

Welcome to the Distribution Extension Policy Workshop

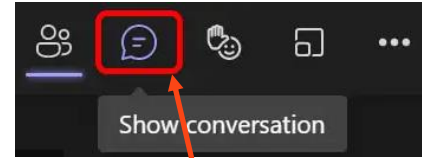
We'll be getting started shortly

How to participate

- Let us know you're here. **Please enter your first name, last name, and organization in the chat.**
- Video and microphone have been turned off to save bandwidth and eliminate background noise
- The chat function is available for questions and comments
- A copy of this presentation will be made available following this session

Technical issues?

- Send an email to bhydroregulatoryfeedback@bhydro.com



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Distribution Extension Policy Workshop

May 26, 2023

A decorative graphic at the bottom of the slide consisting of several overlapping, wavy bands of blue in various shades, ranging from light sky blue to a deep navy blue.

Workshop Agenda

Time	Agenda item	Presenter
9:00 – 9:05	Welcome	Rob Zeni, Manager, Distribution Tariffs and Rate Design
9:05 – 9:15	Opening remarks	Chris Sandve, Chief Regulatory Officer
9:15 – 9:30	Regulatory background and context	Rob Zeni, Manager, Distribution Tariffs and Rate Design
9:30 – 11:00	Distribution Extension Policy options	Robert Chin, Manager, Interconnection Policy and Agreements
11:00 – 11:15	Break	
11:15 – 11:45	Distribution Extension Policy continued	Kevin Lim-Kong, Policy Specialist
11:45 – 12:00	Wrap up and next steps	Chris Sandve, Chief Regulatory Officer

Opening Remarks

Chris Sandve

Chief Regulatory Officer



BC Hydro's Rate Design Objectives



Affordability



Economic efficiency



Decarbonization



Flexibility

Objectives for Today's Session

- Provide an overview of BC Hydro's current distribution extension policy
- Review potential options to update our extension policy
- Respond to questions and gather your feedback
- Present and gather feedback to BC Hydro's proposal
- Provide an update on next steps

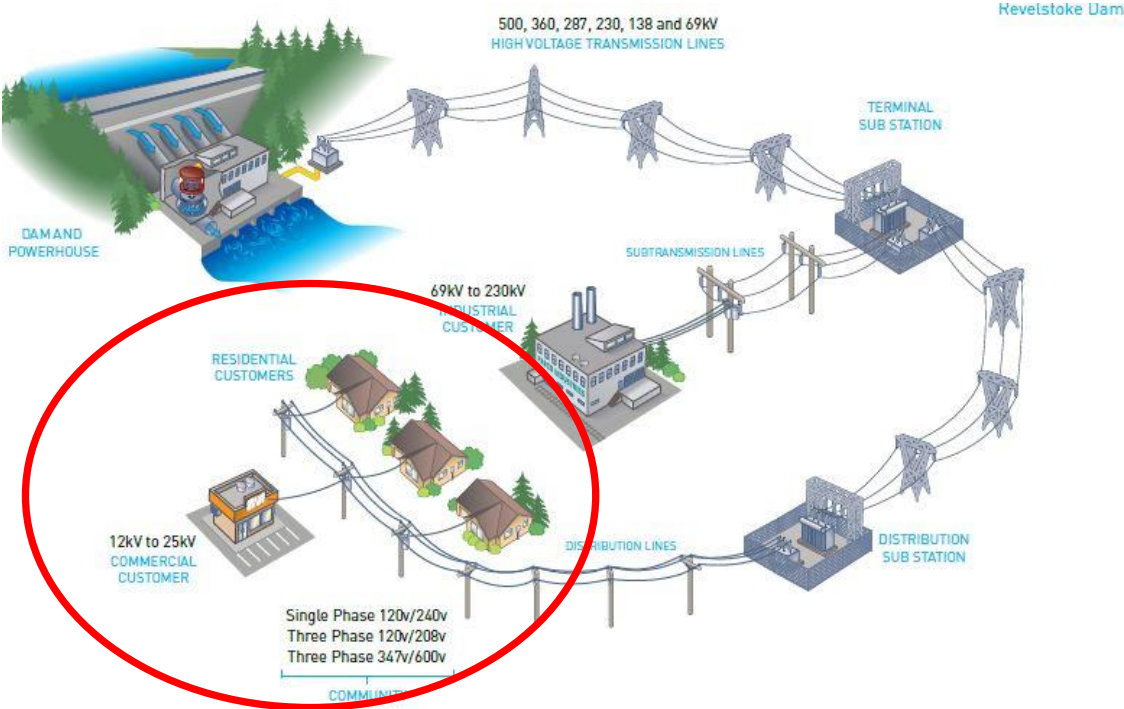
Regulatory Background and Context

Rob Zeni

Manager, Distribution Tariffs and Rate Design



BC Hydro's Distribution System



BC Hydro Extension Policy History

1996

BCUC issued the System Extension Test guidelines

1997

BC Hydro adopted a system extension test model for extensions

2008

Simplified contribution model, clarified system improvement and guarantee provisions

