **FLEET – VEHICLES AND MOBILE EQUIPMENT PROGRAM**

Reference: **Application Appendix G-6**

i) Please provide the net present value of revenue requirement for the alternatives considered.

EWS RESPONSE:

i) EWS has added section 5.6 Net Present Value (NPV) Analysis to the business case which presents the NPV of revenue requirements for alternatives 1, 2 and 3 (paragraph 26) in two tables (Tables 5.0-1 and 5.0-2). Additionally, two figures are provided (Figures 5.0-1 and 5.0-2) which display the cumulative revenue requirements by year for the compared alternatives. NPV revenue requirements were not determined for alternatives 4 and 5 "Accelerated Investment Rate" and "Reduced Investment Rate" since their disqualification as alternatives were based on qualitative factors, associated with, but not directly tied to revenue.

To assist with the comparisons between the NPV's, the order and the names of the alternatives were updated as follows:

- "Alternative 5 – Capital Dominated Investment Profile" was changed to "Alternative 1 – Replace EOL and Growth Assets with Purchased Assets"

- "Alternative 1 – Rent to offset new EOL based purchases " was changed to "Alternative 2 – Replace EOL Assets with Rented Assets"

- Alternative 2 – Continue to rent to offset growth based purchases" was changed to "Alternative 3 – Rent to Address Growth Based Needs"

Request: **UA-EWS-22**

Topic: **FLOW CONTROL FACILITIES REHABILITATION PROGRAM**

Reference: **Application Appendix G-6**

Preamble: This business case appears to be at a very early stage of development. It identifies that each facility is unique and will require a different approach. Hydraulic assessments will be required to support the validity of alternatives and may require a project scope that necessitates it own project. Not all assets in this asset category have been inspected at this time. Concept development has not yet occurred.

i) Should this project be removed from the PBR, and each project element subject to a special adjustment process? Please explain your rationale for your answer.

ii) Should this project be subject to deferral account treatment to ensure customers pay only the actual revenue requirement, given the vagueness of the forecast capital costs? Please explain your rationale for your answer.

EWS RESPONSE:

i) No, this project should not be removed from the PBR Application. EWS has updated the Flow Control Facilities Rehabilitation Business Case - Appendix G-7 to provide more detail on the Flow Control Facilities projects that are in progress and have expenditures that cross the 2022-2024 and 2025-2027 PBR periods. Initial scope for locations that have been confirmed to proceed to concept design in 2025 are included and the process that will be used to defining the scope of the projects that move from concept to final construction at each individual location for the later years of the program. While reviewing the business case to respond to this information request, EWS identified that approximately $6.5 million of costs for certain flow control projects that did not meet the individual business cases threshold were inadvertently included under the Reliability/Life Cycle Replacement <$10 million category (line 20 of Table 15.2-1) instead of the Flow Control Facilities Rehabilitation project (line 12 of Table 15.2-1). These project costs relate to the carry-in costs from the flow control facility work at locations where work was initiated in the 2022-2024 PBR. The name of the program was also changed from Pump Station Rehabilitation Program to Flow Control Facilities in this Application to reflect that it also included facilities that were not pump stations such as automated control valves and structures. This might have given the impression that this program was a completely new

program that did not have a rigorous approach to the selection of locations for construction as it only focused on the dollars for the later years of the PBR.

In addition, Table 15.2-1 of the Application has been updated and provided below showing the corrections to lines 12 and 20 for the flow control projects previously reflected on line 20.

Table 15.2-1 (Updated) 2025-2027 Forecast Capital Expenditures by Regulatory Category ($ millions)

	Category	A 2022-2024 Actual / Forecast	B 2025-2027 PBR Plan	C Variance
	Regulatory/HSE			
1	Access Maintenance Hole	22.4	21.7	(0.6)
2	CORe Duggan Tunnel Project	68.1	5.7	(62.4)
3	Regulatory/HSE <10 million	15.2	18.5	3.4
	Sub total: Regulatory/HSE	**105.6**	**46.0**	**(59.6)**
	Growth/Customer Requirements			
4	Dry Ponds	60.5	115.4	54.8
5	Private Development Construction Coordination	12.6	16.1	2.5
6	Low Impact Development	55.0	51.3	(3.7)
7	LRT Relocates Program	58.6	2.2	(56.5)
8	Real Estate	25.2	0.0	(25.2)
9	Growth/Customer <10 million	40.7	8.3	(32.5)
	Sub total: Growth/Customer Requirements	**252.8**	**192.2**	**(60.6)**
	Reliability/Life Cycle Replacement			
10	Drill Drop Maintenance Hole Renewal	43.4	29.8	(13.6)
11	Fleet – Vehicles and Mobile Equipment	14.2	26.8	12.6
12	Flow Control Facilities Rehabilitation	22.8	26.8	4.0
	Category	A **2022-2024 Actual / Forecast**	B **2025-2027 PBR Plan**	C **Variance**

