Request: CC-EWS-1

i) It states throughout the PBR that EPCOR bears the risk for costs to ensure customers receive stable and predictable rates. However, it also states that "EPCOR is compensated for bearing these risks under the PBR structure through the return on equity." Can you clarify how EPCOR can both bear the risk and at the same time be compensated for the risk? Especially with adjustments for inflation and rebasing?

EWS RESPONSE:

i) EWS' PBR framework is designed such that customers benefit from stable and predictable rates while the risks associated with forecast costs are borne by EWS. The methodology for establishing rates throughout the PBR term relies on estimates for operating and capital costs, including forecast inflation (and not the actual costs experienced by EWS. For example, cost pressures due to supply chain constraints and the economic environment post COVID-19 were absorbed by EWS and not reflected in rates), and also includes an adjustment for rebasing to ensure the rates charged to customers realign costs and revenues at the beginning of each PBR term. During the course of the PBR term, revenues and costs are de-linked, which provides EWS with incentives to increase productivity and manage costs. For example, if operating costs increase beyond inflation, EPCOR absorbs those costs and is unable to pass them on to customers. Similarly, EPCOR bears the risk of capital cost increases during the PBR term and does not recover any of this increased capital cost (this includes return on the equity portion of the higher capital investment, depreciation and debt incurred to fund capital). Cost of new debt issuances are locked-in for the duration of the PBR term, which further ensures stability and predictability in rates for customers as annual rates are unaffected by changes in interest rates. For example, the cost of new debt in EWS' 2022-2024/2026 PBR Application was fixed at 3.50%, whereas, actual cost of debt has been significantly higher since 2022 due to quantitative measures employed by the Bank of Canada.

In exchange for providing customers with rate stability, EWS is provided both with incentives and also bears the associated risks with providing safe and reliable service within the fixed

funding levels that the PBR provides. Customers further benefit from the PBR framework through the inclusion of an efficiency factor in the current PBR term and customers also benefit in future PBR terms, as any efficiency or sustained costs savings are passed along to customers in future PBR terms.

In addition to a methodology for developing stable and predictable rates, the PBR framework also includes key components such as performance measures, and return on equity. The relationships between these components are designed to ensure that capital and operating cost decisions provide a balance between operational performance, rates, and return on equity, while safeguarding system reliability and service quality, providing fair, stable, predictable rates to rate payers, and providing a basis for the future development of the water, wastewater treatment, and wastewater collection systems.

The risks that EWS is compensated for reflect both the risks associated with the PBR framework and also reflect the risk inherent with the provision of utility services. In exchange for bearing this risk, EWS, much like any other regulated utility, is compensated through the inclusion of a return on equity component in its approved rates. As explained in EWS' Application, the rate of return is based on an established approach which considers both current market and economic conditions and an assessment of the unique business risks that the utility faces. For EWS, as an integrated utility with responsibilities for Water and Wastewater, these risks include, but are not limited to:

- maintaining strict compliance with evolving standards for water and wastewater treatment while managing varying river water quality and quantities;
- environmental risk associated with protecting the North Saskatchewan watershed and urban creeks and the environmental responsibility of returning treated wastewater to the river while ensuring no degradation of river water quality;
- managing risks related to climate extremes including storms and flooding;
- risk associated with managing aged infrastructure with long asset lives, some of which has been contributed by developers, for which EWS does not earn a return; and

- a rate structure that is largely variable, resulting in the potential for large revenue variations.

Request: CC-EWS-2

i) Are the rebasing rates set at what is approved in table 21.3.2-2 or are they readjusted annually?

ii) How does the rate increase for 2025 (31.2%) live up to the value of stable rates?

iii) Additionally, the growth projection for residential customers seems low, if this is higher is there also a subsequent rebasing?

EWS RESPONSE:

i) The special rate adjustments for rebasing are not readjusted annually. Once approved, they are set in accordance with Table 21.3.2-2 and Financial Schedule 22-2 and 22-4. As noted in Sections 1.7.2, 13.2.2 and 21.3.2 of the Application, annual rate increases are limited to the PBR inflation adjustment. Without the special rate adjustments for rebasing, annual rate increases would be limited to the PBR inflation adjustment, resulting in a revenue shortfall to fund the ongoing operations and planned capital investments for the 2025-2027 PBR term.

ii) 31.2% is the percentage of rebasing adjustment required for stormwater services and does not result in a 31.2% bill impact, since the vast majority of the customers will experience a reduction in their sanitary charges due to the negative rebasing adjustment required for sanitary services. An average residential customer is expected to experience a combined bill increase of 3.7% over the 2025-2027 PBR term, with a reduction in their sanitary charges partially offsetting the increase in stormwater charges, see Table CC-EWS-2-ii for combined residential bill impact.

Table CC-EWS-2-ii
Combined Sanitary and Stormwater Bill Impacts on the Average Residential Customer
($/month)

	Combined Sanitary and Stormwater	A 2025F	B 2026F	C 2027F	D Total / Average
1	Average Monthly Bill before Consumption Deferral Refund	51.87	53.60	55.40	
2	Change ($)	3.18	1.73	1.80	6.72
3	Change (%)	6.5%	3.3%	3.4%	4.4%
4	Average Monthly Bill after Consumption Deferral Refund	50.83	52.56	54.35	
5	Change ($)	2.15	1.72	1.79	5.67
6	Change (%)	4.4%	3.4%	3.4%	3.7%

iii) There is no rebasing adjustment related to growth. The customer growth rate assumptions are based on a review of historical growth trends and third-party forecasts of Edmonton population growth. Under EWS' PBR framework, EWS bears the risk for cost increases to support growth.

Request: CC-EWS-3

i) What is the anticipated operating budget for maintenance and addressing system failures? Is this higher or lower than the last rate filing?

EWS RESPONSE:

i) Forecast maintenance costs for Wastewater Treatment are approximately $11 million annually while forecast maintenance costs for Wastewater Collection ranges from $17.2 million to $17.9 million over the PBR term. These forecasts are in line with historical experience and the amounts approved in the 2022-2024 PBR application.

Request: CC-EWS-4

i) The rate filing states "EPCOR's earnings are then used to fund future investments in utility infrastructure to support community growth and operational resilience, as well as return to the Shareholder through the annual dividend". Can EPCOR elaborate for Edmontonians on how this model supports better costs and infrastructure through profits across portfolios aside from the dividend and what is the direct benefit to customers?

EWS RESPONSE:

i) The direct benefit to customers is that this model ensures that customers are provided with safe, efficient, and reliable utility service which reflects the actual cost of providing utility service. Customers also benefit as this model provides customers with stable and predictable rates over the PBR term. The PBR framework also provides incentives for EPCOR to efficiently manage both its operating and capital costs over the course of the PBR term which in turn benefits customers in future PBR terms when these efficiencies are passed on to customers in the form of lower rates.

Request: CC-EWS-5

i) Can EPCOR elaborate on the reason what 10.8% is deemed as a fair rate of return? What were the names of the comparable corporations that were reviewed operating in North America and what was their most recent return on equity rate? Table 18.3-2 shows that this rate, if approved, will have significantly increased in a 5 year period, can you speak to why this is justifiable?

EWS RESPONSE:

i) As noted in EWS' June 24, 2024 report on return on equity to Utility Committee EXT02522 - Attachment 1 and in Mr. D'Ascendis Report, a fair rate of return should be comparable to the return available on investments of like risk, enable the financial integrity of the regulated enterprise, and allow for the attraction of incremental capital. The recommended ROE of 10.80% is based on the application of multiple analytical models to the market data of companies of comparable risk, consistent with the fair return standard, as summarized above. Because investments with like risks should offer similar returns, the opportunity cost of an investment should equal the return available on an investment of comparable risk.

Based on those models, Mr. D'Ascendis developed a range of ROEs of 10.00% to 11.70% and 10.50% to 12.20%, before and after a flotation cost adjustment. Based on those ranges, Mr. D'Ascendis recommended an ROE of 10.80%.

As it relates to the most recent return on equity rates for the North American comparable companies, see CC-EWS-5-i Attachment 1.xlsx which includes the earned returns for the comparable corporations at the holding company level as well as recently authorized ROEs for the comparable corporation's North American operating companies.

Mr. D'Ascendis notes that the use of book returns on common equity (earned returns) does not measure the market cost of equity capital, as it is an accounting measure. Since it is an accounting measure, book returns on equity are independent of most cost of capital indicators (e.g., interest rates). In addition, accounting returns are not related to risk, while market returns are. In short, since accounting returns are independent of market conditions

and independent of risk, they should not be relied on as a measure of the investor required return, which is a function of market data and risk.

As it relates to the applicability of authorized ROEs, Mr. D'Ascendis also notes that while authorized ROEs may be reasonable benchmarks of acceptable ROEs, they do not reflect the current cost of common equity. The reason why historical authorized returns do not reflect the investor-required return is because authorized ROEs are a lagging indicator of investor-required returns, i.e., authorized ROEs are based on market data presented in an evidentiary record, which spans a period before the decision, sometimes lasting over a year in some cases. Simply put, historical authorized returns do not completely reflect the investor-required return because the economic conditions in the past are not representative of the current or future economic conditions.

Request: CC-EWS-6

i) What considerations went in setting the standards? In general as I read them, they seem very easily achievable. What ability does the regulator have to adjust the standards? If there were any standards that could be adjusted to be higher, what would EPCOR recommend and why? If none are recommended, please summarize the methodology for setting these standards and why the regulator should accept these.

EWS RESPONSE:

i) As currently conceived under the PBR framework, the PBR performance measures are established to ensure that a "standard" or optimal level of performance is maintained and if service levels deteriorate below the established standards, financial penalties are imposed on the utility. In other words, the standards ensure that the level of service provided to customers does not degrade over the PBR period. The purpose of the performance measures is to ensure an acceptable level of utility service so that unnecessary dollars are not spent to continuously improve performance where there is no significant additional benefit to the customer.

The PBR framework encourages utilities to find opportunities to improve efficiency and reduce costs while meeting set performance standards. This promotes more efficient practices that benefit all stakeholders. However, careful attention is necessary while designing a PBR framework to ensure that the utility's performance standards align with the goal of preserving public interest while avoiding unintended consequences such as cutting costs at the expense of service quality or introducing unnecessarily stringent standards that lead to unnecessary costs. Performance standards and penalties are crucial to prevent a decline in service quality due to the presence of cost-saving incentives within the PBR framework.