2013

2013 security-related amendments to the extension provisions of the Tariff

BCUC Guidelines

1996 Utility System Extension Test (SET) Guidelines

- These guidelines have been used by the Commission and interveners when reviewing a utility's extension policy application to ensure consistency amongst the utilities they regulate.
- Some of the more relevant guidelines are:
 - Connection of customers should consider incremental costs (Eg. Construction of extension) and benefits (Eg. Revenue) over a sufficient time period
 - Cost of extensions be allocated to customers who cause them on a disaggregated basis
 - Recognize customers who pay for an extension when subsequent customers connect
 - A discounted cash flow test methodology should be used to consider full impact of extension

Extension Policy Update

Key considerations when reviewing our Distribution Extension Policy

- Address Customer concerns:
 - Improve cost predictability for new customers
 - Fairness in cost allocation between new and subsequent customers
 - Ensure impacts to existing customers are mitigated
 - Improve customer connection timelines
 - Support customer investment decisions
- Address BCUC items identified in Order G-20-08
- Align with Rate Design Objectives

Jurisdictional Review

Common Extension Policy Elements

Policy Component	Description
Distribution System Additions	Distinction and recovery of different line extension costs associated with the Service Connection, Extension, and any necessary System Improvement
Allowances and Customer Contributions	Threshold amount that the utility provides to customer for line extension allowance and the amount required to be paid by the new customer as a customer contribution
Recognition of Future Customers	Acknowledge the benefit of new customer additions to an extension and provide opportunity for original customer(s) to receive an offset of some kind
Investment Risk Mitigation for the Utility	Features that permit the utility to mitigate risk of original investment in the case the expected load does not materialize or is not permanent.

Consideration - Bonbright Criteria

Grouping	Principle
Economic Efficiency	Price signals to encourage efficient use and discourage inefficient use
Fairness	Fair apportionment of costs among customers
	Avoid undue discrimination
Practicality	Customer understanding and acceptance, practical and cost effective to implement
	Freedom from controversies as to proper interpretation
Stability	Recovery of the revenue requirement
	Revenue stability
	Rate stability

