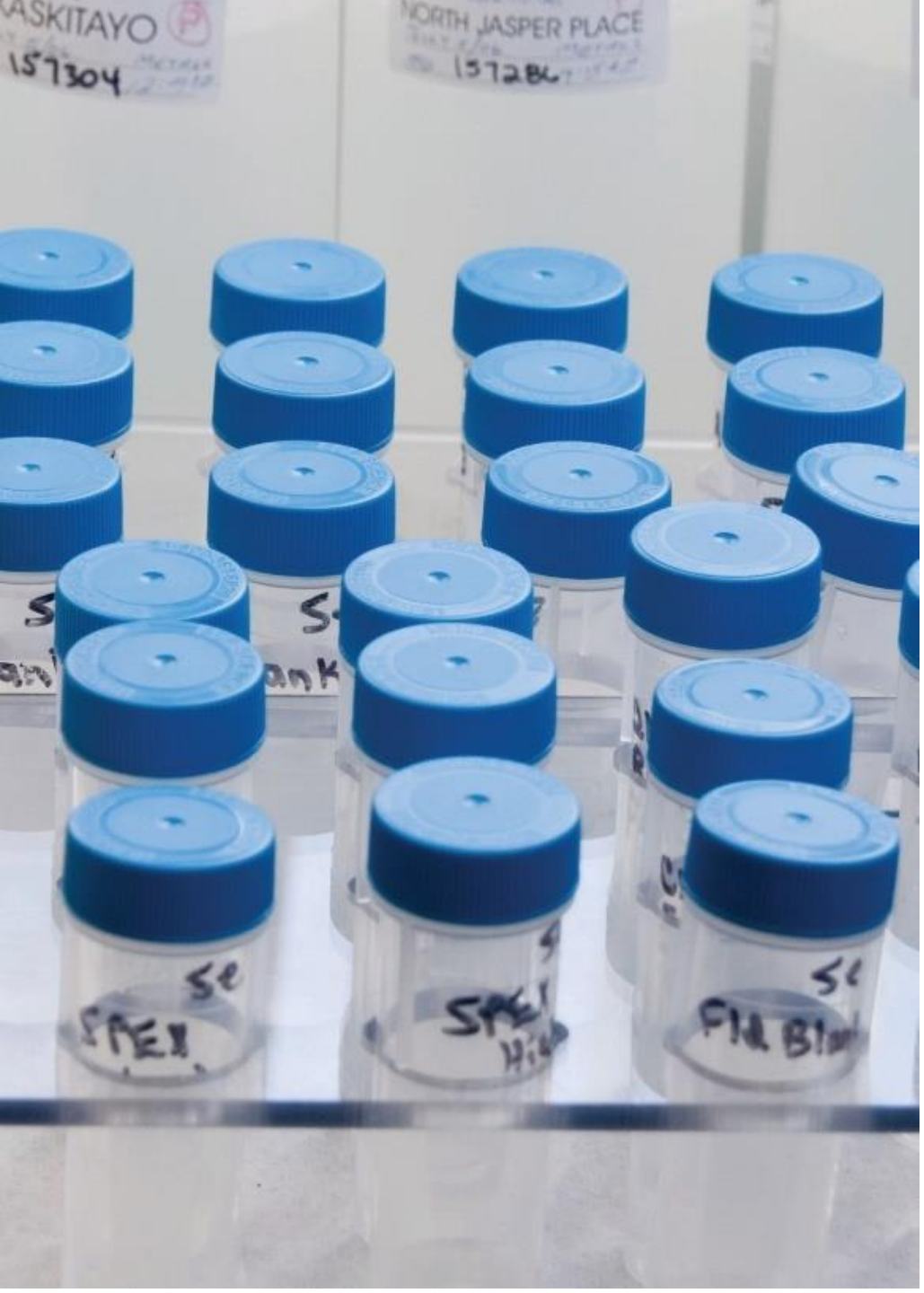
PERFORMANCE BASED REGULATION FILINGS FOR EDMONTON'S WATER CYCLE UTILITIES

Presentation to Edmonton City Council Utility Committee

June 25, 2021, Agenda Items 6.3 – 6.8



Today's presenters

Amanda Rosychuk
SVP Drainage Services

Martin Kennedy
EPCOR Public & Government Affairs

Darrell Manning
Water Canada Regulatory

Shawn Bradford
SVP Water Canada

Subject matter experts

Registered for questions

The presenters can direct detailed questions about capital, operating, regulatory, legal, and finance topics to subject matter experts, including:

- Clayton Tiedemann (Drainage Construction and Operations)
- Chris Ward (Water Operations)
- Cindy Shepel (Drainage Operations)
- Guillaume Vachon (Project Management and Engineering)
- Richard Brown (Construction)
- Audrey Cudrak (Water Treatment)
- Craig Bonneville (Wastewater Treatment)
- Mark Mathon (Water Distribution)
- Susan Ancel (One Water Planning)
- Katy Brown (Regulatory Finance)
- Carmen Piercey (Regulatory and Strategic Planning)
- Camille Jasper-Fabiyi (Regulatory)
- Teresa Crotty-Wong (Legal)
- Dr. Robert Evans (external expert)

Presentation overview

Overview of the PBR Applications
Amanda Rosychuk

Revenue Requirement and Recommended Rates
Amanda Rosychuk

Public Engagement Outcomes
Martin Kennedy

Risk Allocation and Return on Equity
Darrell Manning

Perspectives on Administration Reports
Shawn Bradford

Proposed Amendments and Actions
Shawn Bradford

Overview of the PBR Applications

Amanda Rosychuk

Purpose and performance cycle

EPCOR's goal is to provide safe, clean drinking water and reliable drainage and wastewater treatment services, while ensuring that new rates are fair and affordable for Edmontonians

- The Performance Based Regulation (PBR) applications include:
  - Individual applications for Water, Wastewater and Drainage Services
  - Governing bylaw changes for all three utilities
  - Appendices including business cases for major investments and supporting evidence

- The application terms are set to establish a staggered schedule for future 5-year renewals:
  - 2022 – 2026 for Water (5th PBR term)
  - 2022 – 2024 for Wastewater (3rd PBR term)
  - 2022 – 2024 for Drainage (1st PBR term)

Guiding objectives of PBR regulation

Safe and reliable utility service	Customer charges based on cost of service	Opportunity to earn a reasonable profit
Environmental objectives aligned to City goals	Service levels set based on benchmarks and past performance	Rate approval timing matches financial needs

Benefits unique to the PBR system

- ✓ Customers receive stable and predictable rates
- ✓ Risks from cost and consumption variances are borne by utilities not customers
- ✓ Utilities have an incentive to seek efficiencies and cost savings
- ✓ Utilities are accountable for meeting customer service, reliability, quality, environment, and safety performance standards
- ✓ Administrative burden is reduced by multi-year filings

EPCOR's water and wastewater treatment operations achieved $82 million in operating cost savings relative to forecast in the past two PBR terms.

Operating Plan

Focused on efficiency and operational excellence

Operating costs for the water-cycle utilities are expected to average $290 million a year in 2022-24, vs. $287 million in 2021

- Application includes forecast savings from real estate consolidation project, and additional costs for adding a lead inhibitor to treated drinking water
- EPCOR bears the risk that operating costs will increase more than inflation
  - This provides an incentive to achieve cost savings that will benefit customers
- EPCOR is at risk during the PBR term if financing costs are higher than forecast due to rising interest rates

Operating costs are forecast to increase at less than 1% per year over the next three years

Capital Plan

Maintaining reliability and investing in resilience

The capital plans presented will invest $1.35 billion in Edmonton's water-cycle utilities

- Sustaining and improving reliability
  - Replacing assets at end of life
  - Reducing risk of asset failures
- Implementing flood mitigation and corrosion and odour reduction strategy
- Serving a growing customer base and physical footprint
- Improving performance and achieving efficiencies
- Environmental initiatives and regulatory requirements

50% of investment is to maintain reliable service

35% is to implement flood mitigation, corrosion and odour reduction, and support for growth

EPCOR

Capital and Operating Plan Themes
One Water planning approach

There are 3 applications, but a 'One Water' approach to optimizing capital investments, operations and programs

- By planning for the total water cycle, we are able to keep utility rates affordable, predictable and stable
- Focused on delivering safe, reliable and environmentally responsible services.

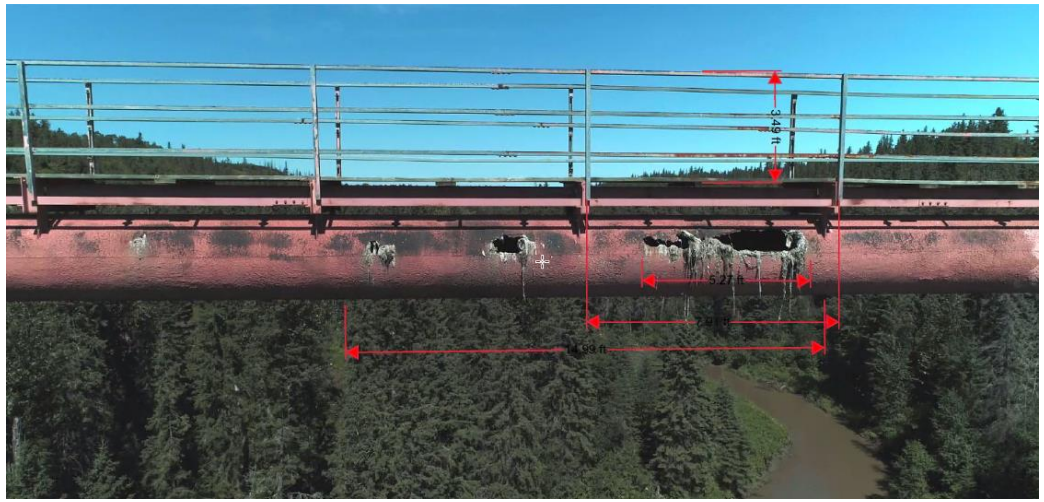
Edmonton's water cycle utilities include:

- Two water treatment plants and one wastewater treatment plant
- 13 water reservoirs that can hold 811 million litres of water
- 7,053 km of water mains and sewer pipes
- 21,708 hydrants and 73,940 water valves
- 295 stormwater facilities
- 200 sanitary lift stations

Capital and Operating Plan Themes
Risk-based capital allocation

Investing based on risk and asset life will reduce infrastructure failures, contribute to reliable service, and lower costs

- The capital plan addresses the historic under-investment in drainage infrastructure, which contributed to recent asset failures
- The risk-based approach dramatically reduces the cost of implementing flood prevention (SIRP) and corrosion and odour
- Protecting the water treatment plants from extreme river flooding is an essential investment in climate resilience



Preventing asset failures through risk-based investment strategies will reduce long term capital requirements, and better protect service reliability and environmental outcomes

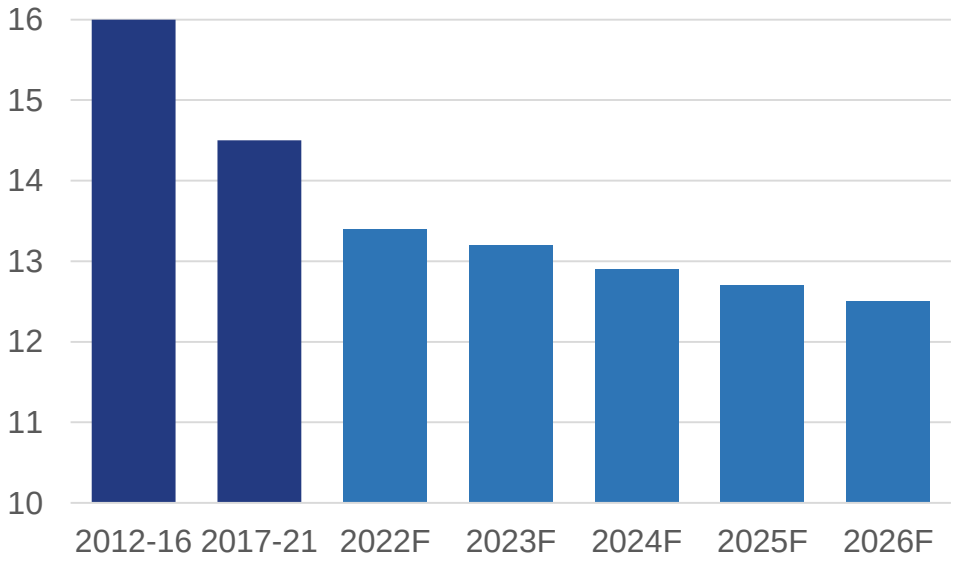
Capital and Operating Plan Themes
Delivering affordable and stable rates

The One Water and Risk-Based approaches reduce rate increases, and are supplemented by EPCOR's voluntary rate discount

Rate planning is influenced by long-term trends and rule-making including:

- Declines in per capita residential water consumption
- The pace of economic recovery
- Increasing customer counts
- Expert forecasts for inflation
- Forecast borrowing costs
- The efficiency factor and return on equity set by PBR regulation

Historic and Forecast Residential Water Consumption (m^3/month)