During each PBR renewal, EWS conducts a thorough review of its PBR performance standards to ensure that the proposed performance standards are set appropriately to meet the expectations of its customers and regulator while balancing the need to maintain reasonable rates. Many of EWS' performance standards are established based on a rolling average of

historical performance levels. For these measures, as performance improves over time, EWS' standards become increasingly stringent without imposing unreasonable costs onto ratepayers. Other standards may be set to maintain current service levels because increasingly stringent performance standards may not be warranted from a customer service or cost/benefit perspective. In other words, it is important that performance standards are not set in such a way so as to introduce additional costs into the system that are not prudent. Where possible, standards may also be set to align with industry benchmarks or to EPCOR corporate standards, such as health and safety.

At the time of each PBR renewal, EWS may propose changes to PBR performance measures and standards in the Wastewater Services and Water Services Bylaws. During the PBR hearing process, Utility Committee and City Council have the opportunity to review these proposed changes. City Council, under its authority to approve the bylaws, can require EWS to adjust the performance standards as it deems necessary.

EWS is not recommending any further changes to the proposed PBR performance standards that it has proposed in the 2025-2027 PBR Application. EWS considers that the proposed performance standards have been set at an appropriate level that balances the objectives of meeting the expectations of its customers and regulator while balancing the need to maintain reasonable rates and the standards should be approved as filed.

Request: CC-EWS-7

i) What is the maximum capacity for the Gold Bar facility and when do we anticipate, due to growth and/or life cycle, needing another facility?

EWS RESPONSE:

i) The Wastewater IRP presented to Utility committee on January 22, 2024 – Report EXT02260 described EPCOR's approach to system planning for the wastewater system as an integrated system planned and operated in partnership with ARROW utilities. Expansion requirement timing at either treatment plant will depend on the location of growth within the city and our ability to shift these flows between the two plant facilities.

https://pub-edmonton.escribemeetings.com/filestream.ashx?DocumentId=209687

A more detailed Wastewater treatment IRP was previously presented to Utility committee on September 27, 2019, Report CR_7575 and provided greater explanations on the capacity of the various treatment components. Capacities at wastewater treatment facilities are measured not only based on volumetric flow, but also based on solids and nutrient (ammonia and phosphorus) removal capacities.

The following page from the Wastewater IRP show the Gold Bar capacities for liquids treatment, solids treatment and nutrients treatment up to 2060. There is sufficient capacity until at least 2060 for both liquids (flows). There is also sufficient capacity for solids, which is generally proportional to population growth, by maintaining and upgrading the existing digestors on site. No new digesters will be required to be built. The loading of nutrients to the WWTP is also proportional to population growth. Nutrient treatment capacity can be achieved by intensifying the treatment within the existing biological reactors using updated, proven treatment technologies.

STRATEGIC FOCUS

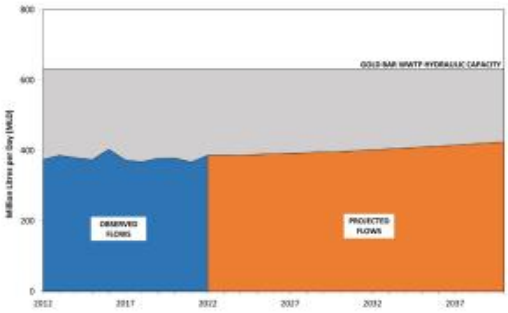
Innovate to Achieve Growth

Providing essential wastewater treatment service to meet Edmonton's growth plans is an important objective for the future. The strategy for achieving growth is to enhance the operation of existing assets with input from stakeholders and employ innovative technologies to intensify existing treatment processes, thereby limiting physical expansions.

Liquid

There is sufficient capacity within existing plant infrastructure to continue to provide conveyance for the sanitary flows from the city of Edmonton in the future. Original designs that under predicted the impact water efficiency has left a buffer for future flows.

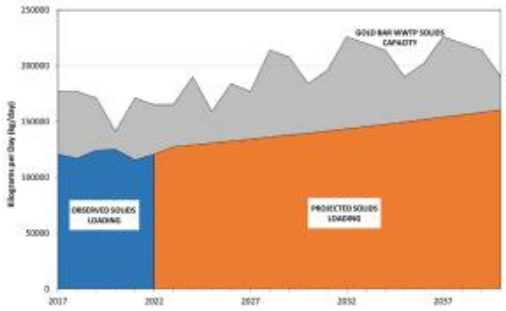
Liquid Capacity Trends: Gold Bar WWTP



Solids

The capacity of the solids handling processes, specifically in the existing digesters as shown, will be maintained through regular cleaning, maintenance and periodic upgrades to accommodate future treatment demands.

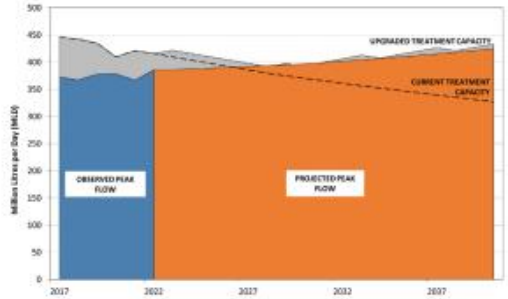
Solids Capacity Trends: Gold Bar WWTP



Nutrients

Nutrient concentration in wastewater increases with population and this reduces capacity for removal. Intensification of the existing process with new technologies, within the plant's existing footprint, will allow continued cost-effective treatment of the city's wastewater in the future.

Nutrients Capacity Trends: Gold Bar WWTP



The strategies proposed in the Wastewater IRP focus on multiple incremental approaches to reduce/defer the need for wastewater treatment expansion at Gold Bar and on the sanitary trunk networks.

Request: CC-EWS-8

i) For the asset management the risk-based approach discusses how assets with high risk of failure and high impact/consequences of failure will be given priority. However, as I understand it, this approach would not address the failure that happened at the facility recently as per a memo and report to utility committee which highlighted while there was a high consequence of failure the component was deemed low risk of failure. How will situations/ scenarios like this be addressed in this rate filing?

EWS RESPONSE:

i) The failure referenced above is referring to an event at one of EPCOR's water treatment plants, which is not part of the scope of this Wastewater PBR Application and therefore this specific situation is not addressed in this PBR Application however it will be addressed as part of a separate filing.

However, for the Wastewater system, the Wastewater treatment plant and the Wastewater major sewer trunks both have the potential risk of a single failure impacting either a large portion of the wastewater treatment process or the ability to move wastewater from a region of the City to the Wastewater treatment plants.

The Wastewater IRP presented to City Council in January of 2024 – Report EXT02260 described EPCOR's approach to system planning for the wastewater system and how risk and reliability are one of the considerations when developing the proposed capital and operational programs to ensure service to the community. The operations and maintenance programs for both the water treatment plants and collection system support the identification and intervention prior to failure.

https://pub-edmonton.escribemeetings.com/filestream.ashx?DocumentId=209687

For this PBR, the projects that are addressing the risks that could have a very high impact on the ability to treat wastewater or move large volumes of wastewater are detailed in Appendix F-6 Primary Effluent Channel Upgrades and Appendix G-10 Large Trunk Rehabilitation Program.

Request: CC-EWS-9

i) The franchise fee rate is 8% total sanitary revenue. When was this set and has it been adjusted in previous rate filings? Is this in line with the fees collected in comparable situations?

EWS RESPONSE:

i) The franchise fee rate of 8.0% is stipulated in the Drainage Services Franchise Agreement between the City of Edmonton and EPCOR Water Services. This is the same rate that was in effect under "City Policy 304D – Drainage Services Utility Fiscal Policy – Sanitary and Land (Stormwater) Utilities" prior to the transfer of the Drainage Utility to EPCOR Water Services in 2017. The franchise fee has not been adjusted in any of the rate filings. Separate Franchise Agreements are in place between the City and EPCOR Water Services for Water and Wastewater Treatment operations. The franchise fee rate is also 8.0% for both operations.

Request: CC-EWS-10

i) Can EPCOR elaborate on any changes to the Drainage Neighbourhood Renewal Program compared to previous rate filings? Understanding that funding is lower and going to a risk-based approach will there be more scenarios of newly constructed roads/ sidewalks being torn-up to address a water/ drainage issue?

EWS RESPONSE:

i) The shift to a risk-based approach for the Drainage Neighbourhood renewal program 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 renamed as the Local System Rehabilitation Program and to have the coordinated neighbourhood work occur in the year immediately prior to the mobilization of the road renewal work occurring.

Prior to the 2022-2024 PBR, the Neighbourhood renewal program was not closely aligned with planned City work. This resulted in some cases where the Drainage work was occurring three to five years ahead of 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 the last PBR and confirmed that the inspections were only resulting in about 30% of the pipes inspected requiring full rehabilitation. By following neighbourhood boundaries and City schedules, EWS was ineffectively using resources to inspect many pipes that were in good condition. rehabilitation.

In addition, the Drainage utility was typically inspecting and renewing sewer pipes in neighborhoods two to three years ahead of when the City identified its schedule for mobilization into a particular location and prior to confirming the type of road renewal work that would be completed (full rebuild, widening or grind and overlay). This was resulting in relining of pipes with minor deficiencies when there was not a full rebuild of the road planned (there is less risk when grind and overlay is chosen to replace the road surface).

The new program – Local System Rehabilitation Program– Appendix G-11 expands the previous program to also include rehabilitation of pipes in areas where there is no neighborhood renewal planned but higher risk to customers should the pipe fail. This includes local sewer pipes located on collector roads which were not included in the neighborhood programs and pipes identified through EPCOR operation and maintenance programs throughout the City.

To continue to ensure that newly constructed roads and sidewalks are not impacted by drainage renewal construction, EPCOR reviews the City's neighbourhood renewal schedule and inspects any higher risk pipes within those neighbourhoods prior to the City's work being initiating. Any renewal construction either rehabilitation or relining required is completed ahead of the neighbourhood renewal.

Request: CC-EWS-11

i) The Private Development Construction Program is estimated to cost 16.1 million. Who pays these costs? Are they in the rate filing calculations for all customers?

EWS RESPONSE:

i) The capital costs associated with this program are included in the calculation of sanitary and stormwater rates and therefore borne by all customers. EWS will be reviewing this approach to cost recovery and will propose a recommendation in its upcoming 2028 consolidated Water and Wastewater PBR Applications to ensure any change in approach is consistent for both water and wastewater private development coordination costs. To make any changes in the 2025-2027 PBR term would be complex to administer because it would introduce inconsistency between the water and wastewater approaches and it would not provide sufficient time for consultation with the development community. See response to UA-EWS-20 for a more detailed explanation.

Request: CC-EWS-12

i) Please outline any water main repair and/or replacement projects and/or odour projects planned or underway from2024-2027 in the neighbourhoods of Kensington, Rossyln, Lauderdale, Wellington, and Athlone. What is the status the Kensington Dry Pond that was identified in the 2022-2024 PBR?

