

Welcome to BC Hydro's workshop on:

Electric Tariff Update: Distribution Extension

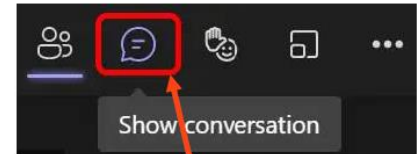
We'll be getting started shortly

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

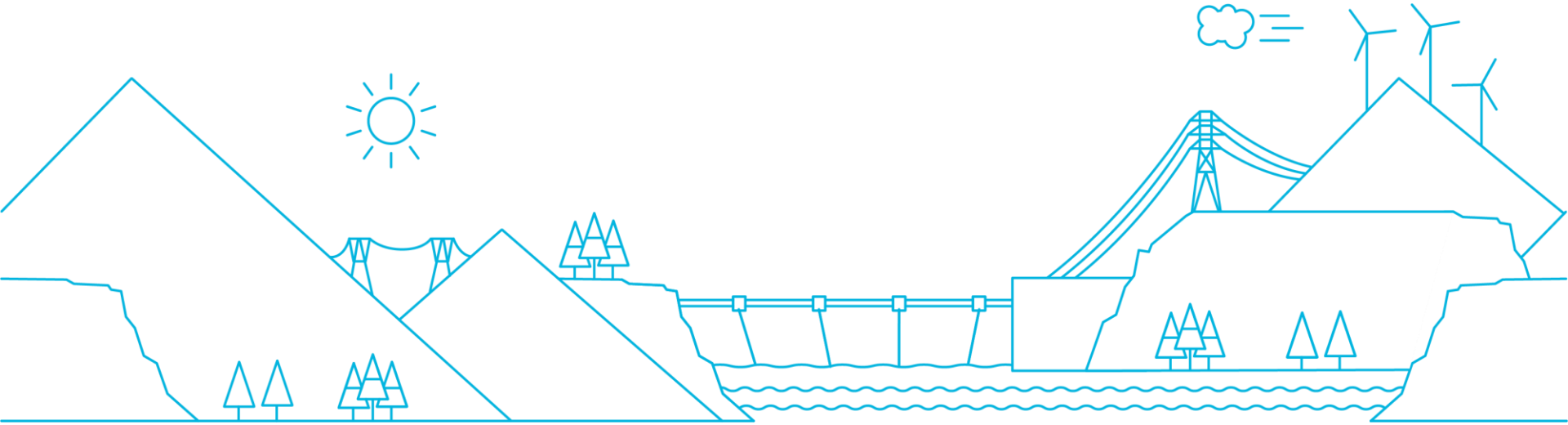
Technical issues?