Affordable and Stable Rates

Amanda Rosychuk

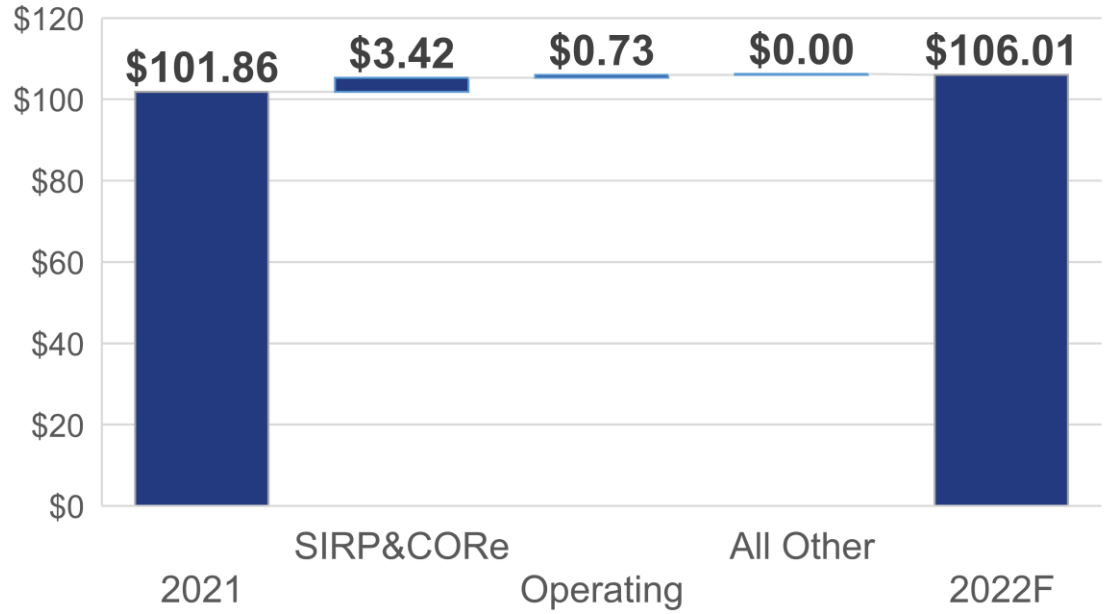
Residential customers

Forecast water-cycle utility bill

Residential bills will be stable for continuing utility service, and show modest increases to fund investments in flood prevention, and corrosion and odour reduction

Utility bills will also reflect Council's decision to transfer billing for fire protection service ($2.59/month on average) from property tax assessments to utility customers. This change should be net neutral for owner-occupied properties

2022 Change in Average Residential Customer Water Cycle Utility Bill ($/month, excluding fire protection transfer)



Commercial customers
Forecast water-cycle utility bill

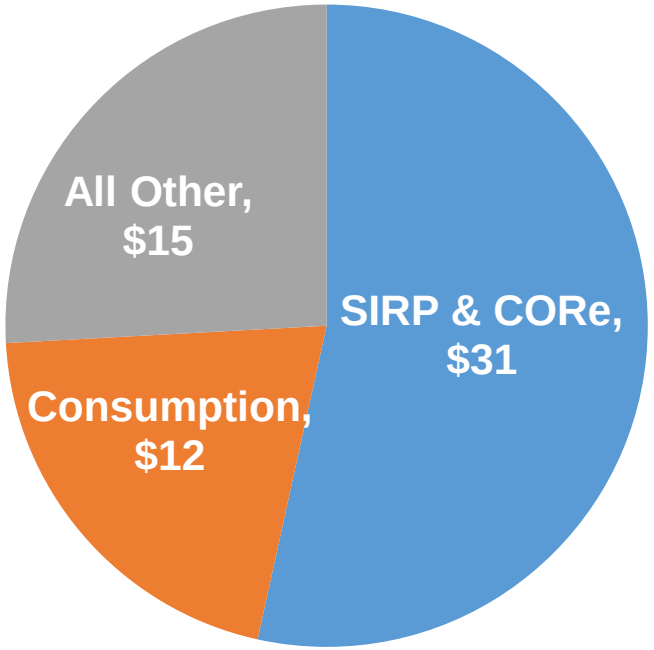
For commercial customers, forecast bills are linked to their economic activity and consumption levels

The applications forecast commercial water consumption increasing from 90 cubic metres per month to 96 cubic metres by 2024

For growing businesses, utility costs will rise at a faster pace than rates due to higher consumption

Utility bills will also reflect Council's decision to transfer billing for fire protection service onto utility bills

Sources of Change in Average Commercial Customer Water Cycle Utility Bill ($/month, excluding fire protection transfer)



Supporting customers

Edmonton Economic Recovery Rebate

EPCOR has volunteered to discount customer bills by $66 million in order to support economic and social recovery

The PBR applications propose that discount be delivered by *temporarily* reducing the Drainage return on equity during 2022-24

The voluntary discount:

- ✓ Helps keep customer bills stable during a sensitive period
- ✓ Comes entirely from a voluntary reduction in utility profitability – with no impact to investment or service levels
- ✓ Is targeted and temporary, to protect utility credit ratings

Staging the $66 million discount:

$28.0 million discount in 2022

$22.1 million discount in 2023

$15.5 million discount in 2024

Summary of the application

PBR approach is successfully incenting efficiencies and high performance

One Water and Risk-Based planning is benefitting customers

Average bill change for continuing utility service is less than $1/month

Modest initial bill change of $3/month to fund flood protection and corrosion and odour reduction

$66 million voluntary discount will support economic and social recovery

Overall customer costs remain affordable, predictable and stable

Public Engagement Outcomes

Martin Kennedy

What We Heard

Community priorities for the water-cycle utilities

The PBR applications are informed by a multi-year, three phase community engagement process