EWS RESPONSE:

i) As the scope of this PBR application is the Wastewater system, this PBR application does not reflect any costs associated with water main repair and replacement projects. However, EWS' 2022 – 2026 Water PBR Application includes water main replacement projects. EWS will share water main project information specific to the neighbourhoods referenced above outside of this Wastewater PBR Application process through normal communication channels, as done in the past.

Planned odour projects of relevance to the communities of Kensington, Rosslyn, Lauderdale, Wellington, and Athlone include:

- 130th Avenue and 107th Street Combined Trunk Rehabilitation. Project starts in 2024 with completion scheduled for 2026. Expected to reduce odour in the Lauderdale community.
- 101st Street Railway Trunk Crossing flow diversion. Project is underway as part of the Lauderdale West Dry Pond project with completion scheduled for 2028. Expected to reduce odour in the communities of Rosslyn and Lauderdale around 101st street.
- Flap Install 127th Ave and 107th Street. Planned for 2025. Expected to reduce odour in the Lauderdale community around 107th street.
- Dunluce Lift Station (188) rehabilitation. Project starts in 2025 with completion scheduled for 2028. Expected to reduce odour in the communities of Kensington, (Calder) and Lauderdale
- Beaumaris Lift Station (131) rehabilitation. Project underway with completion scheduled for 2026. Expected to reduce odour in the communities of Rosslyn and Lauderdale in conjunction with trunk flow diversion project.
- Pembina Lift Station Optimization. Project is underway with scheduled completion in late 2024. Expected to reduce odour in the communities of Kensington, Wellington and Athlone.

The Kensington dry pond is scheduled to have concept validation completed in 2024/2025 with the City of Edmonton and will move into community consultation and predesign during the next PBR with construction beginning at the earliest in 2026. It should be noted that with most dry pond locations, the initial construction is the installation of the pipes connecting to the pond and the actual pond excavation occurs in the later years of construction. This pond construction is planned to extend into the future PBR.

Request: CC-EWS-13

Reference: PBR Readers Guide page 5

i) What are the implications of not approving this application in time for implementation in 2025?

EWS RESPONSE:

i) EWS' revenues, ongoing operations and maintenance of the wastewater infrastructure are funded by the rates, charges, and fees charged to customers. The current Wastewater Treatment and Wastewater Collection rates expire at the end of March 31, 2025 and therefore timely approval of the PBR plan and the related Wastewater Services Bylaw 20865 is critical in order to implement the new rates, fees, and charges effective April 1, 2025.

The implications of not approving this application within the specified timeframe is that the delay would negatively impact both customers and EWS. For customers, delays in approval and the subsequent implementation of rates could have the effect of increasing rates more than currently proposed as the approved revenue requirement would need to be collected over a shorter period of time. For EWS, a prolonged delay in the approval of rates would have a negative impact on EWS' cashflow and impact the ongoing operations of the utility.

Request: CC-EWS-14

Reference: PBR Readers Guide page 7

i) For Low Impact Development, it is mentioned that the program is aligned with the City's Building Great Neighbourhoods program. Is LID funded separately from the local improvement levy in Neighbourhood Renewal? Once installed, who would be responsible for maintenance?

EWS RESPONSE:

i) The alignment with the City's Building Great Neighbourhoods program relates to planning and coordination activities between the City and EPCOR; however, all initiatives included in the PBR Application are funded through Wastewater Treatment and Wastewater Collection rates, with the exception of developer contributed/funded assets. The installed assets below ground components in the public right of way are owned, operated and maintained by EPCOR. The above ground components maintenance cost responsibility is defined through the Operations and Maintenance Service Level Agreement between EPCOR and City of Edmonton, with EPCOR responsible for some of the costs and the City depending on the surface vegetation components installed within the LID.

   EPCOR continues to work collaboratively with the City of Edmonton and the development community to optimize and update the Design and Construction standards of LID components to minimize their on-going maintenance requirements. For example in the last three years, LID standards were expanded to include absorbent turf, and permeable pavers coupled with underground storage which have maintenance requirements aligned with traditional turf and pavement choices.

Request: CC-EWS-15

Reference: PBR Readers Guide page 10-11

i) As a portion of the wastewater bill is based on water consumption, if a household saves on water use (i.e., flushing less) - will their bill go down? Is there a way for the PBR this term to incentivize water conservation?

ii) Are there other incentives outside of the Stormwater Management Rebate Program?

EWS RESPONSE:

i) Yes, if a household consumes less water, both their water bill (Detailed in Bylaw 19626 and approved in the Water PBR (2022- 2026) and their wastewater bill will be lower. Edmonton residents have historically used less water than other Canadian cities due to EWS' universal metering practices. Per capita consumption in Edmonton has continued to decrease as customers install water efficient fixtures and appliances as well as adopt water efficient behaviours. EWS' rate structure also includes a fixed and variable component with an inclining or increasing block residential rates that discourages high usage. Inclining block rates incentivizes water conservation as rates and charges increase with each consumption block. In other words, a higher rate is charged for each inclining consumption block, resulting in a higher bill for households that consume more water than an average household.

ii) There are no additional incentives included in this PBR Application. The Stormwater Management Rebate Program includes the following incentives:

- Backwater valve installation (up to $800 per property) to reduce their risk from sewer line backups;
- Free home flood inspections to customers within Edmonton; and
- Rebates for stormwater installations to reduce the impact of stormwater runoff from private property. These types of installations can also reduce the need additional

outdoor water use from the potable water system which will reduce water consumption and sanitary bills.

Request: CC-EWS-16

Reference: PBR Readers Guide page 12

i) EPCOR is proposing an annual bill increase of 1.1% for commercial customers vs. a 2.9% increase for residential customers. Yet commercial customers use 7 times the consumption of an average residential customer. Is this fair and was this considered in the PBR?

EWS RESPONSE:

i) The 1.1% and 2.9% bill increases over the 2025-2027 PBR term are net of consumption deferral refunds. During the 2022-2024 PBR term, City Council directed that EWS accumulate the difference between forecast and actual consumption and refund or collect these differences over the 2025-2027 PBR term. Tables 1.8-1 and 1.8-3 in the 2025-2027 Wastewater PBR Application show that the average monthly residential bill increase before the consumption deferral refund was 3.8% and the average monthly commercial bill increase before the consumption deferral was 3.9%. Therefore, the difference in proposed annual bill increases is almost entirely due to the consumption deferral refund.

As explained in section 13.2.1 of the Application, the consumption deferral refund was introduced for the 2022-2024 PBR term to recognize COVID-19-related challenges in forecasting consumption. With commercial consumption returning to normal levels more quickly than anticipated in 2020 when the 2022-2024 consumption forecasts were prepared, the commercial customers class has a much larger consumption deferral refund per cubic meter than the residential class, which reduces the average commercial customer bill increases by 2.8%, whereas the residential consumption deferral refund only reduces the average bill increase by 0.9%.

Request: CC-EWS-17

Reference: PBR Readers Guide page 11-12

i) In the graph on page 12, the Average Commercial Customer Bill decreases from 2024 to 2025, and is also lower in 2026. Can you explain this reduction - is it all due to deferral account adjustment?

ii) Is the deferral account adjustment larger for commercial vs. residential (as we do not see a similar bill decrease on the graph on Page 11)?

EWS RESPONSE:

i) The reduction is mostly driven by the consumption deferral account adjustment but there are two other factors contributing to the decrease. The first is the change in the stormwater runoff coefficients as described in Section 21.2 of the application and on page 14 of the PBR Reader's Guide. The change in runoff coefficients was made to align with the City's updated Zoning Bylaw 20001, resulting in an overall reduction in the runoff coefficient for most commercial premises. The second is the decrease in forecasted consumption for the commercial customer class. EWS has forecast monthly consumption of 111.3 m^3 for 2024 and 109.9 m^3 for 2025 which reflects an ongoing trend in lower consumption.

ii) Yes, the deferral account adjustment will be larger for commercial customers as explained in response to CC-EWS-16. This is primarily due to commercial consumption returning to normal levels more quickly than anticipated.

Request: CC-EWS-18

Reference: PBR Readers Guide page 14

i) Can you clarify what the 'zones' are for the runoff coefficient? Can you also clarify how coefficients will be made and applied to each zone (and aligned with the Zoning Bylaw Renewal?)

EWS RESPONSE:

i) The zones are the City assigned land use zoning codes that are applied to each property within the City of Edmonton. For purposes of assessing stormwater charges, EWS has determined the runoff coefficients for a typical property within each zone. Refer to Part II – Stormwater Utility Rates of Schedule 1 to the Wastewater Services Bylaw 20865 for the runoff coefficients that EWS has assigned to each of the zones.

The approval of the City's Zoning Bylaw 20001 required that EWS update the previous runoff coefficients to align with the new zones. As part of its Design Standards Review, EWS undertook an engineering review to determine new runoff coefficients that would reflect the appropriate runoff for a typical property in each of the new zone categories.

Request: CC-EWS-19

Reference: PBR Readers Guide page 15

i) "EPCOR is required to meet high performance standards in customer service, system reliability, water quality, environment and safety set by the regulator, and at risk of financial penalties if they are not met. " What are the financial penalties?

EWS RESPONSE:

i) The calculation of the financial penalties for wastewater collection are stipulated in Section 3, Schedule 3 of the Drainage Services Bylaw No. 19627. The financial penalty can range from $67,000 to $1,000,000 for wastewater collection.

The calculation of the financial penalties for wastewater treatment are stipulated in Section 4, Schedule 3 of the Drainage Services Bylaw No. 19627. The financial penalty can range from $27,000 to $400,000.

Request: CC-EWS-20

Reference: PBR Readers Guide page 15

i) "EPCOR has an incentive to continuously seek efficiencies and cost savings, which are then passed on to customers in the next PBR period." Can you tell us more about the efficiencies/benefits from the last PBR period which are being applied during this cycle (and still resulting in a 2.9% increase in residential bills)?

EWS RESPONSE:

i) See response to UA-EWS-1-vi for efficiencies realized and passed onto customers. As noted in the Application, EWS is making substantial investments in its Wastewater Treatment and Wastewater Collection infrastructure to make the system more reliable, manage risks and to meet emerging needs, including large capital projects such as flood mitigation at Gold Bar and SIRP. These necessary investments, coupled with the requirement to "ramp-up" the rate of return on equity (ROE) for Wastewater Collection to a fair equity return of 10.8%, results in a combined residential bill increase of 2.9%.

Request: CC-EWS-21

Reference: PBR Readers Guide page 16

i) For Wastewater Collection, 67% of costs are fixed and for Wastewater Treatment, 27% of costs are fixed. Can you break down why 67% and 27% are fixed? Are fixed costs more so related to capital investments required for customer connection?