- Send an email to bchydroregulatoryfeedback@bchydro.com



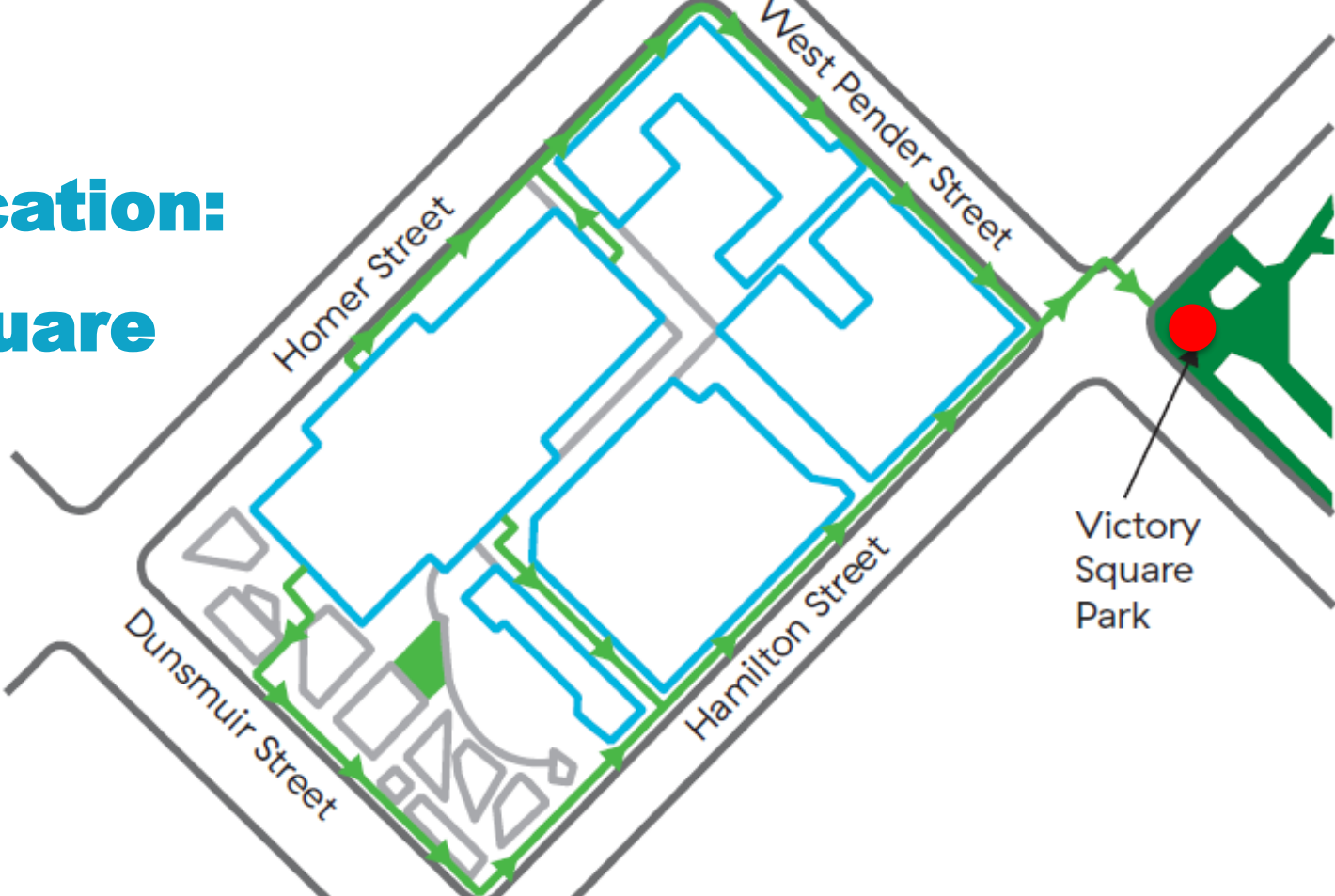
Click on this icon
to access the chat

Electric Tariff Update: Distribution Extensions (Section 8)



April 9, 2024

Safety – Muster Location: Victory Square



Territory acknowledgement

*We are meeting on the unceded traditional territory of the
Musqueam (mus-kwee-um), Squamish, Tsleil-Waututh (tSLAY-
wah-tooth) First Nations.*

Agenda

Time	Agenda Item	Presenter
1:05 – 1:15	Objectives & Overview of Proposal	Chris Sandve, Chief Regulatory Officer
1:15 – 1:30	Review Concepts explored & Engagement Summary	Rob Chin, Distribution Policy Manager
1:30 – 2:50	BC Hydro Proposal: Distribution Extensions <ul style="list-style-type: none">• S8.3: Extension Fee• S8.4: Guarantee• S8.5: Extension fee refund• S8.7: Extensions for Rate Zone IB & II• S8.8: Uneconomic extension fund• S11: Standard connection charges	Rob Chin, Distribution Policy Manager Kevin Lim-Kong, Distribution Policy Specialist Amy Lin, Regulatory Specialist
2:50 – 3:00	Wrap-up & Next Steps	Amy Lin, Regulatory Specialist

Objectives for Distribution Extension Tariff Amendments

Chris Sandve

Chief Regulatory Officer

Objectives

BC Hydro is updating its distribution extension policy considering the issues we've heard from customers while balancing rate payer interests:

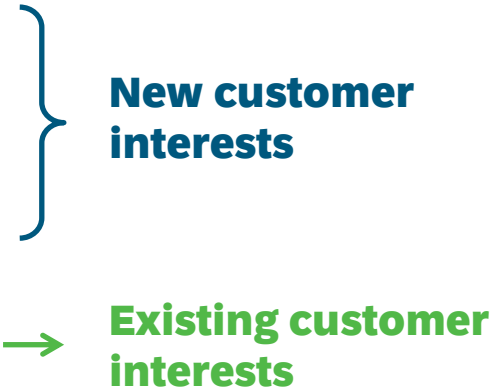
- ❑ **Improve cost equity**

- System improvement costs
- Extension fee refund

- ❑ **Improve cost predictability**

- System improvement and extension costs

- ❑ **Manage rate payer impacts**



Supports B.C.'s housing and electrification policies

BC Hydro Proposal

Reduced connection cost for all new customers

Extension

Non-tariff
improvements



Proposal: Estimated cost
of construction

System Improvement

Tariff & Non-tariff
improvements



BC Hydro invests
(\$1M per MVA, \$10M
maximum)

BC Hydro Contribution

Tariff
improvements



- **Update allowance**
- **Offset extension & service connection costs**

Concepts Explored & Engagements

Rob Chin
Distribution Policy Manager

Distribution Extensions – Definitions



- **Extension:** Infrastructure that extends our existing system to the customer's site.
- **System Improvement (SI) Costs:** Costs to address upstream capacity improvements to accommodate incremental customer load.
- **BC Hydro Contribution:** Recognizes future net revenue of new load. Currently offsets extension and SI Costs.
- **Service Connection & Metering:** Last section of the wire or cable and metering.

Customer and Stakeholder Engagement

Phase 1 Explore Concepts

Present preliminary rate design concepts to assess customer interest

Phase 2 Review Options

Present a shortlist of options and customer bill impacts to seek feedback

Phase 3 Refine Proposals

Present the leading options to refine the final proposal



Customer and Stakeholder Engagement

Phase 1 Explore Concepts

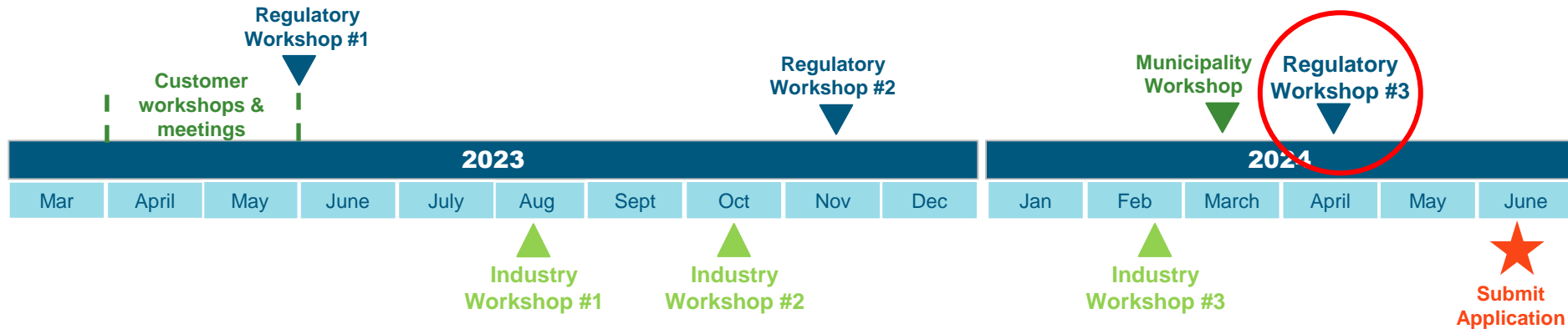
Present preliminary rate design concepts to assess customer interest