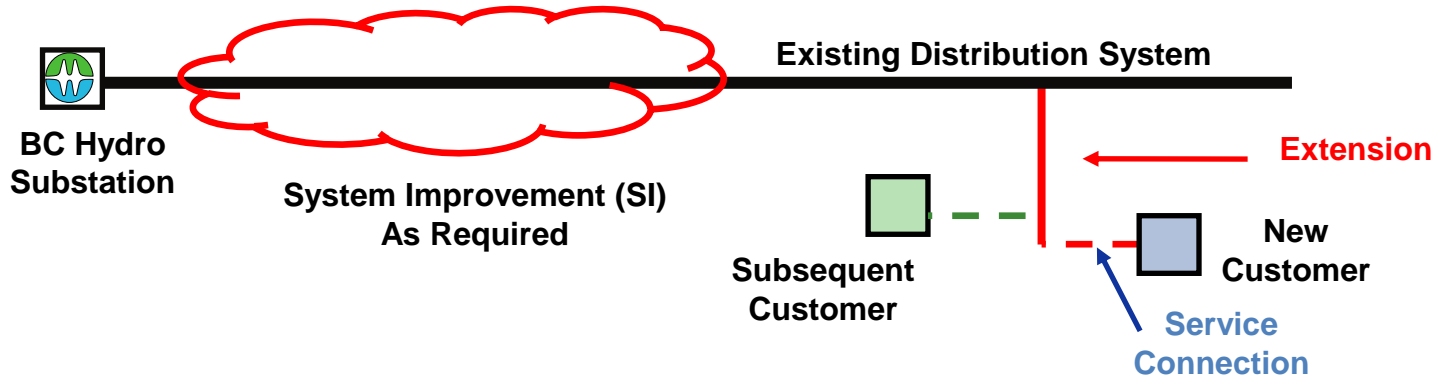
Distribution Extension Policy Proposals

Robert Chin

Manager, Interconnection Policy and Agreements

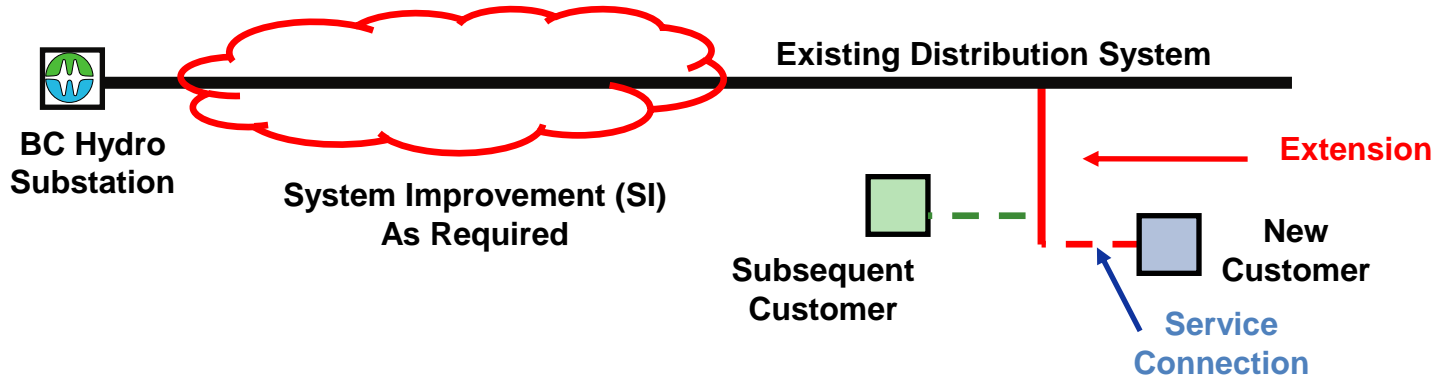


Distribution Extensions – Definitions



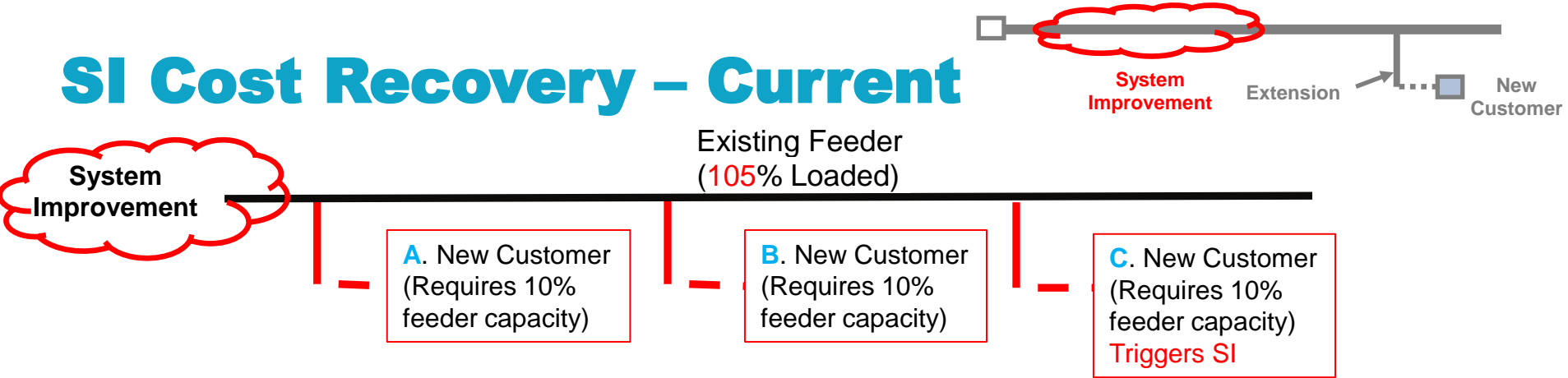
- **Extension:** Infrastructure that extends our existing system to the customer's site
- **Service Connection:** Typically, the last piece of wire used only to serve the customer
- **System Improvement (SI) Costs:** Costs to address upstream capacity improvements to accommodate incremental customer load
- **Pioneer:** New Customer who pays for an extension that a subsequent customer connects to

Distribution Extensions – Cost Allocation



- New customer pays BC Hydro to construct the Extension and Service Connection
- New customer pays applicable System Improvement (SI) Costs if load > 500kVA
- BC Hydro provides a Contribution (allowance) that offsets Extension and SI Costs
 - Currently \$1,475 / residential single-family-dwelling (SFD) and \$200 / kW of General Service (GS) demand
- New customer can apply for excess Contribution (if any) from subsequent customer connection