EWS RESPONSE:

i) The percentage of fixed costs referenced from the PBR Readers Guide (page 16) is referring to the proportion of fixed service charges reflected on the customers utility bills. These were calculated using the proportion of revenue collected from the service charges (i.e., fixed rate) to total revenue. The 67% fixed service charge referenced for Wastewater Collection includes stormwater rates that are fixed in nature as the charge is based on the area of the property and the runoff coefficient based on zoning for the property, which does not vary monthly. The Wastewater Collection rate also includes a fixed component for sanitary services, resulting in a higher fixed charge compared to Wastewater Treatment. The vast majority of costs incurred by EWS to provide wastewater treatment and wastewater collection services are fixed in nature. These include capital related costs, staffing, and operating and maintenance costs that are required to provide utility services irrespective of the variations in consumption. A small portion of utility costs are variable in nature such as chemicals, raw materials, and variable portion of energy costs.

Request: CC-EWS-22

Reference: PBR Readers Guide page 18

i) How were customers and stakeholders selected to participate in surveys, and for in-depth interviews? How many people participated?

ii) Was information on the PBR application process included on EPCOR bills going to customers to help raise awareness?

EWS RESPONSE:

i) EPCOR surveyed Edmonton residents (1,260 responses received) and commercial wastewater customers (a survey was sent to 2,018 customers representing about 3,950 commercial sites, 41 responses received). The residential survey was conducted by Stone Olafson, through their online community, which is representative of the population of Edmonton, including multi-residential customers. EPCOR e-mailed a separate survey to all commercial customers.

- Residential data was collected between March 3 and 24th, 2024.
- Concurrently (March 3 to May 13) to the above survey, a live link to the survey was posted on EPCOR's website to enable any member of the public to participate.
- Commercial data was collected between April 12 and May 13, 2024.
- A survey link was also included on epcor.com, and we provided the information to the councillors – from which several shared it across their platforms.

Following the surveys, EPCOR engaged specific stakeholder groups that have a particular interest in the wastewater collection and treatment utilities, including:

- The Gold Bar Community Liaison Group, which includes residents, business representatives, and community league members from the areas around the Gold Bar plant.
- Developer groups, from which members were invited to participate in a series of meetings, including Infill Development in Edmonton Association (IDEA), Canadian Home Builders Association (CHBA) Edmonton, Urban Development Institute (UDI) Edmonton Metro, Building Owners and Managers Association (BOMA) of Edmonton, Alberta Low Impact Development Partnership (ALIDP), and Commercial Real Estate Development

Association (NAIOP) Edmonton. A survey was also sent to this group to collect any additional feedback.

These meetings included a brief introduction to PBR to help stakeholders understand the rate-setting process, and areas where they could meaningfully provide input.

ii) While PBR information was not included in customers' bills, the entire application as well as a reader's guide was made available at www.epcor.com/pbr; and advertisements notifying the public of the filing of the application and the review process were placed in the *Edmonton Journal* and *Edmonton Sun*.

Information included in customer bills is primarily reserved for conveying time sensitive billing impacts. To obtain the best engagement results in the most cost-efficient and timely manner, we employed a broad, multi-pronged communication and engagement approach that included targeted communication tactics and incentives, as well as made use of channels with greater reach and engagement levels.

The full application and appendices were posted on epcor.com at the beginning of June. A new, easy to remember vanity URL linking directly the PBR Application page (www.epcor.com/pbr) was also created, along with a dedicated email address to collect input on the application.

The ads, which provided information on where the application can be found online, along with how Edmontonians can provide their input on the application through the Information Request Process and the October 11th Public Hearing, ran twice in each newspaper's June 6 and June 28 print editions. The ads remained online for a week following their initial insertion.

- The Edmonton Journal and Edmonton Sun have a combined print readership of around 730,000/day and an online readership of about 791,000/day.

To further promote the application and help generate understanding of the complex process, EPCOR developed a simplified, easy-to-read version (Reader's Guide), which provides a high-level overview of the key changes being proposed and where to find more information within the full application.

The email address: EPCORwastewaterPBR2024@epcor.com remains live on epcor.com/PBR in order to ensure any customer that may have missed the earlier opportunities can still share their feedback.

Request: CC-EWS-23

Reference: PBR Readers Guide page 20

i) Infrastructure Condition Rating: Can you tell us more about the rating of most of EPCORs current infrastructure? At what rating does renewal/replacement happen?

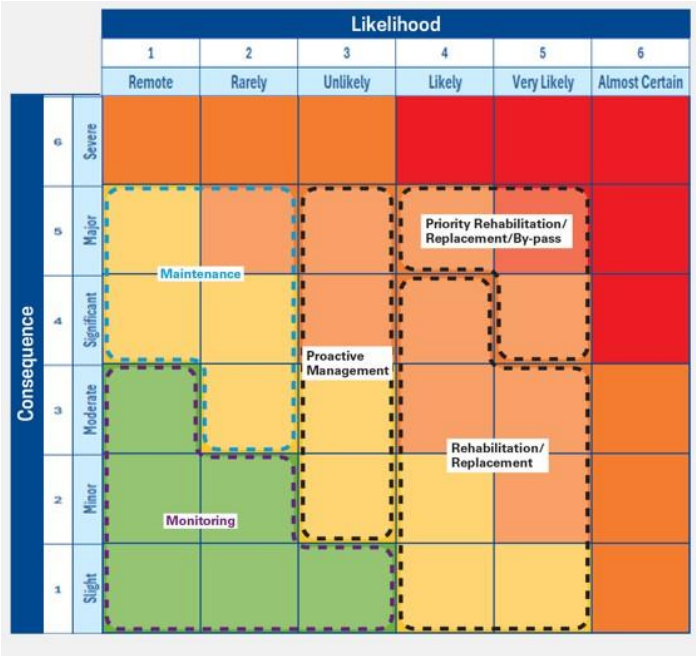
EWS RESPONSE:

i) EWS' asset management approach is a systematic process that structures and documents asset inventory, measures, monitors, and maintains asset performance, minimizes exposure to risk, and guides and optimizes the sustainable investment of funds.

Assets are assigned risk rankings that reflect their potential for adverse impacts by considering the assets likelihood of failure and its corresponding consequence. Along with other considerations, such as community needs, growth requirements, equity, environmental sustainability and business needs, the risk rankings help to define the maintenance, rehabilitation and replacement priorities across the city.

As per the risk matrix below, renewal/replacement concept planning will start as the asset ages and is forecast to enter the Likely or Very Likely (Likelihood of 4 or 5) categories (see risk matrix below). The consequence of asset failure helps identify how EWS responds/manages asset risk.

Figure CC-EWS-23-i
EWS Risk Matrix



The Large Trunk Rehabilitation Program Business Case, Appendix G-10 of the PBR application, has an explanation on how the condition and risk modeling is completed and shows the resulting risk grids for both the Storm and Sanitary/Combined Trunks. This business case also identifies the candidate criteria for selection and discusses some of the complexity involved in rehab or replacement of these assets.

Overall condition rating for the Wastewater and Stormwater collection infrastructure can be seen in Appendix E – Final 2020-2022 PBR Progress Reports in the Infrastructure Condition Rating; this measure was the percent of the system with a Likelihood of 3 or less on the above figure.

Request: CC-EWS-24

Reference: General Question

i) Does EPCOR's debt for capital investments impact the City's overall debt-borrowing limit? Does EPCOR have its own limit - if so, what is it?

EWS RESPONSE:

i) No, EPCOR Utilities Inc. ("EUI" Or "EPCOR") debt does not impact the City's overall debt-borrowing limit. EWS is a subsidiary of its parent corporation EPCOR. EPCOR is a stand-alone debt issuer, with separate financial reporting requirements from the City. EPCOR's debt agreements contain covenants that limit borrowings to less than 75% of Consolidated Capitalization (Consolidated Capitalization is the total of EPCOR's debt and equity) and at December 31, 2023 the actual amount of debt was 52% of Consolidated Capitalization. Limits on EPCOR's debt borrowings are also based on EPCOR's internal target credit rating. Credit ratings for EPCOR are issued by independent rating agencies including DBRS and Fitch. One factor considered by rating agencies is the financial ratios of EPCOR which are influenced by the amount of debt held by EPCOR.

Request: CC-EWS-25

Reference: General Question

i) Where does EPCOR borrow from for debt? The Alberta Treasury? And is it the same rate as the City's borrowing?

EWS RESPONSE:

i) EPCOR does not borrow from the Alberta Treasury. EPCOR has several committed credit facilities with various banks and issues commercial paper for short-term borrowings. EPCOR issues long-term bonds to debt investors in the U.S. and Canadian debt capital markets. EPCOR does not borrow at the same rate as the City of Edmonton.

Request: CC-EWS-26

Reference: General Question

i) Customers in this PBR cycle will receive a credit for the deferral account. This will reduce the rate increases for the next PBR. In general, by how much did the credit reduce the rate increases?

EWS RESPONSE:

i) The impact of the consumption deferral refund will vary depending on the customer's rate class and their consumption. Generally, for the average residential customer, the consumption deferral refund will result in an average rate increase of 2.9% over the PBR term compared to an increase of 3.8% before the consumption deferral refund. For the average multi-residential customer, the consumption deferral refund will result in an average rate increase of 0.4% compared to an increase of 2.4% before the consumption deferral refund. For the average commercial customer, the consumption deferral refund will result in an average rate increase of 0.9% compared to an increase of 3.8% before the consumption deferral refund. Details of the rate impacts are illustrated in Section 1.8 of the Application.

Request: CC-EWS-27

Reference: Page 4 Section 14

i) "Approximately 28% of Wastewater Collection's planned capital investments are related to the Growth/Customer Requirements category, which includes addressing flood mitigation, relocation of assets, construction of new infrastructure and coordination with private developers and the City of Edmonton." Has our accelerated growth rate in Edmonton been taken into account? Are there contingencies if we grow faster than planned for capital investments?

EWS RESPONSE:

i) Yes – the Capital program proposed has been developed in consideration of the City Plan targets for increased growth within the municipal boundary.

The Growth/Customer requirements category consists of two types of investments:

- Investments required to support growth of customers discharging sanitary sewage and stormwater into the piped wastewater collection network. The proposed Inflow & Infiltration reduction initiative detailed in Appendix G-9 is the primary mechanism along with water conservation initiatives on the sanitary network to provide capacity for future new expanded sanitary flows on the network. The investments in the flood mitigation via the Stormwater Integrated Resource Plan also reduce the impact of increased impermeable surfaces expected with increased denser development.