Phase 2 Review Options

Present a shortlist of options and customer bill impacts to seek feedback

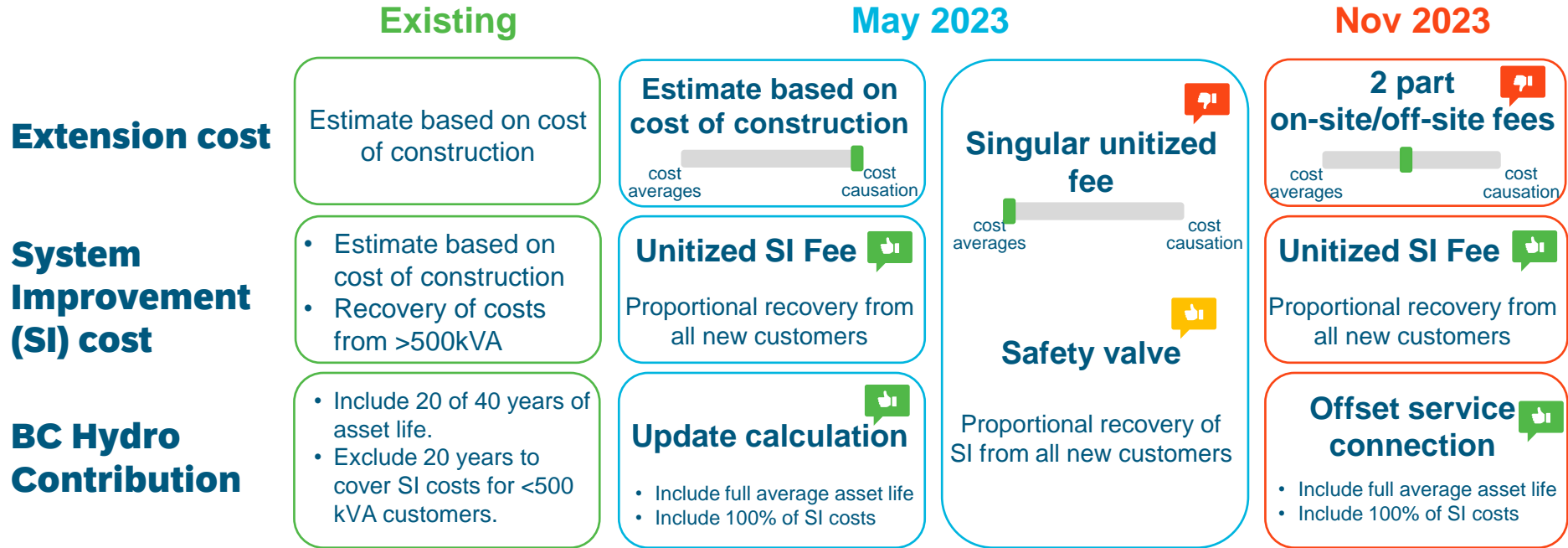
Phase 3 Refine Proposals

Present the leading options to refine the final proposal



Concepts Explored

Iterative process building on customer feedback



BC Hydro Proposal

Rob Chin
Distribution Policy Manager

Kevin Lim-Kong
Distribution Policy Specialist

Amy Lin
Regulatory Specialist

BC Hydro Proposal

Reduced connection cost for all new customers

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Non-tariff
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BC Hydro invests
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BC Hydro Contribution

Tariff
improvements



- **Update allowance**
- **Offset extension & service connection costs**

Extension Costs

Customer preference is to maintain cost equity.

Extension

Today:

Estimated cost of
construction



Proposal:

**Estimated cost
of construction**



- Cost to extend the infrastructure is the responsibility of the customer.
- Introducing non-tariff improvements.

System Improvement Costs

Improve cost equity and predictability. Manage rate payer risk.

System Improvement

Today:

>500kVA customers



Proposal:

BC Hydro manages SI investments



SI costs eliminated for majority of the projects, except for extraordinary cases.

Risk Mitigation:

- Safety valve
- Security



SI Risk Mitigation

Purpose: To mitigate rate payer risk and addresses edge scenarios where SI costs are extraordinary relative to the load being connected or where there is no broader benefit.