SI Cost Recovery – Current

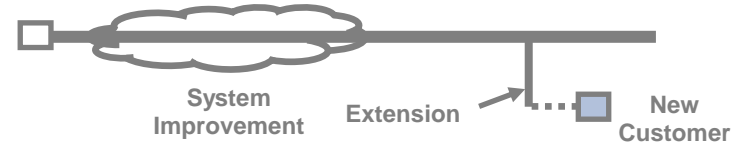


- A. Does not trigger a system improvement. Only pays for their Extension
 - B. Does not trigger a system improvement. Only pays for their Extension
 - C. Triggers a system improvement. Pays for their Extension. If >500kVA, will pay SI Costs.
- All new customers have contributed equally to the future/immediate need for upstream system improvement but currently only the customer triggering the immediate need is allocated costs

Extension Policy update options

- Option 1: Update our maximum contribution towards an extension.
- Option 2: Update our contribution and simplify customer system improvement costs
- Option 3: Update our contribution and simplify customer connection costs
- Feedback from Pre-Engagement
- Proposed Extension Policy

Policy Option 1



Update our maximum contribution towards an extension to reflect current revenue.

Illustrative Contribution:

Single Family Dwelling	General Service
\$2,700/SFD	\$625/kW

Pro:

- Decrease customer connection costs

Con:

- Does not address free rider or cost predictability issues

Policy Option 2



Update our contribution and simplify the recovery of system improvement costs by recovering proportionally from all new customers.

Illustrative Net Contribution:

	Single Family Dwelling	General Service
Contribution Credit	\$4,250/SFD	\$990/kW
SI Fee	- \$1,750/SFD	- \$225/kW
Net Contribution	\$2,500/SFD	\$765/kW

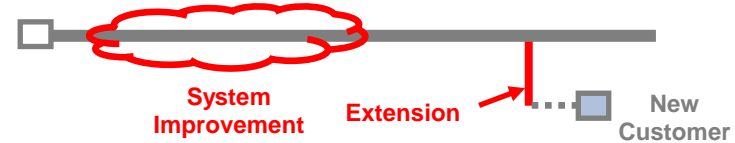
Pros:

- Decreases customer connection costs
- Addresses cost predictability attributed to system improvement costs
- Additional flexibility for BC Hydro to pre-build infrastructure

Cons:

- By itself, does not address free rider issues for extension costs
- Requires consideration for extraordinary system improvement cost scenarios

Policy Option 3



Update our contribution and simplify the recovery of all connection costs by recovering proportionally from all new customers

Illustrative Unitized Extension Fee:

	Single Family Dwelling	General Service
Unitized Extension Fee	\$1,150/SFD	\$150/kW

Pros:

- Addresses free rider issue and largely eliminates need for pioneer provision
- Largely addresses cost predictability with simple cost recovery application
- Additional flexibility for BC Hydro to pre-build infrastructure

Cons:

- Connection costs are independent of specific connection requirements
- Requires consideration for extraordinary cost scenarios

Safety Valve – Option 3

1) Cost Based Threshold

- Where BC Hydro's share of the costs (Estimated Construction Costs – Extension Fee):
 - > \$2.5M, or
 - > \$50k and > 10x Extension Fee

The customer will be charged the full construction costs

2) Distance Based Threshold

- The unitized extension fee includes extensions up to a set distance threshold (100m) from BC Hydro's distribution system.
- Extensions greater than threshold will be charged a \$/m fee based on customer's load.

Pre-Engagement Feedback

Based on the feedback we've received to date:

- General support for both Options 2 & 3 but the cost predictability of Option 3 very attractive
 - Concern that high density load with Option 3 may bear disproportionate costs
- General support for a safety valve but differing opinions on how to implement and where to set
 - Cost based approach did not receive wide acceptance as the approach was viewed as complicated and re-introduced cost uncertainty for customers
 - Distance based was generally favored but subject to what that distance was and how projects outside the threshold would be treated

BREAK



Distribution Extension Policy Proposal

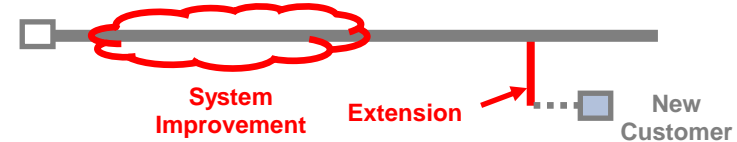
Kevin Lim-Kong

Policy Specialist



BC Hydro's Proposal

Update our contribution and simplify the recovery of all connection costs by recovering proportionally from all new customers



Illustrative Unitized Extension Fee:

	Single Family Dwelling	Multi Family Dwelling Unit	General Service
Unitized Extension Fee	\$1,825/SFD	\$750/Unit	\$150/kW

Update:

- Differentiation of residential units into single-family and multi-family units
 - Single-family – detached, duplex and row/town homes.
 - Multi-family – low and high rise units
- Unitized Extension Fee would be subject to a distance threshold limit, e.g., 300m

Proposed Safety Valve

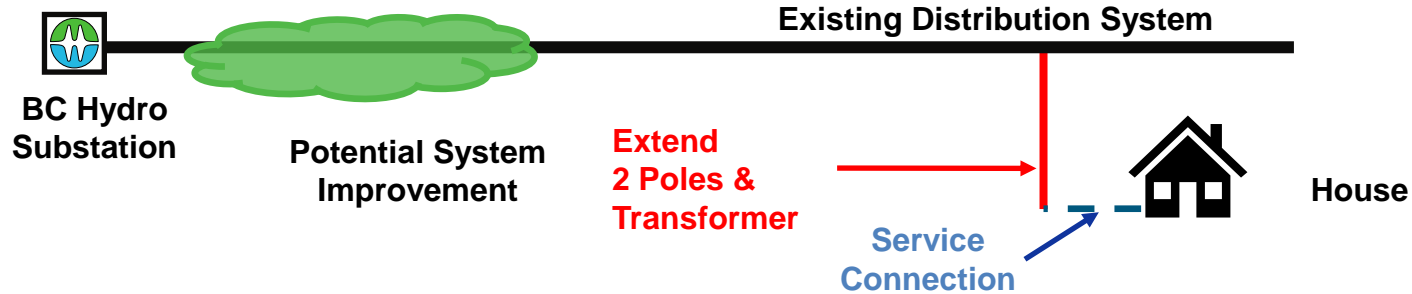
- Unitized fee includes extensions up to a distance threshold (E.g. 300m).
 - Would include approximately 90% of connections that have historically connected.
- Extensions longer than the threshold will pay the unitized fee in addition to a \$/m fee (for the length in excess of the distance threshold) based on customer's load.
 - The additional \$/m fee is not refundable i.e. the pioneer provision would be eliminated.
 - Subsequent connections would be subject to the same unitized fee and distance threshold.

Feedback Sought

Safety Valve Objectives:

- Simple and transparent so that customers can predict when the safety valve will impact their projects
- Manage risk to existing rate payers
- Mitigate potential large increases to the unitized extension fee from increases to the average connection cost

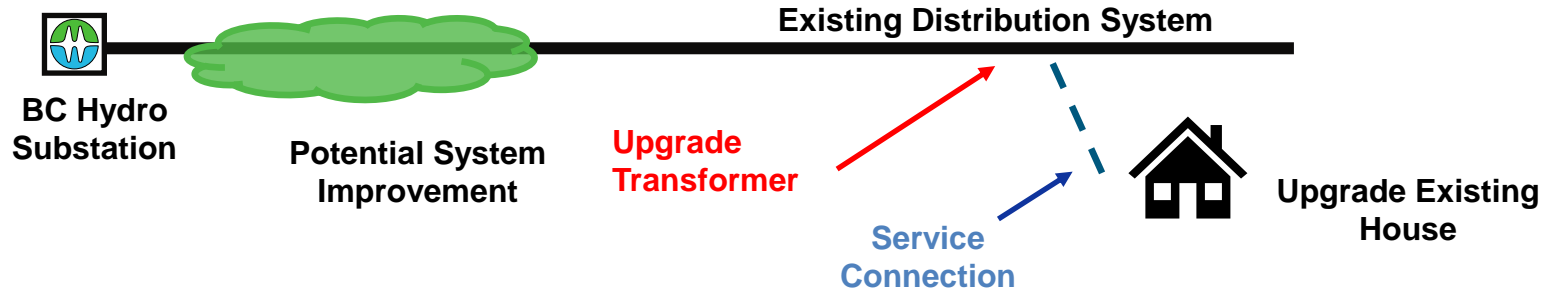
Distribution Extension - House



	Existing	Option 1 Update Contribution	Option 2 Simplified SI Fee	Proposal Unitized Extension Fee
Extension Cost	\$25,891	\$25,891	\$25,891	\$1,825/dwelling
SI Fee	None	None	\$1,750/dwelling	
Contribution Credit	(\$1,475/dwelling)	(\$2,700/dwelling)	(\$4,250/dwelling)	
Extension Fee	\$24,416	\$23,191	\$24,418	\$1,825

Note: Non-extension costs such as Service Connections, pole relocations and undergrounding of overhead lines are not included above. These dedicated costs can potentially cause a substantial increase to the total cost.