- Investments required to relocate existing pipes to accommodate City of Edmonton initiatives to serve the growing population. This includes any relocations of infrastructure to accommodate road widening for local, collector and arterial roads and new LRT projects.

EPCOR is also working closely with the City of Edmonton Housing Accelerator team to support their targets for growth through identification of parcels that can be redeveloped with minimal infrastructure investments.

No contingency for growth beyond the City Plan targets have been included in the PBR Application. The Non Routine Adjustment (NRA) process could be utilized if there was an unforeseen requirement to relocate more pipes than expected for City road initiatives.

Request: CC-EWS-28

Reference: Page 7 (1.7 2025-2027 PBR Rates)

i) The proposed rate is based on the current number of households, commercial and industrial establishments. How do you account for the changes/increases in these units over the PBR term? "EWS projects that its residential customer counts will increase by 1.9% per year for the 2025-2027 PBR term" (page 60) If the population growth is faster than expected like in 2022-2023, will this variance in population be captured in the next PBR cycle?

EWS RESPONSE:

i) Yes.

As noted in Section 4.8.1 of the Application, EWS' forecast rates of customer growth rates incorporate data from sources including historical growth trends, third-party forecasts of Edmonton population growth, and judgment. These forecasts represent EWS best estimates of customer growth at the time the forecasts are prepared.

There is no adjustment mechanism in the 2025–2027 PBR to account for differences between forecast and actual customer counts, therefore EWS bears all forecast risk over the current PBR term. These differences will be reflected in the starting point data for the next PBR term's customer forecast.

Request: CC-EWS-29

Reference: Page 7 Section 24

i) "In its 2024-2026 PBR Application, EWS proposed to ramp up the fair rate of return for Wastewater Collection over a 5-year period from 5.50% in 2022 to the full rate of return by 2026 in an effort to moderate rate increases". While the fair rate of return was outlined and discussed in the application, can you tell us a little more about the change from 5.5% to 9.00% in 2025, 2.90% in 2026 and 10.8% in 2027? Was the 5.5% fair rate of return in 2022 not considered a "full rate of return" at the time?

EWS RESPONSE:

i) No, the 5.5% was neither a fair nor a full rate of return. As part of the Drainage transfer agreement, EWS committed to hold the annual Drainage rate increases steady at 3% for the years 2017-2021. Following this period, EWS submitted a PBR application for the 2022-2024 term to set new rates with a fair rate of return for Drainage operations. The 2022-2024 PBR Application was prepared and submitted during the COVID-19 pandemic. EWS recognized that the economic climate at the time was creating financial hardship for many customers and transitioning to a fair rate of return of 9.95% in 2022 would have resulted in a significant rate increase for customers. Therefore, EWS voluntarily proposed a reduction in its equity rate of return from 9.95% to 5.50% in 2022 and proposed to "ramp up" the return on equity in a linear fashion by 1.1% per year to achieve a fair rate of return of 9.95% by 2026. By accepting a return on equity that was far below a fair rate of return, EWS reduced costs to ratepayers by over $66 million over the 2022-2024 PBR term.

EWS recognizes that the current economic environment with higher than normal inflation continues to cause affordability challenges for many customers. To moderate rate increases over the 2025-2027 PBR term, EWS is proposing to continue this commitment and will ramp up to the fair rate of return on equity of 10.8% by 2027 for Wastewater Collection. The proposed rate of return on equity for Wastewater Collection is 9.00% for 2025, 9.90% for 2026 and 10.8% for 2027. By voluntarily reducing the return on equity from the fair return of

10.8% in 2025 and 2026, EWS reduced costs to ratepayers by $25.6 million over the 2025-2027 PBR term.

Request: CC-EWS-30

Reference: Page 10-11

i) In the "Combined WWC and WWT Bill Impacts" on page 10-11, the impact of change in consumption is declining for residential and commercial, but not for multi-residential, why? Can you explain why consumption is not declining for multi-residential customers?

EWS RESPONSE:

i) Multi-residential consumption is more difficult to forecast as compared to residential consumption due to the variability of the number of dwellings within the customer class. To be defined as multi-residential, a service requires five or more dwelling units metered by a single water meter. As such, the multi-residential customer category includes a range of building types, from low rise apartment buildings with as low as five dwelling units, up to a high-rise apartment with hundreds of dwelling units. Generally, the water consumption of a premise will be proportional to the number of dwelling units in the building; the more the dwelling units, the more water that building will consume each month. On a per individual dwelling unit basis within a multi-residential building, EWS has seen reductions in consumption occurring over time and multi-residential dwellings use on average 10m3/month as compared to approximately 14m3/month for a single-family residential unit on a single lot. Vacancy rates in multifamily dwellings, which can vary based on external economic conditions, also limit the ability to complete direct comparisons from year to year when compared to the number of accounts that represent the service to the building vs. occupancy of the dwelling units within the building.

As a result of this service-to-service size variation, monthly water consumption for multi-residential buildings can vary greatly. When multi-residential consumption is averaged on a service basis annually, the long-term trend is upwards, reflecting the positive impact of the City Plan to encourage more dense development throughout the city.

Request: CC-EWS-31

Reference: Page 14 Section 43

i) Since the implementation of the organization restructuring, what have you learned that has strengthened the organizational structure, and what are some gaps that need to be improved that you are working on?

EWS RESPONSE:

i) Learnings that have strengthened the organization:

- The new functional structure has enabled leaders and teams to make decisions that are in the best interests of the entire water, wastewater and stormwater system.
- The structure has helped to facilitate a move towards building a standardized risk framework to manage capital investments planning and optimization.
- Our integrated planning processes have enabled the ability to modernize our design standards across the water elements, resulting in improved efficiencies supporting the growth of the city and implementation of City Plan.
- The structure allows many opportunities to find more efficiencies to share resources and standardization or processes. Many of these improvements have already been achieved through earlier stages of integration of the water and wastewater businesses specifically in resource efficiency and sustainability.
- The structure provides a more customer-focused approach by centralizing areas that interface with customers. Improvements to customer engagement and experience have been realized.
- The new structure provides an opportunity for improved procurement, partnerships and alliances.

Initiatives we are working on:

- Continuing to develop better workflow processes for capital delivery under the new organizational structure.

- Identified that further work can be done to integrate the linear assets operations.

- Situational awareness - There are many advances that can be achieved in system monitoring. Water and Drainage have system monitoring functions installed but they do not provide sufficient real time information or a complete picture of the system to support operator decision making. The vision is to have integrated system monitoring, planning, operational decision making, data acquisition and maintenance/installation of equipment functions using a consistent platform. We are also exploring using advanced automation & artificial intelligence tools in certain circumstances. This will support better day-to-day operational decision making, cost control and a better customer experience.

Request: CC-EWS-32

Reference: Page 23 Section 58

i) "The plan also includes initiatives that focus on advanced stormwater management across 18 major stormwater basins. EWS' Stormwater Integrated Resource Plan (SIRP), approved by the City of Edmonton Utility Committee and City Council in 2019, is a $1.6 billion investment that will be implemented over 20-30 years" Can you tell us about the initiatives that focus on stormwater management at these basins? How many have been implemented? How are basins prioritized?

EWS RESPONSE:

i) The SIRP strategy assessed flooding risks at over approximately 1400 stormwater sub-basins across the City that were grouped into 18 major stormwater basins based on stormwater trunk configuration. The grouping allowed for identification of risk mitigation measures upstream of the identified risk area within a larger area versus focusing solely on initiatives within the immediate geographic areas. Within each of these 18 basins a mix of capital and operational investments were reviewed to mitigate the risks across the City. The initiatives were grouped into five themes of investment – SLOW, MOVE, SECURE, PREDICT and RESPOND. The SIRP investments and risk framework to prioritize the investments were presented to Utility Committee in October 2018 (risk prioritization) and May 2019 (capital and operational investments to mitigate risk)

SIRP SLOW - For dry ponds the plan leveraged previous City of Edmonton Drainage work to identify suitable locations for future large dry ponds primarily in large green space adjacent to schools and community park recreation areas. Since 2019, dry ponds have been completed in Malcolm Tweddle, Tawa, Parkallen, and Steinhaurer/Erminskin locations. Detailed design and/or Construction is underway for the Kennilworth, Ottewell, Lauderdale and Parkdale communities. Planning is underway for Forest Heights, Cloverdale, Newton, Rossdale, Kensington and Alberta Avenue dry ponds, construction of these additional ponds will begin this next PBR period. Appendix G-2 in this filing contains additional information on the dry pond program. EWS will continue to work with the City of Edmonton Open Spaces teams

aligned with the City plan Breathe Strategies to confirm locations for future dry ponds – large and smaller sizes throughout the City. The design standards for greenfield development were also updated in 2020 to allow for dry ponds in this type of development where they were previously discouraged by City of Edmonton Drainage.

SIRP SLOW - For LID, over 400 locations across the City of Edmonton have been installed through coordinated efforts between EPCOR, the business community and City of Edmonton. The LID installations have included rain gardens, tree soil cells, permeable pavement and underground storage facilities designed to capture the lower intensity rainstorms experienced throughout the year and on the periphery of the larger intense storms. For the large storms the LID investments reduce and slow the flows the need to be managed by the trunk network. Over the last few years EPCOR, City of Edmonton and development community have collaborated to update the design and construction standards to reduce the complexity and barriers for implementation in the community. Appendix G-4 in this filing contains additional information on the LID capital program proposed for this filing. Appendix P contains information on the proposed new rebate program to support LID installation on privately held land. EPCOR is also coordinating with the greenfield development community through five pilot areas to develop and monitor performance of LID in these neighborhoods to further refine the design standards.

SIRP MOVE – consists primarily of the installation of pipes to facilitate the redirection of stormwater flows towards the dry pond locations, improvements to culverts along rural roads to reduce flooding risks in ditches and adjacent properties, and targeted sewer separation to reduce localized ponding within the combined sewer areas. The original SIRP strategy also anticipated a large storm trunk potentially being required in the central northeast neighborhoods. EPCOR is collaborating with the City of Edmonton Northlands development team for potential to have this requirement replaced by future dry pond in the redeveloping area in future PBR periods.

SIRP SECURE – the capital program in SIRP SECURE is focused on the installation of outfall gates along the river to prevent the backup of river water into the piped stormwater network during extreme high river water events. In the initial SIRP, 31 locations were identified as

potential locations for the installation of these control gates. On-going detailed engineering review of flooding levels and configuration of these outfalls and pipe network has reduced the total number of gates required to between 13 to 20. The remaining outfalls have been confirmed as not requiring an outfall gate due to height of outfall and stormwater piping configuration upstream of the outfall. Also included in SECURE is investments in Inflow/Infiltration (I&I) reduction documented in Appendix G-9 to reduce excess stormwater entering the sanitary network increasing flooding risks. The other benefit to I&I reduction is creation of capacity in the existing pipes to support growth.