13	High Priority Renewal (HPR)	66.0	72.2	6.2
14	Inflow and Infiltration Relining	35.3	29.2	(6.2)
15	Large Trunk Rehabilitation	81.7	85.8	4.1
16	Local System Rehabilitation	74.1	60.1	(14.0)
17	Maintenance Hole and Catch Basin Replacement	9.3	11.8	2.4
18	Small Trunk Rehabilitation	16.1	35.8	19.8
19	Outfall Rehabilitation	18.2	9.3	(8.9)
20	Reliability/Life Cycle Replacement <10 million	27.4	18.6	(8.8)
	Sub total: Reliability/Life Cycle Replacement	**408.5**	**406.2**	**(2.3)**
	Efficiency/Performance Improvement			
21	Smart Ponds	2.1	12.2	10.1
22	Efficiency/Performance Improvement <10 million	15.0	31.3	16.2
	Sub total: Efficiency/Performance Improvement	**17.1**	**43.5**	**26.4**
23	**Total Capital Expenditures Net of Contributions**	**784.1**	**687.9**	**(96.2)**

ii) As noted in response to i) above, the Flow Control Facilities program is an ongoing program which was historically called Pump Station Rehabilitation Program with a rigorous approach used to select the locations for construction. As a result, deferral treatment is not recommended, nor required.

UA-EWS-23

Request: **UA-EWS-23**

Topic: **HIGH PRIORITY RENEWAL PROGRAM**

Reference: **Application Appendix G-8**

i) At paragraph 27 it is stated that "Further increasing the resourcing allocations for inspections is not anticipated to provide cost-effective reduction in total system risk …". Does EWS consider "not anticipated" to be a rigorous financial analysis?

EWS RESPONSE:

i) EWS has provided its response to IR 23 through 26 in the document labelled

"Consolidated UA-EWS – 23 to 26 Response.docx"

Request: **UA-EWS-24**

Topic: **INFLOW AND INFILTRATION RELINING PROGRAM**

Reference: **Application Appendix G-9**

i) This business case does not seem to meet the definition of a regulatory proceeding business case. It presents alternatives which do not seem to be mutually exclusive, and provides no basis for the selected expenditures. Please provide your rationale for including this document as a business case.

EWS RESPONSE:

i) See attachment – Consolidated UA-EWS – 23 to 26 Response

Request: **UA-EWS-25**

Topic: **LARGE TRUNK REHABILITATION PROGRAM**

Reference: **Application Appendix G-10**

i) In paragraph 20 it is stated that the increased costs are expected to have a disproportionate impact on customer rates relative to the benefits realized for customers. How is the regulator expected to accept this statement in the absence of a financial analysis?

EWS RESPONSE:

i) See attachment – Consolidated UA-EWS – 23 to 26 Response

Request: UA-EWS-26

Topic: MAINTENANCE HOLE AND CATCH BASIN REPLACEMENT PROGRAM SMALL TRUNK REHABILITATION PROGRAM

Reference: Application Appendix G-12 and G-13

i) It is not often that you see business cases where all of the alternatives studied are rejected, and yet recommended capital expenditures are presented. How were these business cases approved for inclusion in this PBR application?

EWS RESPONSE:

i) See attachment – Consolidated UA-EWS – 23 to 26 Response

Consolidated UA-EWS – 23 to 26 Response

Request: **UA-EWS-23**

Topic: **HIGH PRIORITY RENEWAL PROGRAM**

Reference: **Application Appendix G-8**

i) At paragraph 27 it is stated that "Further increasing the resourcing allocations for inspections is not anticipated to provide cost-effective reduction in total system risk …". Does EWS consider "not anticipated" to be a rigorous financial analysis?