Major findings from the PBR engagement process included:

- Stakeholders supported investing more in infrastructure reliability, within the existing rate structure
- Customers identified a rate change of $6.63-$10.51 per month as affordable
- Existing performance measure categories were aligned with community priorities
- Community values supported revising the weighting of the performance measure categories

Nearly 1,900 individuals participated in the research program

88 representatives of community, customer, and Indigenous organizations met for in-depth consultations

The applications also incorporate public engagement on SIRP, CORe, and facility long term plans

Major topics explored through engagement

Values
Stakeholder values to guide utility evolution and performance measures

Performance Priorities
Performance valued most by stakeholders, and level of performance they are seeking

Cost and Risk Sharing
Stakeholder views on costs, risks, sharing and investment timing

Rates
Cost and benefit tradeoffs, and preferences for future rates

Recommended changes

Weighting utility performance measures

Based on public engagement, the applications recommend modest shifts in weighting of performance measures to better align with community expectations

Water

- **Increase weighting of the quality measure** (from 25% to 30%)
- **Offsetting decrease in the weighting of the customer service measure** (from 20% to 15%)

Wastewater treatment

- **Increase weighting of system reliability measure** (from 15% to 25%)
- **Offsetting decrease in weighting of quality-environment measure** (from 55% to 45%)

Drainage

- **Increase weighting of system reliability measure** (from 25% to 30%)
- **Offsetting decrease in quality (environment) measure** (from 40% to 35%)

EPCOR

Risk Allocation and Return on Equity

Darrell Manning

The ‘fair return’ standard

Utility regulation seeks to provide utilities with the *opportunity* to earn a fair return

Principles for defining a “fair return” include:

1. The utility is able to maintain its financial integrity
2. The utility can attract capital on reasonable terms
3. Utility investors will earn a return equal to what they would earn on other investments of comparable risk

The regulated Return on Equity (ROE) is set at a level that reflects how much risk is transferred from customers to the utility

EPCOR

Historical findings

Grant Thornton, EPCOR's external experts, and the City of Edmonton have consistently concluded that the risks of the EWSI water-cycle utilities are *greater* than for AUC-regulated natural gas and electric distribution utilities, and merit a risk premium

1.54% – 2.12%

Risk premium range

In the 2017-21 PBR process, Grant Thornton concluded that the risks to the water and wastewater utilities merited a risk premium of 1.54% to 2.12% over the generic returns earned by AUC-regulated energy distribution utilities

How are water-cycle utilities different from energy distribution utilities?

Water-cycle utilities must *make* a product (water), distribute it, and safely treat and dispose of it. Natural gas and electric distribution utilities *only distribute* a product, and have no risk from its creation or disposal

	Water-cycle utilities	Electric and Gas distribution utilities
Product creation, operations, and life-cycle	**Raw water must be sourced, treated water produced, and wastewater treated and managed. There are substantial operating and capital risks to this activity**	**No cost or risk to create the product (natural gas, electricity). Energy costs are flowed through to customers with no risk to the utility. No responsibility after delivery**

How are water-cycle utilities different from energy distribution utilities?

Water safety and public health are fundamental risks for a water utility that are not present for energy distribution utilities.

	Water-cycle utilities	Electric and Gas distribution utilities
Public health risk (harm, liability, reputation)	Water is ingested by the end user, with strict safety standards that must be met at the tap	No ingestion, and customers are accountable for the safety of their own pipes and equipment
Health and environmental regulation	Higher risk of regulatory variation in health and environment policy*	Lower risk of regulatory variation in health and environment policy

*Source: Grant Thornton (2016), p.142

EPCOR

How are water-cycle utilities different from energy distribution utilities?

High levels of contributed assets decrease the opportunity to earn a fair return and raise the level of operating risk

	Water-cycle utilities	Electric and Gas distribution utilities
Contributed asset risk	More than 50% of total utility assets are contributed. The utility earns no return on these assets but bears the risks for their operation and maintenance	About 15% of utility assets are contributed. Utilities earn a return on substantially all the assets they are at risk from operating

How are water-cycle utilities different from energy distribution utilities?

The longer it takes to recover a capital investment, the greater the risk and the higher the required rate of return. Differences in rate structures create differences in revenue forecast risks.