SIRP SECURE – operational program consists of the flood inspection programs and backwater valve subsidies offered to property owners across the City. EPCOR increased the number of flood inspectors supporting the program and expanded the inspection services offered beyond residential customers to also support multifamily and commercial properties. EPCOR proposed to continue this program with this PBR and has a performance measure aligned with these efforts.

SIRP PREDICT – includes the installation of sensors and smart control devices across the network to support real time response during rain fall events. Appendix G-14 contains details on the Smart Ponds program that is part of this component. EPCOR also installed a Dashboard tool in 2021 to improve the awareness and access to real time flows across the stormwater and sanitary systems. Underpass flood warning systems have also been installed at high-risk locations in the City.

SIRP RESPOND – includes capital investments in emergency response equipment and operational resources to support property owners and the City of Edmonton to develop emergency response plans for extreme flooding events. EPCOR has acquired in the past two years portable flood barriers as an alternative to sandbags to provide flood protection of critical utility infrastructure components located in the river valley flood risk areas. EPCOR has also worked with City of Edmonton operations teams to identify roads and customer areas at risk of river flooding and jointly developed operational detour plans for areas impacted.

Request: CC-EWS-33

Reference: Page 24 Section 60

i) "A primary goal of the Slow theme is to adopt Low Impact Development (LID) solutions that promote sustainable urban development while enhancing the system's capacity to manage increased wastewater volumes and extreme weather events." Is this the rationale for the Stormwater Management Rebate Program and encouraging LID features? To continue executing the SIRP because "slow theme" is the largest investment category?

EWS RESPONSE:

i) Yes, EPCOR is recommending the introduction of the Stormwater Rebate program to further encourage the implementation of low impact development (LID) features that reduce the risks of flooding during extreme storm events, which is consistent with the "SLOW" theme.

In the prior PBR, the focus was on LID installations within the public right of way and in conjunction with City of Edmonton and EPCOR planned capital projects. The phased approach was to allow the City and EPCOR to update the design standards and expand the types of LID installations that were confirmed as suitable for our northern climate.

Now that these standards are substantially complete, EPCOR is recommending the additional rebate program aligned with other communities with similar programs and approaches to reducing stormwater peak flows and flooding risks.

Request: CC-EWS-34

Reference: Page 46 Section 127

i) "The RFI was circulated in 2019 and was ultimately unsuccessful". Can you clarify why it was unsuccessful? Was it because there are few experts who can do this or it is not possible to do?

EWS RESPONSE:

i) The RFI was unsuccessful because the experts who replied to the RFI concluded that there is no basis to adequately quantify each of the risk factors and that such an approach is not an established industry practice.

In its conversations with other cost of capital experts that EWS has engaged over the years, EWS is not aware of any who have used such an approach to quantify risk factors to establish the return on equity.

Request: CC-EWS-35

Reference: Page 50 Section 139

i) "The depreciation study for Wastewater Treatment recommends an overall reduction in the average service life of assets" There are some quite significant reductions in service life. Will these recommendations increase the cost of capital as the need to replace assets will occur sooner than originally planned during the 2022-2024 term? Can you tell us why there is increased forecasted depreciation for some of the fixed assets?

EWS RESPONSE:

i) The increase in forecasted depreciation is primarily due to the addition of new assets (capital investments) that are projected to be in service during the 2025-2027 PBR term.

The depreciation study recommendations are informed by EWS' actual asset retirement experience. Although the depreciation study recommends shorter lives for some asset components, EWS notes that asset retirements are driven by physical condition and risk assessments, not solely by the recommended deprecation service life.

EWS also notes that the forecasted depreciation also includes impact of the revised service lives, which ranges from $0.11 million in 2025 to $0.89 million in 2027.

Request: CC-EWS-36

Reference: Page 60 Section 164

i) "EWS projects that its residential customer counts will increase by 1.9% per year for the 2025-2027 PBR term" If the population growth is faster than expected like in 2022-2023, will this variance in population be captured in the next PBR cycle?

EWS RESPONSE:

i) Yes.

As noted in Section 4.8.1 of the Application, EWS' forecast rates of customer growth rates incorporate data from sources including historical growth trends, third-party forecasts of Edmonton population growth, and judgment. These forecasts represent EWS best estimates of customer growth at the time the forecasts are prepared.

There is no adjustment mechanism in the 2025–2027 PBR to account for differences between forecast and actual customer counts, so EWS bears all forecast risk over the current PBR term. These differences will be reflected in the starting point data for the next PBR term's customer forecast.

Request: CC-EWS-37

Reference: Page 61 Section 168

i) "Stormwater utility customer counts are approximately 0.3% greater than Wastewater Treatment and Wastewater Collection's sanitary utility customers counts, because of customers that are solely provided with stormwater operations and do not receive sanitary collection service or wastewater treatment service from EWS." What customers are just provided with stormwater operations - places like vacant lots and parking lots?

EWS RESPONSE:

i) At this time, the majority of customers with Stormwater Only accounts are either community leagues with land parcels and/or some individual parking lots. The Community Leagues with Stormwater Only accounts, are set up in this manner to allow for the stormwater billing for Community Leagues to be invoiced to the City of Edmonton. Community Leagues who receive sanitary and wastewater treatment service, which is billed directly to the Community Leagues. EWS has identified that there are other vacant properties throughout the City that should be added as a stormwater only account. This will occur during the upcoming PBR period. This will increase the number of stormwater utility counts in the future.

Request: CC-EWS-38

Reference: Page 62 Section 171

i) For the "runoff coefficient", does a lower coefficient mean a more efficient runoff? And a higher coefficient means more runoff that requires servicing?

ii) Table 4.8.1-2: Can you clarify why Schools have a low runoff coefficient? Is it because of green spaces that are on school property? In comparison, does the CB2 zone have a higher runoff coefficient because Business Zones usually have more concrete and asphalt?

EWS RESPONSE:

i) A runoff coefficient reflects the ratio of the amount of runoff from a property that reaches the public drainage system over the total rainfall that falls on the property. A lower runoff coefficient reflects a higher proportion of pervious surface on a site (i.e. grass and natural areas). On these properties, more water is absorbed through natural processes (infiltration and evapotranspiration) and less water makes it to the public drainage system. Likewise, for properties that have a large amount of impervious surfaces (i.e. parking lots, buildings), the runoff coefficient is higher as less rainwater is absorbed on site and more water makes it to the public drainage system (requiring more servicing).

ii) Correct. The large sports fields and green spaces on school properties result in a lower runoff coefficient. Business zones as well as commercial and industrial zones tend to have a higher proportion of impervious hard surfaces resulting in a higher runoff coefficient.

EPCOR Water Services
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CC-EWS-39

Request: CC-EWS-39

Reference: Page 63 Section 174

i) Are new greenfield neighbourhoods more water-efficient because of new/more efficient technologies and fixtures installed in homes?

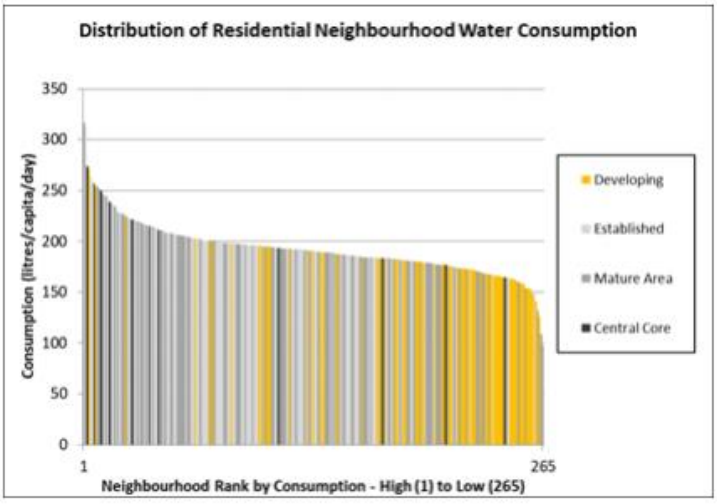
EWS RESPONSE:

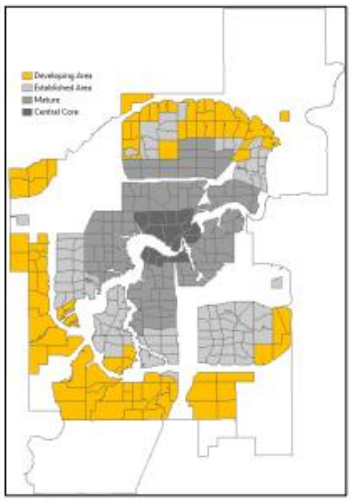
i) Yes, newer neighborhoods, infill development and properties that have renovated have more efficient water use. This is driven by smaller lot sizes in greenfield and infill development reducing the need for lawn watering and for all types of development more efficient water use fixtures.

EPCOR presented a report on changing water uses in the community at the May 20, 2022 Utility committee - Report #FCS01211

https://pub-edmonton.escribemeetings.com/filestream.ashx?DocumentId=144195

The chart below shows the average water consumption per capita for each neighborhood across the City. The lower consumption neighbourhoods are primarily in the greenfield areas.





Request: CC-EWS-40

Reference: Page 70 Table 6.1-1

i) Why are contractors and consultants significantly more than staff costs for WWT? Why does WWC have the opposite trend? Is it the sheer scope of work and workforce size required for the latter? Or the latter is more heavily focused on capital buildings (i.e., building piping systems)?

EWS RESPONSE:

i) Expenses related to Biosolids management program account for majority of the total contractor and consultant costs for Wastewater Treatment. EWS uses contracted services for dewatering, land application, monitoring and other services related to the Biosolids Management Program. See response to CC-EWS-43.

The remaining costs included in this category for Wastewater Treatment and Wastewater Collection pertain to contractors and consultants engaged by EWS when specialized equipment or in-house expertise is unavailable.

Request: CC-EWS-41

Reference: Page 70 Table 6.1-1

i) In Table 6.1-1: The Core Operations Sub-Total, the numbers above do not correctly add up. Do these sub-total numbers also include power, other utilities and chemicals?

ii) Also in Table 6.1-1: What is the total employee numbers in core operations and also in shared services for WWT? How does this compare to employee numbers in WWC?

EWS RESPONSE:

i) Yes, EWS made an inadvertent error in the preparation of this table. The subtotal for core operations includes the costs for power, other utilities and chemicals.

ii) The table below compares the FTEs for WWC and WWT for both Core and Shared Services function.