Request: **UA-EWS-24**

Topic: **INFLOW AND INFILTRATION RELINING PROGRAM**

Reference: **Application Appendix G-9**

i) This business case does not seem to meet the definition of a regulatory proceeding business case. It presents alternatives which do not seem to be mutually exclusive, and provides no basis for the selected expenditures. Please provide your rationale for including this document as a business case.

Request: **UA-EWS-25**

Topic: **LARGE TRUNK REHABILITATION PROGRAM**

Reference: **Application Appendix G-10**

i) In paragraph 20 it is stated that the increased costs are expected to have a disproportionate impact on customer rates relative to the benefits realized for customers. How is the regulator expected to accept this statement in the absence of a financial analysis?

Request: **UA-EWS-26**

Topic: **MAINTENANCE HOLE AND CATCH BASIN REPLACEMENT PROGRAM SMALL TRUNK REHABILITATION PROGRAM**

Reference: **Application Appendix G-12 and G-13**

i) It is not often that you see business cases where all of the alternatives studied are rejected, and yet recommended capital expenditures are presented. How were these business cases approved for inclusion in this PBR application?

EWS RESPONSE:

i) EWS recognizes that these four information requests are related to providing the Utility Committee with sufficient information to enable it to assess the alternatives to the recommended investments for the following Drainage system rehabilitation programs detailed in Appendices G-8, G-9, G-10, G-12 and G-13. The programs, together with G-11 - Local Sewer Rehabilitation program comprise a suite of capital expenditures related to the linear pipe asset networks for the sanitary, combined and stormwater systems.

ii) EWS does not provide NPV analyses of the individual components of capital programs as part of the business cases for programs, since program costs are determined based on the unique program criteria and risk assessments of the impacts of these assets not performing as intended. As part of managing the costs during the execution of the capital program, EWS conducts NPV analyses of the various sub-projects within a capital program if required to determine the most cost-effective alternative sub-project. These analyses are reviewed as part of EPCOR's internal capital governance process as detailed in response to UA-EWS-11-i.

iii) In the process of determining the overall PBR capital plan, EWS determines a targeted range of rate increases and targeted level of risk tolerance which are used to establish the boundaries for both the overall PBR capital expenditures and the allocation of these expenditures across the different programs that align similar types of assets and work.

iv) Although there are well established methods to assess risk, it should be recognized that managing the overall risk across the utility requires sound management judgement based on asset management experience, industry trends on infrastructure performance lives and external changes to the risk to the utility due to changing customer growth patterns and climate change influences.

v) For these reasons, the approach to setting the PBR capital plan is not a straightforward bottom-up process where the level of expenditure for each program is determined independently of other programs. Rather it is an iterative process which starts with initial proposed budgets for each program and project and then the overall capital plan is assessed and revised as necessary to ensure it strikes the appropriate balance between cost (rate increases) and risk mitigation.

vi) The range of alternatives presented in the individual business cases provides a narrative of the ranges explored as part of this PBR. In order to respond to IR's UA-EWS-23-26, EWS provides the following additional clarity on the range of options it reviewed for business cases in Appendix G-11, G-12 and G-13.

a. Appendix G-11 Inflow and Infiltration Relining program – the following provides details on two other alternatives that EWS considered: one to increase the levels of expenditure and another to reduce the levels of expenditure.

i. Increased scope Alternative – This alternative would increase the number of manhole and pipe relines completed during the PBR term. As part of EWS' plan to complete relining for a total of 9,000 manholes in ponding areas, the increased scope would include all 5,000 remaining locations. In addition to increased manhole relining, the pipe relining scope would increase to include an additional 40% or about 5 km per year. By increasing the scope to this level, the program cost would increase to $42.7 million over the PBR term. Due to this cost and rate payer impact, EWS did not recommend this alternative.

ii. Decreased scope Alternative - This alternative would decrease the number of manhole and pipe relines completed during the PBR term. This decreased scope would reduce the number of manhole relining by half to about 1,600, and reduce the pipe relining by 40% or about 5 km less per year. This reduced scope would decrease the program cost to $14.6 million per year. While the impact to rate payers will be less with this option, EWS did not recommend this alternative because it would not allow it to complete the program within 10 years in accordance with EWS' SIRP strategy that was presented and accepted by Utility Committee in May 2019.