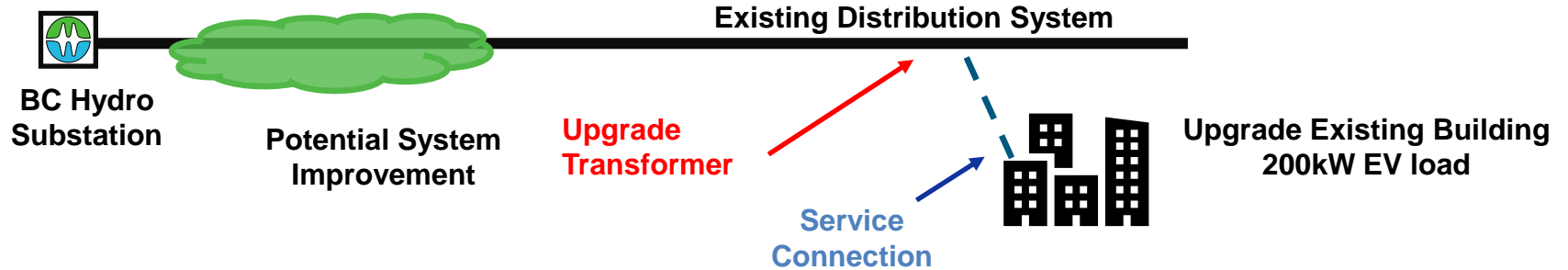
Distribution Extension – House Upgrade



	Existing	Option 1 Update Contribution	Option 2 Simplified SI Fee	Proposal Unitized Extension Fee
Extension Cost	\$6,510	\$6,510	\$6,510	\$1,825/dwelling
SI Fee	\$0	\$0	\$1,750/dwelling	
Contribution Credit	\$0	\$0	(\$4,250/dwelling)	
Extension Fee	\$6,510	\$6,510	\$4,010	\$1,825

Note: Non-extension costs such as Service Connections, pole relocations and undergrounding of overhead lines are not included above. These dedicated costs can potentially cause a substantial increase to the total cost.

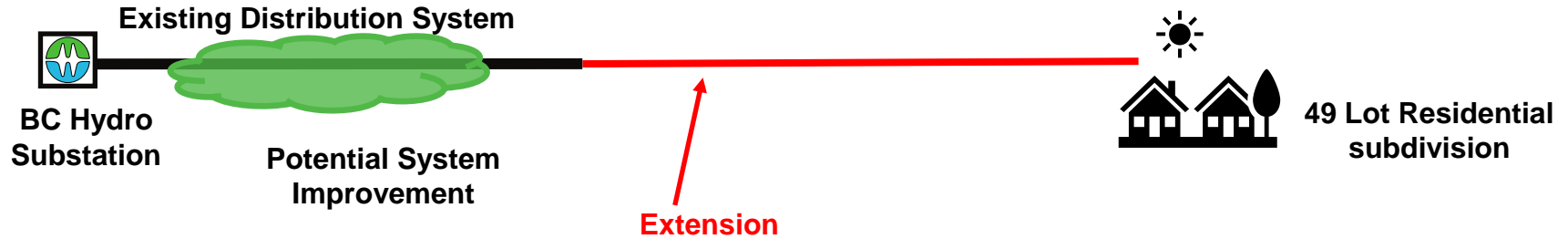
Distribution Extension – Upgrade for EV



	Existing	Option 1 Update Contribution	Option 2 Simplified SI Fee	Proposal Unitized Extension Fee
Extension Cost	\$44,625	\$44,625	\$44,625	\$150/kW x 200kW
SI Fee	None	None	\$45,000	
Contribution Credit	\$40,000	\$125,000	\$198,000	
Extension Fee	\$4,625	\$0	\$0	\$30,000

Note: Non-extension costs such as Service Connections, pole relocations and undergrounding of overhead lines are not included above. These dedicated costs can potentially cause a substantial increase to the total cost.