Proposal:

Safety Valve: BC Hydro invests up to \$1M per MVA towards system improvement of new load

- Minimum BC Hydro investment of \$1M and a maximum of \$10M.
- In cases where actual system improvement costs exceeds the \$1M per MVA, the customer is responsible for the incremental difference.

Security: Projects with maximum demand greater than 1MVA may be required to provide security up to the amount of BC Hydro's SI investment (\$1M per MVA).

BC Hydro Contribution

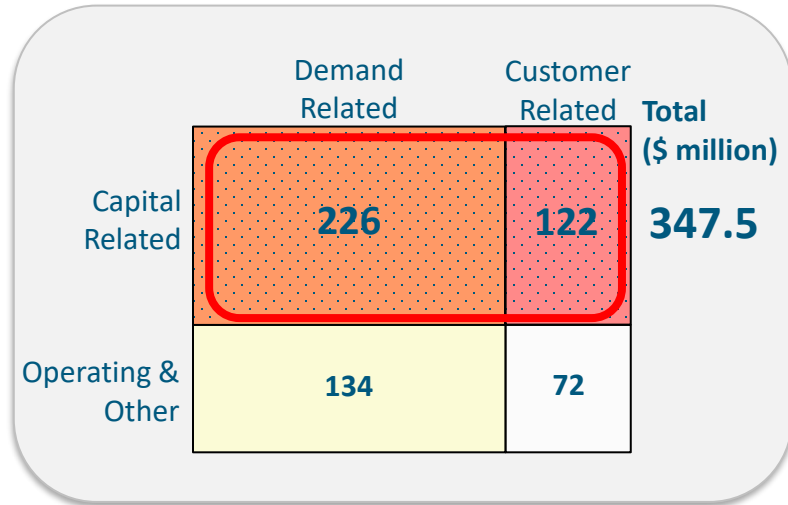
Increase in maximum allowance to offset costs.

Rate Class	Today:	Proposal (illustrative)
Residential	\$1,475 / dwelling	\$2,000 / dwelling
General Service	\$200 / kW	\$400 / kW
Street Lighting	\$150 / fixture	\$120 / fixture
Irrigation	\$150 / kW	\$350 / kW

In addition, BC Hydro proposes to adjust annually by the approved general rate increase.

BC Hydro Contribution - Current

Discounted cash flow model to estimate future revenues



Key Inputs:

2007 RDA

Distribution Costs

Capital related

\$347.5M

Discount Rate

Weighted Average Cost of Capital (WACC)

8%

Discount Period

Average 40 years asset life

20 years

Residential dwelling

\$1,475/unit

General Service

\$200/kW

BC Hydro Contribution - Update

Discounted cash flow model to estimate future revenues

Key Inputs:	2007 RDA	Proposal: (illustrative)
Distribution Capital Costs	\$347.5M	\$406M Excludes SI costs (~ 20%)
Discount Rate WACC	8%	6%
Discount Period Average distribution asset life	20 years	41 years
Residential dwelling General Service	\$1,475/unit \$200/kW	\$2,000/unit \$400/kW

BC Hydro Contribution

Improve connection cost for all new customers.

BC Hydro Contribution

Today: Offsets: ✓ SI cost
✓ Extension cost

Proposal:

Offsets: ~~SI cost~~
✓ Extension cost
✓ Service connection cost



Offset more costs.

Extension Fee Refund

Improve equity for the initial customer



Current provision:

Extension Fee	Refund Criteria
\$5,000 or less	Automatic fund of 20%
>\$5,000	<ul style="list-style-type: none"> • 5 year refund window • Review upon application • Maximum once a year