vii) Appendix G-12 was missing a summary of the recommended alternative. The recommended alternative was described in the body of the business case, but not included in the alternatives section. Alternative 4 paragraph below is included to fill this gap.

i. Alternative 4 – Maintain Scope – this alternative includes conducting the reactive and proactive replacement work to replace the priority asset replacements as described in the main body of the business case. In this approach, proactive replacement work targets the highest-risk nonemergent asset replacements and coordinates with adjacent planned work from other programs. Compared to reactive replacement, proactive replacement has

historically cost 5-10% less per asset and mitigates the risk for public safety and claims posed by failing assets. This is the preferred alternative.

b. Appendix G-13 was missing a summary of the selected alternative. The preferred alternative was described in the body of the business case, but not included in the alternatives section. Alternative 4 paragraph below is included to fill this gap.

i. Alternative 4 – Maintain Scope – this alternative would maintain an investment level of 10.8km of small trunk rehabilitation consisting of relining and open-cut approaches depending on pipe specific requirements. Maintaining this program supports EWS efforts to reduce system wide risks while optimizing capital funds for the overall system. With this approach EWS targets the highest risk small trunks in the Intervention 1 category of the risk grid detailed in the main body of the business case. This is the recommended alternative.

viii) Capital expenditures for the reduced scope and increased scope options are summarized in the following table, with capital expenditures for the recommended scope option provided for comparison. Details of the increases and decreases in program scope are provided in the business cases supporting each program.

Table UA-EWS-23-26-1
WWC Linear Asset Programs
2025-2027 Capital Expenditure Options
($ million)

	Program	A Recommended Scope	B Decreased Scope	C Increased Scope
1	High Priority Replacement	72.2	36.1	81.0
2	Inflow and Infiltration Relining	29.2	14.6	42.5
3	Large Trunk Rehabilitation	85.8	64.5	104.0
4	Local System Rehabilitation	60.1	51.5	81.7
5	Maintenance Hole and Catch Basin Replacement	11.8	1.0	50.0
6	Small Trunk Rehabilitation	35.8	17.0	55.0
7	**Total – 3 Year Capital**	**294.8**	**184.7**	**414.2**

ix) EWS calculated revenue requirements for the decreased scope and increased scope options. A comparison of the revenue requirements for these capital expenditure options to the recommended scope is shown in the following table:

Table UA-EWS-23-26-2
Comparison of 2025 – 2027 Revenue Requirements for WWC Linear Asset Programs
($ millions)

		A **Recommended Scope**	B **Decreased Scope**	C **Increased Scope**
1	Depreciation	6.9	4.3	9.7
2	Return on debt	10.4	6.5	14.6
3	Return on equity	18.7	11.7	26.2
4	Franchise Fees	1.3	0.8	1.8
5	Total	37.2	23.3	52.3

This table shows that the decreased scope option reduces 2025-2027 revenue requirements by $13.9 million (1.4% of 2025-2027 revenue requirements), whereas the increased scope option increases revenue requirements by $15.1 million (1.5% of 20252027 revenue requirements). Since WWC uses the same sanitary utility and stormwater utility rates for all customer classes, the changes in revenue requirements result in the same percentage bill changes for all customer classes. For residential customers, EWS' high-level analysis suggest that the reduced scope option would reduce average monthly bills in 2027 by $0.76, whereas the increased scope option would increase average monthly bills in 2027 by $0.82. For commercial customers, the reduced scope option would reduce average monthly bills in 2027 by $6.33, whereas the increased scope option would increase average monthly bills in 2027 by $6.78.

EWS' high levels analysis is based on several key assumptions:

1) Assets go into service in the year that the expenditures are incurred;
2) Reductions and increases in scope are proportional to the recommended scope (i.e. same spreading);
3) Depreciation is based on a 67-year economic life, the average for WWC assets;
4) Debt and equity returns are at the average cost of debt from the application and ROE of 9% in 2025, 9.9% in 2026 and 10.8% in 2027; and 5)

Franchise fees are based on 40% sanitary assets.

x) Should the Utility Committee direct that EWS increase or decrease capital spending for any of these programs, EWS would need to complete more detailed cost forecasts as part of its compliance filing to incorporate related operating cost forecasts. EWS would also need to consider any potential impacts on performance measure standards.