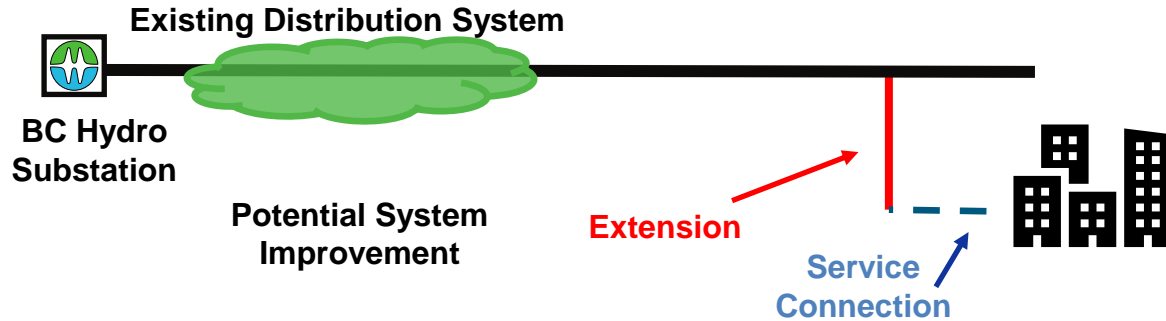
Distribution Extension - Subdivision



	Existing	Option 1 Update Contribution	Option 2 Simplified SI Fee	Proposal Unitized Extension Fee
Extension Cost	\$409,874	\$409,874	\$409,874	\$1,825 x 49 Lots
SI Fee	None	None	\$85,750	
Contribution Credit	(\$72,275)	(\$132,300)	(\$208,250)	
Extension Fee	\$337,599	\$277,574	\$287,374	\$89,425*

Note: Non-extension costs such as Service Connections, pole relocations and undergrounding of overhead lines are not included above. These dedicated costs can potentially cause a substantial increase to the total cost.

Distribution Extension – Mixed Use

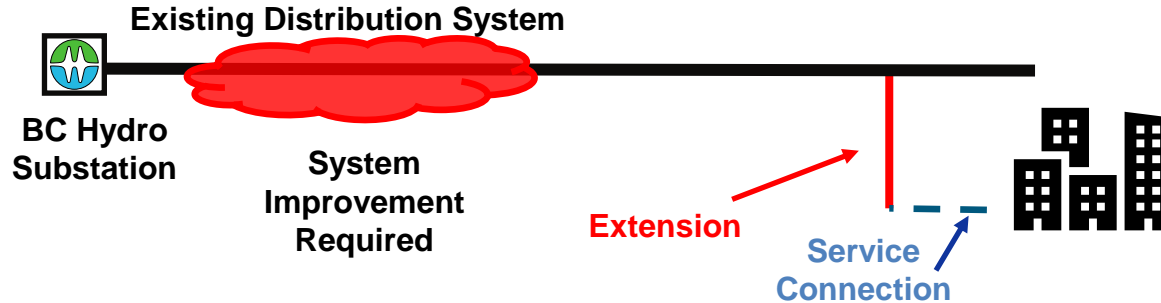


Mixed-Use Development
425 Residential Units
400 kW General Service Load

	Existing	Option 1 Update Contribution	Option 2 Simplified SI Fee	Proposal Unitized Extension Fee
Extension Cost	\$1,158,983	\$1,158,983	\$1,158,983	\$750/dwelling x 425 units \$150/kW x 400kW
SI Fee	None	None	\$833,750	
Contribution Credit	(\$706,875)	(\$1,405,875)	(\$2,202,250)	
Extension Fee	\$452,108	\$0	\$0	\$378,750

Note: Non-extension costs such as Service Connections, pole relocations and undergrounding of overhead lines are not included above. These dedicated costs can potentially cause a substantial increase to the total cost.

Distribution Extension – Mixed Use (SI)

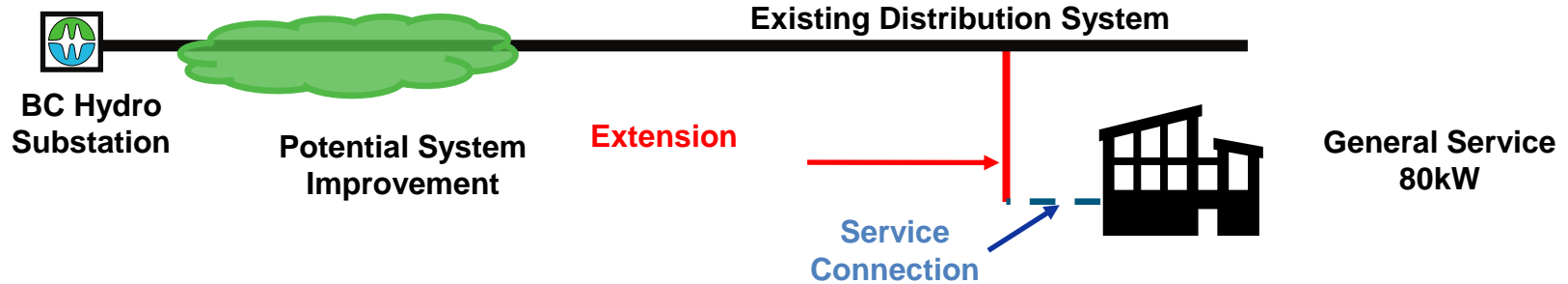


Mixed-Use Development
522 Residential Units
928 kW General Service Load

	Existing	Option 1 Update Contribution	Option 2 Simplified SI Fee	Proposal Unitized Extension Fee
Extension Cost	\$841,981	\$841,981	\$841,981	\$750/dwelling x 522 Units \$150/kW x 928kW
SI Fee	\$3,022,790	\$3,022,790	\$1,122,300	
Contribution Credit	(\$955,550)	(\$2,001,870)	(\$3,137,220)	
Extension Fee	\$2,909,221	\$1,862,901	\$0	\$530,700

Note: Non-extension costs such as Service Connections, pole relocations and undergrounding of overhead lines are not included above. These dedicated costs can potentially cause a substantial increase to the total cost.