		A	B	C	D
Line		**2024**	**2025**	**2026**	**2027**
No.	**Description**	**Forecast**	**Forecast**	**Forecast**	**Forecast**
	Operating Function				
1	Wastewater Treatment Plant	104	104	104	104
2	Wastewater Collection	246	246	246	246
3	**Total Core FTE's**	**350**	**350**	**350**	**350**
4	Shared Services - Wastewater Treatment Plant	23	23	23	23
5	Shared Services - Wastewater Collection	68	68	68	68
6	**Total Shared Services FTE's**	**91**	**91**	**91**	**91**

Request: CC-EWS-42

Reference: Page 71 Section 191, Page 120 Section 339

i) For WWT and WWC: Are the wages for the three Civic unions the same negotiated terms as COE employees?

ii) What's the breakdown of the three Civic unions' membership across WWT and WWC?

EWS RESPONSE:

i) No. EPCOR negotiates its collective agreements with the unions separately from the City of Edmonton employees.

ii) Table CC-EWS-42-01 below provides a breakdown of employee union membership across WWT and WWC.

Table CC-EWS-42-01
Union Membership

		A	B	C	D
		CSU52	CUPE30	IBEW1007	Total
1	Number of Employees	292	398	65	755

Request: CC-EWS-43

Reference: Page 71 Section 193

i) Have you done a cost-benefit analysis for bringing some of these contractor/consultant roles in-house?

EWS RESPONSE:

i) Over 90% of the contractor and consultant costs for Wastewater Treatment are related to contractor costs for the biosolids program to thicken, dewater and apply biosolids to land for beneficial reuse.

EPCOR was previously able to dewater biosolids at the City of Edmonton Dewatering Facility located at the Edmonton Waste Management Facility. In late 2022, the Dewatering Facility had a significant electrical failure that resulted in the permanent shut down of the facility. This was an unexpected failure that had a significant impact on EPCOR's ability to dewater and land apply biosolids.

EPCOR is now trialing portable dewatering equipment to make-up for the shortfall that has resulted from the facility closure as a temporary solution. A long-term strategy and solutions for dewatering is being developed. EWS utilizes its resources (staff and contractors) in a manner that provides services in the most cost-effective manner. A cost-benefit analysis including the optimal delivery of dewatering services is being evaluated as part of the strategy development.

Request: CC-EWS-44

Reference: Page 72 Section 196

i) "Delivery charges have increased at a greater rate than energy charges through the term of the current PBR and are projected at their historical rate of growth." Why have delivery charges increased at this rate? Is it the same trend/rationale as the rising energy market?

EWS RESPONSE:

i) The increase in delivery charges is not increasing for the same reasons as the energy charge (i.e., commodity charge). Delivery charges and energy charges should be viewed independently. The energy price changes are determined by the wholesale market and are affected by supply and demand. As noted in the Application, EWS enters into long-term power agreements for the procurement of energy at fixed rates to protect itself from energy price volatility. Whereas the delivery charges, also referred to as transmission and distribution charges, are fully regulated and approved by the Alberta Utilities Commission (AUC). EWS has no control over the delivery rates.

Request: CC-EWS-45

Reference: Page 76-77 Section 211

i) "The existing power contract is set to expire in 2024 and a new power contract is anticipated to cost more due to higher electricity rates." Can you clarify why the new power contact will cost more? Is this because of the rising energy market costs? Over the last 10 years, how accurate has the prediction for energy/power costing been? Hasn't the market been highly volatile? So are these increases reliable?

EWS RESPONSE:

i) In preparing its power cost for the PBR term, EWS relied on an energy price forecast from a reliable third-party energy provider. This price forecast was higher than previously experienced. As noted in the previous response (CC-EWS-44), energy prices are influenced by the wholesale market design and external factors all of which are out of the control of EWS. Later this fall, EWS will enter into a new, long-term power agreement. The agreement will include a fixed price for energy that will provide predictability of costs and protect EWS from price fluctuations. Table CC-EWS-45-01 below compares the forecast and actual wastewater treatment power prices for the last few PBR terms. In total, the variance between actual and forecast power costs has been within 8% and as such, EWS considers its forecast to be reliable.

Table CC-EWS-45-01
WWT Power Cost Variances
($ millions)

		A Forecast	B Actual	C Variance
1	2012 - 2016 PBR Term	20.9	20.5	0.4
2	2017 – 2021 PBR Term	23.6	21.6	2.0
3	2022 - 2024 PBR Term[1]	10.9	9.3	1.5
4	Total	55.4	51.4	3.9

Note 1: Only costs to the end of 2023 are included.

Request: CC-EWS-46

Reference: Page 78 Section 220

i) Overall, how do you mitigate cost increases that are unanticipated at the time of approval but must be reconciled during the next PBR term? Is EWS just absorbing these risks?

EWS RESPONSE:

i) Yes, EWS bears the risk of unanticipated cost increases during the PBR term. See response to CC-EWS-1 for additional information.

Request: CC-EWS-47

Reference: Page 82-83 Section 237

i) For the AMI project: Is the capital cost of meter installation already included in the current PBR term for water?

EWS RESPONSE:

i) Yes.

Request: CC-EWS-48

Reference: Page 85

i) For Table 6.2.5-1: What is "Business Development Disallowances"?

EWS RESPONSE:

i) Disallowances generally refer to costs that are considered not integral in providing utility services (i.e., non-regulated) and as such, are removed from the utilities' revenue requirement. Disallowances have generally been determined by the Alberta Utilities Commission (AUC) for electric and gas utility rate applications and have been adopted by EPCOR Water Services in its applications. EWS business development costs are included in the Corporate Shared Services Costs but an adjustment has been made to remove these costs from the revenue requirement.

Request: CC-EWS-49

Reference: Page 89 7.1.3 Reliability and Life Cycle Replacements

i) Under 7.1.3 under Reliability and Life Cycle Replacements, it seems like numerous projects are deferred. What are some of the mitigation measures planned in the 2025-2027 PBR term to ensure projects are not deferred again or further delayed? Some of the scope changes feel significant.

EWS RESPONSE:

i) Although it can appear that numerous projects are deferred when compared to the previous PBR plan this is not the case. The changes reflect the timing of some of the initiatives extending as the individual project locations complete their detailed design and obtain their approvals to initiate construction. The under expenditure on these projects are more than offset by the additional capital investments made by EWS for the Drainage System Rehabilitation and Corrosion and Odour Remediation projects. Overall, during the current PBR term, capital expenditures for Wastewater Treatment and Wastewater Collection are expected to exceed approved amounts. For an overview of EPCOR's robust project management approach, see response to UA-EWS-11-i.

EWS takes a portfolio approach to its capital plan and manages its capital spend to remain within the approved capital envelope while optimally prioritizing the renewal or replacement of its infrastructure to maintain service quality and to ensure uninterrupted provision of its services to customers. However, at times, changes to individual projects or program are required to meet emerging needs or to address delays caused by external factors. For instance, during the current PBR term, capital spending on SIRP and Flood Mitigation was extended 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. This portfolio approach will continue in the upcoming PBR and changes on significant capital projects, while managing to the overall PBR budget envelope will continue to be reported in the annual PBR progress reports to Utility Committee.

Request: CC-EWS-50

Reference: Page 122 Table 14.2-1

i) Why do Corporate and EWS Shared Services vary so drastically between WWT and WWC? Is it because of the sheer size of the workforce, and the resulting need for shared services is greater for WWC?

EWS RESPONSE:

i) Corporate and EWS Shared Services costs are allocated using different cost allocators that reflect the factor or factors that drive the cost of providing support services to WWT and WWC, which includes allocators such as assets, headcount, revenue and net income. WWC operations cost allocators are larger than WWT and as a result is allocated a larger proportion of these costs.

Request: CC-EWS-51

Reference: Page 202 Section 574

i) "The SIRP risk assessment previously identified approximately 40,000 properties at high and medium-high risk of basement flooding due to geographical proximity to topographical sag locations in the urban environment." When was this assessment completed?

EWS RESPONSE:

i) The assessment of properties at risk of flooding due to geographic proximity to topographical sags was completed in 2018/2019 as part of the development of the Stormwater Integrated Resource Plan (SIRP). This was presented to Utility Committee on May 10, 2019 as part of the recommended capital and operational investments to support the SIRP strategy.

On August 27, 2021 – an updated and more detailed report on this analysis and programs that EPCOR was implementing to mitigate this risk was presented as part of a report on Home Adaptation Strategies and Programs - Report #CR_8090

https://pub-edmonton.escribemeetings.com/filestream.ashx?DocumentId=113079

Request: CC-EWS-52

Reference: Page 203 Table 22.4.4.4-1

i) During the 2022-2024 PBR we see a big uptick in Full property Flood Proofing Inspections. What are the reasons for these big jumps?

EWS RESPONSE:

i) The increase in Full Property Flood Proofing inspections increased in 2022 once EWS was able to gain full access to properties as COVID-19 restrictions had eased by this time. EWS also included multi-family residential homes as part of the inspection services provided by the Utility.

Request: CC-EWS-53

Reference: Page 206 Table 22.4.5-2

i) From 2018- 2023 we see a relatively big increase in EWS Worksite Inspections and Observations. What are the factors contributing to this increase? Was it to meet a target?

EWS RESPONSE:

i) When the EWS Worksite Inspections and Observations PBR measure was originally proposed, it was based on internal health and safety requirements that set out specific expectations for managers and supervisors in operational areas with direct reports. The PBR standard was set on this basis. A change was made in 2021-2022 to include employees not covered by the procedure to involve all employees (including those outside operational areas) in the effort to prevent occupational injuries, illnesses or incidents by observing and correcting unsafe acts, conditions and behaviors in all workplace settings. As a result of increased number of employees participating in the program, the target was increased accordingly.

Request: CC-EWS-54

Reference: Page 214 Section 616

i) "For the 2025-2027 PBR term, EWS is proposing to maintain the WELP standard at 26.0%." Can you clarify the WELP Standard? For WELP, Is a higher % better because it means a better performance quality of the water discharged into the river?

EWS RESPONSE:

i) Refer to section 22.5.1 of the 2025-2027 Wastewater PBR Application for more details. A summary of this section is provided below to explain the Wastewater Effluent Limit Performance (WELP).

WELP is intended to demonstrate the overall effectiveness of the wastewater treatment processes by tracking the quality of final effluent being returned to the North Saskatchewan River. EWS is required to meet or exceed its Alberta Environment discharge Approval-to-Operate limits for five parameters measured in the final effluent. EWS has established the WELP standard which is a more stringent target for normal operations at the Gold Bar WWTP. The WELP is based on calculated percentages of the actual discharge level relative to the Approval to Operate limit for each of the five parameters. For example, for the Total Suspended Solids (TSS) parameter, the Approval to Operate limit is 20.0 mg/L. If actual TSS performance is 4.9 mg/L, then the percentage for this parameter is 24.5%. The percentages for each parameter are given equal weighting in the calculation of the WELP index.