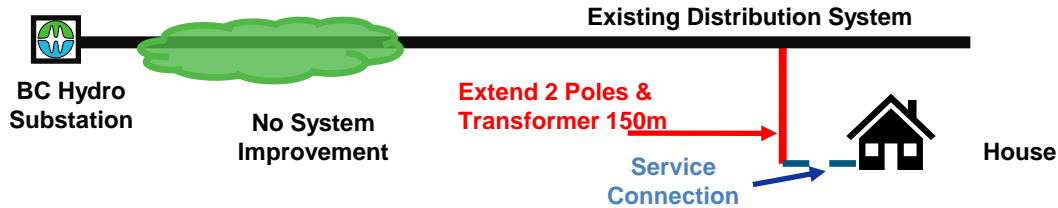
Refundable Extensions ¹		
\$1 - \$25k	\$25k - \$50k	\$50k - \$75k
0%	2%	2%

Note 1: Data from fiscal 2018

Proposal

- Set eligibility threshold: \$25,000.
- 10 year refund window for projects with extension fees > \$1,000,000.
- Automatic reviews by BC Hydro after 5 years (& after 10 years where applicable).

Example: Single Detached House



ILLUSTRATIVE:

	Existing	Proposal
Extension Cost	\$25,891	\$26,729
+ SI Cost	\$0	N/A ¹
- Contribution Credit	(\$1,475)	(\$2,000)
+ Safety Valve	N/A	\$0
+ Service Connection / Metering	\$838	\$46 metering only
= Connection Cost	\$25,254	\$24,775

Note 1: Subject to safety valve

= \$25,891 +
\$838 service connection

= 1 unit x \$2,000 per
dwelling

NOTE: Service Connection Charge
Existing: Service Connection Charges includes 1st meter.
Proposed: Service Connection & Metering will be split into separate charges

Example: 4 Unit Multiplex – New UG Transformer



ILLUSTRATION

UPDATED

See next slide

+	Extens		
+	SI Cos		
-	Contri		
+	Safety Valve	\$0	\$0
+	Service Connection / Metering	\$1,249	\$181 metering only
=	Connection Cost	\$35,349	\$33,430

NOTE: Service Connection Charge

Existing: Service Connection Charges includes 1st meter.

Proposed: Service Connection & Metering will be split into separate charges

Note 1: Subject to safety valve

Example: 4 Unit Multiplex – New UG Transformer



ILLUSTRATIVE:

	Existing	Proposed
Extension Cost	\$40,000	\$41,249
+ SI Cost	N/A ¹	N/A ¹
- Contribution Credit	(\$5,900)	(\$8,000)
+ Safety Valve	\$0	\$0
+ Service Connection / Metering	\$1,249	\$181 metering only
= Connection Cost	\$35,349	\$33,430

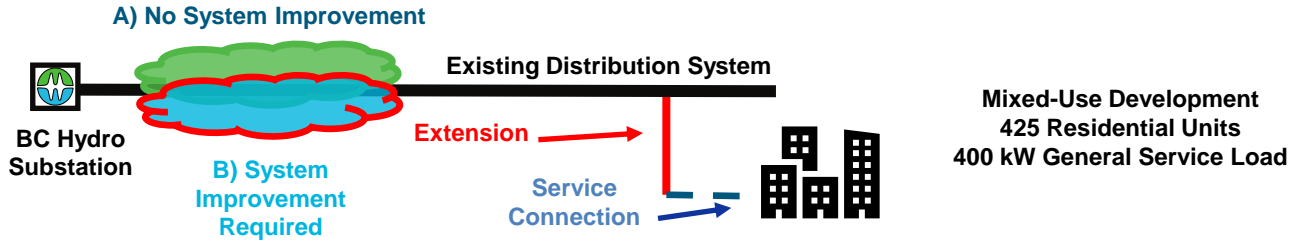
= \$40,000 +
\$1249 (400A service) or
\$1933 (600A service)

= 4 units x \$2,000 per
dwelling

NOTE: Service Connection Charge
Existing: Service Connection Charges includes 1st meter.
Proposed: Service Connection & Metering will be split into separate charges

Note 1: Subject to safety valve

Example: Mixed Use (with and without SI)



ILLUSTRATION

UPDATED

See next slide

+	Extension			
+	SI Cost			
-	Contribution			
+	Safety Valve		N/A	\$0
+	Service Connection / Metering		\$32,994	\$25,000 metering only
=	Connection Cost	(A)	(B)	\$181,977
		\$485,102	\$2,485,102	