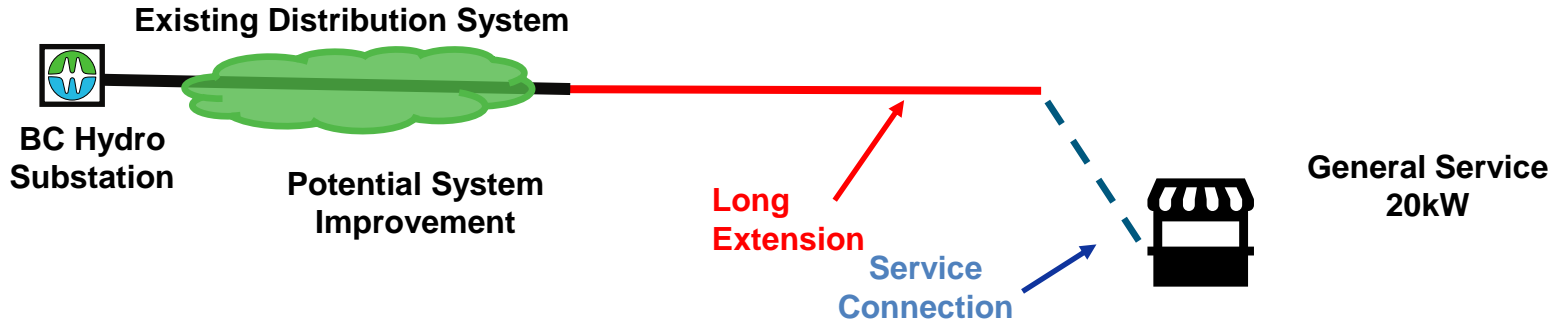
Distribution Extension – General Service



	Existing	Option 1 Update Contribution	Option 2 Simplified SI Fee	Proposal Unitized Extension Fee
Extension Cost	\$61,921	\$61,921	\$61,921	\$150/kW x 80kW
SI Fee	None	None	\$18,000	
Contribution Credit	(\$16,000)	(\$50,000)	(\$79,200)	
Extension Fee	\$45,921	\$11,921	\$721	\$12,000

Note: Non-extension costs such as Service Connections, pole relocations and undergrounding of overhead lines are not included above. These dedicated costs can potentially cause a substantial increase to the total cost.

Distribution Extension – Extraordinary Cost



	Existing	Option 1 Update Contribution	Option 2 Simplified SI Fee	Proposal Unitized Extension Fee
Extension Cost	\$4.5M	\$4.5M	\$4.5M	\$150/kW x 20kW
SI Fee	None	None	\$4,500	
Contribution Credit	\$4,000	\$12,500	\$19,800	
Extension Fee	\$4,496,000	\$4,487,500	\$4,484,700	\$3,000 + \$/m fee

Note: Non-extension costs such as Service Connections, pole relocations and undergrounding of overhead lines are not included above. These dedicated costs can potentially cause a substantial increase to the total cost.

Evaluation and Monitoring

BC Hydro is proposing a 3-year evaluation period

- Upon approval of the new extension provisions, BC Hydro will submit a three-year evaluation report to the Commission providing an update on the performance of the Unitized Extension Fee
- The evaluation report will include, but not limited to:
 - Number of extensions, actual costs vs extension fees paid and number of customers connected
 - Review distance threshold and extensions subject to safety valve
 - Other factors that may impact recalculation of extension fee

Wrap Up and Next Steps

Chris Sandve

Chief Regulatory Officer



Wrap Up and Next Steps

We want to hear from you!

- Are there any other topics of interest we haven't covered?
- You will be receiving an email with a link to a feedback form to continue providing feedback on the topics discussed today. Feedback is requested by June 16th.
- A copy of the presentation will be posted on our website for your reference.

Wrap Up and Next Steps

- We will be refining the preferred option based on the feedback we've received
- We plan to file an application in late July 2023
- In the meantime, further questions or comments on the extension policy application can be emailed to:

bhydroregulatoryfeedback@bchydro.com