	Water-cycle utilities	Electric and Gas distribution utilities
Asset life (Capital recovery risk)	On average, assets are in service for 57 years	On average, assets are in service 33 years
Revenue risk (Revenue forecast risk)	Fixed charges account for 31% of revenues. 69% of revenue is at risk from consumption changes	Fixed charges account for 72% of revenues 28% of revenue is at risk* from consumption changes

*For some utilities, variable revenues are also guaranteed through a revenue cap mechanism

Proposed reduction in the regulated return on equity

EPCOR's filed applications propose reducing the regulated return on equity from 10.175% to 9.95% for the 2022-24/26 PBR periods

The reduction was based on the lower interest rate environment leading to lower returns on common equity

- Interest rate forecasts have already increased since the applications were filed. The 0.38% reduction would be at most a 0.15% reduction if based on current interest rate forecasts

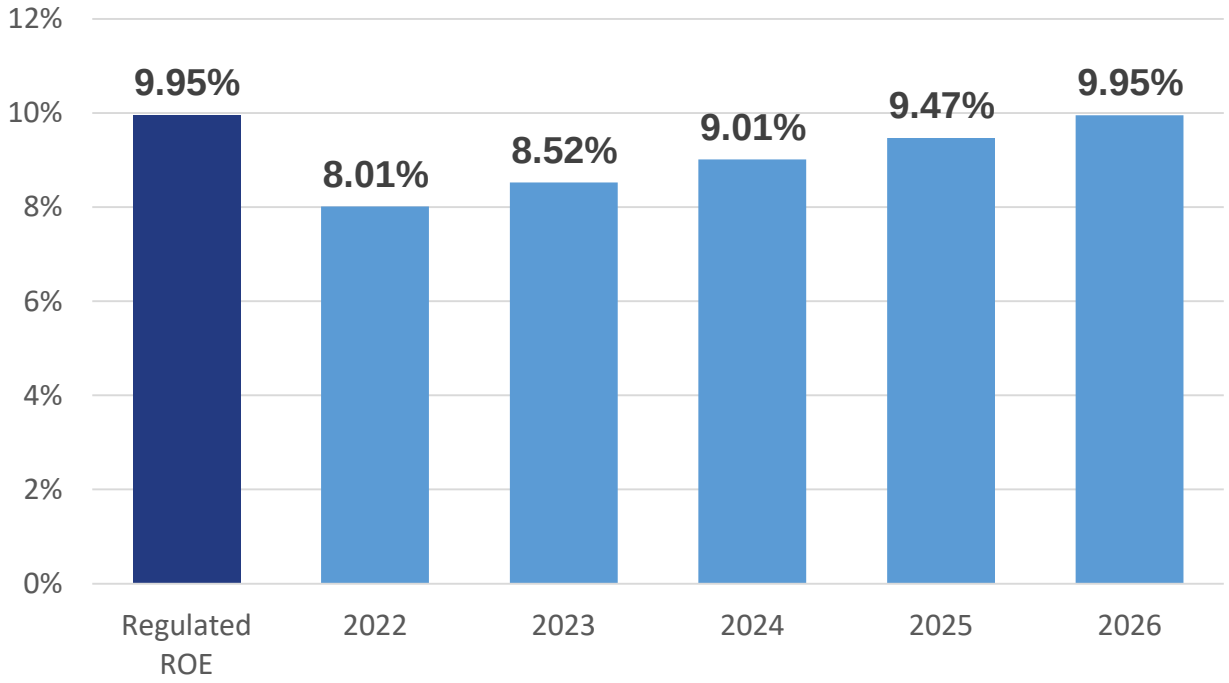
The approach continues the existing philosophy of awarding a risk premium that reflects the inherently greater risk of owning and operating EWSI's water-cycle utilities

Return on Equity	Component
8.50%	Generic AUC return for gas and electric distribution utilities
1.83%	*Plus* EPCOR Water risk premium (Grant Thornton 2016 study)
(0.38)%	*Minus* Reduction in bond yields
9.95%	**Proposed ROE**

Regulated ROE vs. Expected ROE

EPCOR's voluntary $66 million rate discount in 2022-24 means the water-cycle utilities will earn *substantially less* than the regulated ROE

Consolidated Return on Equity (based on a regulated ROE of 9.95% less EPCOR's proposed rate discount)



If the City of Edmonton sets a regulated ROE of 9.95%, the voluntary discount means EPCOR has the opportunity to earn 8.51% over the next three years

Perspectives on Administration Reports

Shawn Bradford

Comprehensive review by Administration

EPCOR has carefully evaluated each of the topics Administration suggests be considered when setting the 2022-2024/26 PBR terms

Increasing the risk allocation to customers (deferral accounts)	**Potential increases to the Drainage efficiency factor**	**Adjusting the Aurum in-service date**
Multiple reductions to the return on equity	**Additional smoothing of water rates**	**Reimbursing operating costs that have been capitalized**
Retroactive changes to treatment of SRAs and NRAs	**Increasing capital to align with City-initiated programs**	**Reducing debt costs paid by customers**

Putting the topics in context

Each of the topics should be considered within the context of the entire application, and in relation to the PBR process and framework

EPCOR's voluntary $66 million rate discount means a regulated ROE set at 9.95% equals an ROE of 8.51% over the next three years