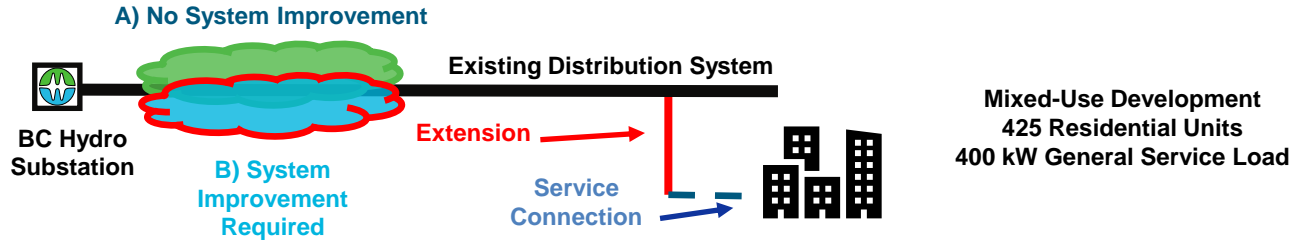
\$1,158,983 +
service connection

5 units x \$2,000 per
g) + (400 kW x \$400
per kW)

NOTE: Service Connection Charge
Existing: Service Connection Charges includes 1st meter.
Proposed: Service Connection & Metering will be split into separate charges

Note 1: Subject to safety valve

Example: Mixed Use (with and without SI)

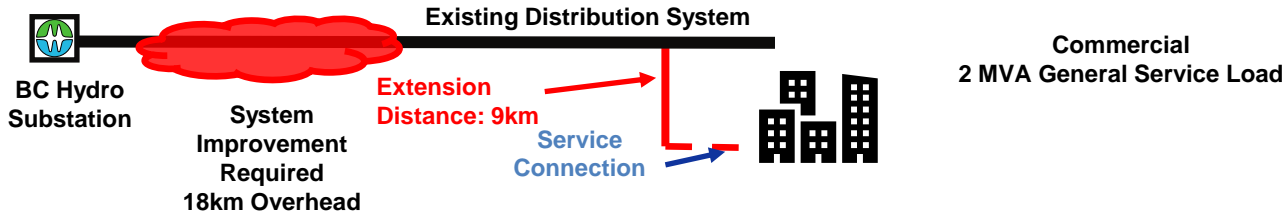


ILLUSTRATIVE:

	Existing		Proposal	
Extension Cost	\$1,158,983		\$1,166,977	= \$1,158,983 + \$7,994 service connection
+ SI Cost	(A) \$0	(B) \$2,000,000	N/A ¹	
- Contribution Credit	(\$706,875)		(\$1,010,000)	= (425 units x \$2,000 per dwelling) + (400 kW x \$400 per kW)
+ Safety Valve	N/A		\$0	
+ Service Connection / Metering	\$32,994		\$25,000 metering only	
= Connection Cost	(A) \$485,102	(B) \$2,485,102	\$181,977	NOTE: Service Connection Charge Existing: Service Connection Charges includes 1st meter. Proposed: Service Connection & Metering will be split into separate charges

Note 1: Subject to safety valve

Example: SI Safety Valve



ILLUSTRATIVE:

	Existing	Proposal	
Extension Cost	\$27,000,000	\$27,004,000	= \$27,000,000 + \$4,000 service connection
+ SI Cost	\$7,000,000	N/A ¹	= 2 MVA x \$ 400 per kW
- Contribution Credit	(\$400,000)	(\$800,000)	
+ SI Safety Valve	N/A	\$5,000,000	= \$7M – (\$1M per MVA x 2MVA)
+ Service Connection / Metering	\$5,000	\$1,000 metering only	
= Connection Cost	\$33,605,000	\$31,205,000	NOTE: Service Connection Charge Existing: Service Connection Charges includes 1st meter. Proposed: Service Connection & Metering will be split into separate charges