Historic WELP results are detailed in CW-EWS-54-i-1 below (Table 22.5.1-2 of the Application). The WELP index (row 6) is consistently below the WELP standard (row 7), which indicates excellent performance in meeting both the Alberta Environment regulatory limits and the stricter limits established through the WELP standard.

Table CW-EWS-54-i-1
Wastewater Effluent Limit Performance (WELP)

	A	B	C	D	E	F	G	H	I	J
	Prior to PBR				2012-2016 PBR		2017-2021 PBR		2022-2024 PBR	
	Year	%	Year	%	Year	%	Year	%	Year	%
1	2002	n/a	2007	31.0%	2012	22.9%	2017	22.0%	2022	16.7%
2	2003	n/a	2008	25.0%	2013	20.7%	2018	27.2%	2023	19.1%
3	2004	n/a	2009	25.0%	2014	22.9%	2019	25.3%	2024	n/a
4	2005	29.0%	2010	22.0%	2015	23.0%	2020	19.0%		
5	2006	30.0%	2011	28.0%	2016	17.5%	2021	18.2%		
6	Average	29.5%	Average	26.2%	Average	21.4%	Average	22.3%	Average	17.9%
7	Standard	n/a	Standard	n/a	Standard	46.0%	Standard	28.0%	Standard	26.0%
8	10 Year Average									21.1%

Request: CC-EWS-55

Reference: Page 216 Section 623

i) "For the 2025-2027 PBR term, EWS is proposing to keep the performance standard for Environmental Incidents at 5 incidents per year. This number of incidents is higher than the 10 year average but allows for some variability by taking into account uncontrollable circumstances and / or events." Why didn't EPCOR consider reducing the performance standard to 3 Environmental Incidents per year which is aligned with the 10-year average? This has been demonstrated to be attainable, and 5 incidents seems high for the standard.

EWS RESPONSE:

i) The Environmental Incidents standard is based on environmental incidents that are both reportable and preventable. The goal of this measure is to ensure that the number of environmental incidents that are both reportable and preventable is low.

At Gold Bar there have been many incidents related to odour that are not specifically addressed in the approval to operate. However, they are addressed in other Alberta Environment and Protected Areas regulations and therefore reported. However, upon investigation they may be deemed to not be preventable. In these cases these incidents are not included in PBR reporting as they are not preventable.

In addition, the current Alberta Environment and Protected Areas' approval to operate expires April 30, 2025. A new 10-year approval will come into force at that time. Given the uncertainty regarding any changes to approval limits and / or other requirements, it is recommended to maintain the standard for Environmental Incidents at the current value of 5. Once the new approval is in place, the standard can then be re-evaluated prior to the next PBR application.

CC-EWS-5-i Attachment 1
Authorized ROEs

	OpCos	Authorized ROE	Service Type	Date	
American States Water Company	Golden State Water Company (CA)	10.06%	Water	11/15/2023	*Based on California's Water Cost of Capital Adjustment Mechanism
	Bear Valley Electric Service, Inc. (CA)	NA	Electric		
American Water Works Company, Inc.					
	California American Water Co.	10.20%	Water	11/15/2023	*Based on California's Water Cost of Capital Adjustment Mechanism
	Hawaii American Water Co.	NA	Water/Wastewater		
	Illinois American Water Co.	9.78%	Water/Wastewater	12/15/2022	
	Indiana American Water Co.	9.65%	Water/Wastewater	2/14/2024	
	Iowa American Water Co.	9.60%	Water	6/28/2021	
	Kentucky American Water Co.	9.70%	Water	6/27/2019	
	Maryland American Water Co.	NA	Water	2/5/2019	*Settled
	Missouri American Water Co.	NA	Water/Wastewater	5/3/2023	*Case was settled but the Company's view is the ROE is 9.75%
	New Jersey-American Water Co.	9.60%	Water/Wastewater	8/17/2022	*Settled
	Pennsylvania American Water Co.	NA	Water/Wastewater	12/8/2022	*Case was settled but the Company's view is the ROE is 10.00%
	Tennessee American Water Co.	10.00%	Water/Wastewater	11/20/2012	
	Virginia American Water Co.	9.70%	Water/Wastewater	4/24/2023	*Settled
	West Virginia-American Water Co.	9.80%	Water/Wastewater	2/23/2024	
California Water Service Group					
	California Water Service Co.	10.27%	Water	11/15/2023	*Based on California's Water Cost of Capital Adjustment Mechanism
	New Mexico Water Service Company		Water/Wastewater		
	Washington Water Service Company	9.00%	Water	11/30/2018	
	Hawaii Water Service company, Inc.	9.20%	Water/Wastewater	1/7/2019	
	TWSC, Inc. (TX)		Water/Wastewater		
Essential Utilities Inc.					
	Aqua North Carolina Inc.	9.80%	Water/Wastewater	6/5/2023	
	Aqua Ohio Inc.	9.50%	Water/Wastewater	12/13/2023	
	Aqua Virginia Inc.	NA	Water/Wastewater	6/22/2021	*Settled
	Aqua Pennsylvania Inc.	10.00%	Water/Wastewater	5/16/2022	
	Aqua Texas, Inc.		Water/Wastewater		
	Aqua Illinois, Inc.	9.60%	Water/Wastewater	3/7/2018	
	Aqua New Jersey, Inc.	9.60%	Water	5/28/2019	*Settled
	Aqua Indiana, Inc.		Water/Wastewater		
	Peoples Natural Gas	NA	Natural Gas	10/3/2019	*Settled
	Delta Natural Gas Co.	9.25%	Natural Gas	1/3/2022	*Settled
Middlesex Water Company					
	Middlesex Water Co.	9.60%	Water/Wastewater	9/30/2021	*Settled
	Tidewater Utilities, Inc.	9.75%	Water/Wastewater	8/19/2014	*Settled
	Southern Shores Water Company, LLC	NA	Water/Wastewater		
	Pinelands Water Company	9.60%	Water/Wastewater	4/12/2023	
SJW Group					
	The Maine Water Co. (Biddeford & Saco)	9.50%	Water	1/5/2024	*Settled
	San Jose Water Co.	10.01%	Water	11/15/2023	*Based on California's Water Cost of Capital Adjustment Mechanism
	Connecticut Water Co.	9.00%	Water/Wastewater	7/28/2021	
	Texas Water Company	NA	Water/Wastewater		

Algonquin Power & Utilities Corporation					
	Empire District Electric Co (AR)	9.70%	Electric	12/7/2023	*Settled
	Empire District Electric Co (OK)	9.30%	Electric	12/29/2022	*Settled
	Empire District Electric Co (KS)	NA	Electric	5/26/2022	*Settled
	Empire District Electric Co (MO)	NA	Electric	10/21/2020	*Settled
	CalPeco Electric System (CA)	10.00%	Electric	4/27/2023	
	Empire District Gas Co (MO)	NA	Natural Gas	6/23/2022	*Settled
	Liberty Utilities EnergyNorth (NH)	9.30%	Natural Gas	7/30/2021	*Settled
	Liberty Utilities Granite State Electric (NH)	9.10%	Electric	6/30/2020	*Settled
	Liberty Utilities MidStates (IA)		Natural Gas		
	Liberty Utilities MidStates (MO)	9.80%	Natural Gas	6/6/2018	*Settled
	Liberty Utilities MidStates (IL)		Natural Gas		
	Peach State Gas System (GA)		Natural Gas		
	New York Water (NY)	9.10%	Water/Wastewater	5/18/2017	*Settled
	Apple Valley Water System (CA)		Water/Wastewater		
	Park Water System (CA)		Water/Wastewater		
	St. Lawrence Gas (NY)		Natural Gas		
	Pine Bluff Water (AR)		Water/Wastewater		
	New England Natural Gas Company (MA)	9.60%	Natural Gas	2/10/2016	*Settled
Canadian Utilities Ltd.					
	ATCO Energy Systems	9.28%	Natural Gas and Electric	11/20/2023	
Emera Incorporated					
	New Mexico Gas Company	9.375%	Natural Gas	11/30/2022	*Settled
	Tampa Electric Company	9.95%	Electric	10/21/2021	*Settled
	Peoples Gas System	10.15%	Natural Gas	11/9/2023	
	Nova Scotia Power Inc.	8.75% - 9.25%	Electric		
	Emera Brunswick Pipeline Company Limited	NA			
	SeaCoast Gas Transmission	NA			
Fortis, Inc.					
	UNS Electric Inc. (AZ)	9.75%	Electric	1/30/2024	
	Tucson Electric Power Co. (AZ)	9.55%	Electric	8/25/2023	
	ITC	10.77% - 11.41%	Electric Transmission		
	Central Hudson Gas and Electric	9.50%	Natural Gas and Electric	7/18/2024	
	FortisBC Energy	9.65%	Natural Gas		
	FortisAlberta	9.28%	Electric		
	FortisBC Electric	9.65%	Electric		
	Newfoundland Power	8.50%	Electric		
	Maritime Electric	9.35%	Electric		
	FortisOntario	8.52% - 9.30%	Electric		
Hydro One Ltd.					
	Hydro One Inc.	9.21%	Electric	10/31/2023	*Based on the Ontario Energy Board's Cost of Capital Formula

Source: Regulatory Research Associates, Company SEC Filings, Annual Reports and Investor Presentations

CC-EWS-5-i Attachment 1
Earned ROEs

	2023 Net Income	2023 Common Equity	2022 Common Equity	2023 Earned ROE
American States Water Company	124,921	776,109	709,549	16.82%
American Water Works Company, Inc.	944,000	9,797,000	7,693,000	10.79%
California Water Service Group	51,911	1,430,312	1,322,394	3.77%
Essential Utilities Inc.	498,226	5,896,183	5,377,386	8.84%
Middlesex Water Company	31,524	422,991	400,328	7.66%
SJW Group	84,987	1,233,397	1,110,868	7.25%
Algonquin Power & Utilities Corporation (CAD	20,318	4,855,266	5,035,348	0.41%
Canadian Utilities Ltd. (CAD$)	630	5,373	5,308	11.80%
Emera Incorporated (CAD$)	978	10,652	10,005	9.47%
Fortis, Inc. (CAD$)	1,506	19,882	19,407	7.67%
Hydro One Ltd. (CAD$)	1,085	11,680	11,306	9.44%

Source: S&P Capital IQ; Company Annual Reports and SEC Form 10-Ks