There would be a further $40 million reduction if every potential change was implemented

If every change was made, the cumulative effect would impair the utility's ability to earn a *fair return,* and could put the utility's credit rating at risk

The changes suggested would reduce revenue by $40 million on top of the $66 million discount EPCOR has already volunteered

EPCOR supports amending the application

EPCOR proposes to make the following changes in its final filings, prior to presentation to City Council for approval:

Reimburse operating costs that have been capitalized	✓ EPCOR proposes to reimburse customers $5.2 million related to the capitalization of valve casing and service box replacements
Reduce the return on equity from 9.95% to 9.89%	✓ Based on Grant Thornton's clarification of the risk premium for water utilities in its 2016 report, EPCOR proposes to reduce the premium to +1.77% (from +1.83%)
Reduce debt costs paid by customers	✓ EPCOR proposes to reduce debt costs by $3.7 million in the Water and Wastewater Treatment utilities based on corrections to the calculation of costs

EPCOR supports commissioning a deferral account study to inform the PBR design for the next cycle

EPCOR has serious reservations about introducing consumption deferral accounts, both in substance and in timing. EPCOR agrees with Administration that this is a complex subject. It merits in-depth review

Consumption deferral accounts shift risk and costs to customers, and would be a fundamental change to the PBR framework

- Consumption deferral accounts make customers bear the risk that consumption differs from forecasts.
  - If utility revenues are less than forecast due to lower consumption, rates are raised in the next period to make up the lost revenue
- Deferral accounts have not been studied in the context of Edmonton's water-cycle utilities or PBR, and no public or customer engagement has been conducted
- Deferral accounts reduce the utility's incentive to manage costs, reduce water conservation incentives, and result in rate volatility and unpredictability

EPCOR affirms the benefits of its proposed capital plans, and is open to Council-directed additions

EPCOR's One Water and Risk-Based approaches achieve significant benefits for system reliability and customer costs, and helps close infrastructure deficits in the Drainage utility

Increasing capital to align with City-initiated work would increase rates while providing greater certainty of alignment with neighbourhood renewal

- If City-initiated work requires substantial variances above threshold values (e.g. LRT utility relocations), the NRA process allows for recovery
- Administration's report recommends considering a further increase to the capital program to provide additional capital to support *Neighbourhood Renewal* and other City-initiated projects

EPCOR does not support making retroactive changes to the terms of NRAs and SRAs

The PBR Bylaw facilitates utilities managing their costs. Each utility bears the expense if a program costs more than expected to implement, and benefits if other programs are implemented at less than forecast. This allows optimization of spending within a PBR term.

'True-ups' would reduce the incentive to manage costs, are at odds with the PBR framework, and not supported by the current Bylaw

- The reports propose that customers be reimbursed for two programs that spent less than originally forecast (river monitoring, CORe)
- The reports do not propose symmetrical adjustments for the programs where EPCOR over-spent, and the current Bylaw does not include a 'true-up' mechanism
- ***Changes to NRAs and SRAs should be prospective not retroactive, and symmetrical not selective***

Additional changes to return on equity or efficiency factors are not warranted

The cumulative impact of reducing ROE another 0.15% and increasing the Drainage efficiency factor 0.25% would be significant, and is not linked to a risk analysis or operational opportunities

EPCOR's proposed discount will reduce the combined ROE to less than 8.5% over the next three years. Any additional reductions should be considered in this context

- The PBR filings already incorporate significant operating efficiencies – with total operating cost increases limited to 1% per year
- EPCOR has already proposed to voluntarily reduce the combined return on equity to 8.51% from 2022 – 2024
- Further reductions in returns would place the utilities at risk of being unable to obtain financing at current rates based on its credit rating: A(low)

The evidence does not support changes to rate smoothing or to facility in-service dates

Adjust the Aurum in-service date to Q2/2022?

- Construction is scheduled for completion in 2021
- Staff moves begin immediately upon completion, and are expected to be completed in Q1/2022
- IFRS guidance is that depreciation should begin when the asset is available for use
  - ✓ ***Expectations support entry into service in Q1/2022 not Q2/2022***

Additional smoothing of Water rates?

- The transfer of fire protection costs from property tax bills to utility bills will lead to a one-time change in 2022
- Offsetting reductions in property tax revenue collection will make this change net neutral for property owners
  - ✓ ***Taking into account the offsetting reduction in property taxes, the residential utility bill change of 4% in 2022 is reasonable, and lower than the change supported by customers***

Proposed Amendments and Actions

Shawn Bradford

EPCOR proposes….