Note 1: Subject to safety valve

Minimum Service Connection Charges

Support proposal and update fees to reflect current day costs



The current overhead and underground service connection standard charges include:

- Service connection cost
- Metering cost

Proposal

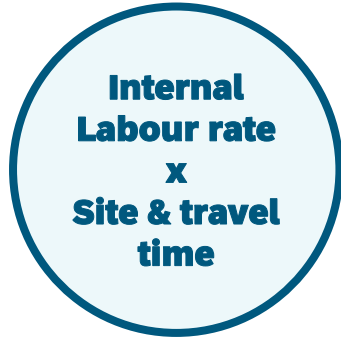
- Revise Overhead/Underground service connection charges:
 - Separate meter costs from service connection cost.
 - Update charges based on weighted average of external and internal resources
- Include other connection charges into Electric Tariff to align with charges published on website.
- Same Connection charges to apply to all Rate Zones

Applies to all customers

Minimum Service Connection Charges

Update methodology & costs

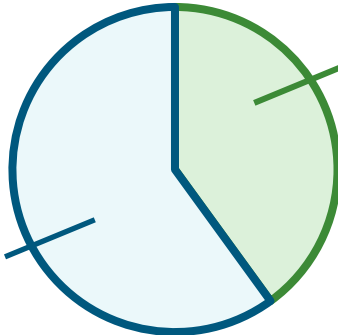
Today:



Service Connection Cost

Proposal:

Internal labour rate
X
Site & travel time



Standard charges remain relatively the same. Cost pressures are offset by cost efficiencies.

Minimum Service Connection Charges

		Existing Electric Tariff	Existing bchydro.com	Proposal (Illustrative)	
		1 Phase	1 Phase	1 Phase	3 Phase
Overhead	100A	\$799	-	\$860	\$960
	200A	\$838	-		
	400A	-	\$1,207	\$1,400	\$1,540
	600A	-	\$1,882	\$1,580	N/A
Underground	100A	\$957	-	\$1,370	\$1,490
	200A	\$1,270	-		
	400A	-	\$2,225	\$2,450	\$2,520
	600A	-	\$3,196	\$3,470	N/A
Metering	Meter work	\$181	-	\$200	
	Additional Meter work	\$46	-	\$60	
	CT/PT Meter work	-	\$586	\$810	

Uneconomic Extension Fund



Financial assistance for connections where overhead infrastructure doesn't exist.

- Fa
- Pr

BC Hydro will increase the cap to 20% of the annual budget (\$1.5M).

Proposal

Expand eligibility criteria to include overhead municipal utility benefit. including body scope and justification for evaluation.

UPDATED

See next slide

Uneconomic Extension Fund



Financial assistance for connections where overhead infrastructure doesn't exist. Current eligibility:

- Farm irrigation load, or
- Principal residence

BC Hydro is currently spending 15% to 20% of the annual budget (\$1.5M).

Proposal

Expand eligibility criteria to include overhead connections for First Nations and municipal governments that provide a community benefit.

- Customer must be from governing body
- Customer must submit project scope and justification for evaluation.

Extension for Rate Zone IB & II

Apply the same extension charges in non-integrated areas



Connections in Rate Zone IB and II are currently responsible for:

- Estimated cost of the construction
- Present value of net operating and maintenance costs

Not eligible for contribution from BC Hydro or extension fee refund.

Proposal

- Apply the same cost treatments to connection requests to all rate zones.
- Apply the same standard charges to all rate zones.

Transition

All customers benefit with the proposed amendments.

Anticipated effective date:

Winter 2024/2025

- Upon approval, projects with quotes but unpaid can apply again.



- A typical regulatory review process takes approximately 6 to 8 months.
- We will be seeking opportunities for a streamlined review with the BCUC.

Wrap Up & Next Steps

Amy Lin
Regulatory Specialist

BC Hydro Proposal

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Non-tariff
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Proposal: Estimated cost
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System Improvement

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- **Update allowance**
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Next Steps





BC Hydro

Power smart