That Utility Committee direct that the compliance filing containing the final applications for Council approval:

1. **Include EPCOR's proposal to reimburse customers $5.2 million** related to the capitalization of valve casing and service box replacements, as recommended by Administration

2. **Include EPCOR's proposal to reduce debt costs by $3.7 million** in the Water and Wastewater Treatment based on corrections to the calculation of costs, as recommended by Administration

3. **Reduce the regulated return on equity to 9.89%** based on the AUC's 8.5% generic cost of capital, *plus* a risk premium of 1.77% based on the Grant Thornton study, *less* the 0.38% reduction to reflect interest rate changes at the time the applications were filed

4. **Include incremental capital to align with City-initiated work**, without reduction to EPCOR's risk-based capital plan *(if that is the view of Utility Committee)*

EPCOR proposes….

To affirm and include in its final filing the Edmonton Economic Recovery Rebate, to support economic and social recovery

The rebate will be implemented by *temporarily* reducing the Drainage return on equity for base operations from 2022-24

The size and timing of the discount would need to be evaluated if there were additional material reductions in utility returns, to ensure the cumulative impact does not place at risk the ability to obtain financing at current rates based on the A(low) credit rating

If the ROE is reduced to 9.89%, the additional voluntary discount will reduce customer costs by $64.7 million during 2022 - 2024

EPCOR proposes….

That Utility Committee direct, in a separate motion, that Administration and EPCOR prepare a study of consumption deferral accounts, including public and customer engagement, and report to Utility Committee prior to the initiation of the next PBR cycle

EPCOR is prepared to provide analytical support to this study, and recommends that its scope include consideration of the effects of consumption deferral accounts on:

- Achievement of PBR framework benefits
- Utility incentives to manage costs
- Customer incentives for water conservation
- Price signals
- Rate predictability and variability
- Bill complexity
- Utility earnings predictability and volatility
- The nature and extent of risk transfer to customers, including commercial and large consumption customers
- Risk premiums for water-cycle utilities
- Administrative resources and complexity

Closing thoughts…

Administration reviews found that EPCOR's applications were reasonable, and that the PBR framework benefits customers

The PBR framework is effective

- ✓ Creates a strong incentive to reduce costs
- ✓ Maintains rate stability and predictability
- ✓ Provides an opportunity to earn a fair return
- ✓ Considered a best practice regulatory model

EPCOR's proposed applications are reasonable

- ✓ Modest rate changes to fund flood prevention and corrosion and odour programs
- ✓ Protects customers from rate volatility and operating risk
- ✓ Aligns returns with risks
- ✓ Limits operating cost increases and focuses capital investment where it is most needed

EPCOR is committed to working with the City to finalize the application for Council's consideration this term

Appendix

Supplemental Information on ROE Calculation and Hypothetical De-Risking Scenario

Risk premium and ROE calculations

Historical, proposed, and revised proposal:

	2012-2016 City Awarded	2017-2021 City Awarded	2022-2024/26 EWSI Proposed	2022-2024/26 EWSI Revised Proposed
AUC Generic	9.000	8.500	8.500	8.500
Risk Premium	1.875	1.675	1.830	1.770
Adjustment - Bond Change			-0.380	-0.380
Awarded/Proposed	10.875	10.175	9.950	9.890
Net Risk Premium	1.875	1.675	1.450	1.390

Hypothetical scenario to reduce EWSI's risks to align with Alberta electric and gas utilities

EWSI's Incremental Risks	Options for Mitigation
Water as a Consumable Product / Public Health Risk	This risk is broad and cannot easily be mitigated. A risk premium is required for compensation.
Contributed Asset Risk	Allow EWSI to earn a return on equity portion of contributed assets above the 15% portion seen in gas/electric utilities
Capital Asset Recovery Risk	Reduce EWSI's asset lives to 33 years from its average of 57 years.
Revenue Risk	Revise the rate structure to reflect 31% fixed charges from 72% fixed charges. Does not completely mitigate consumption risk.

Quantification of PBR Risk Mitigation

EWSI's customers would be made worse off by approximately $266 million for the 2022-2024/2026 PBR term by mitigating risks in order to reduce the equity risk premium.

($millions)	2022-2024/2026 PBR Total
Increased Depreciation Expense from Reducing Asset Lives to 33 Years	$145
Additional Return on Contributed Assets	$231
Increase in Franchise Fee	$15
Reduction in Allowed Return on Equity to 8.5%	($125)
Net Impact	**$266**

Mitigating any one of these risks would make customers worse off. Customers benefit if EWSI is compensated with a risk premium above the generic return.

Impacts of Revising the Rate Structure

Revising the rate structure to recover 72% of revenue from fixed rates would:

- Dramatically reduce incentives for water conservation
- Burden low-volume customers with higher bills
- Provide large savings for high volume customers

	Average Residential Bill Impact
Low Volume Customer	+ $7.36/month
Average Volume Customer	+ $0.67/month
High Volume Customer	- $64.74/month

Customers benefit if EWSI is compensated with a risk premium above the generic return.