2015 RATE DESIGN APPLICATION

DISTRIBUTION EXTENSION POLICY & TERMS AND CONDITIONS

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BC hydro
FOR GENERATIONS

August 21, 2014

AGENDA

1. **RDA Summary**
    - Overview
    - RDA context
    - Legal / Regulatory
2. **Distribution System**
    - Overview
    - Customer Characteristics
3. **Customer Extension Cost Allocation Issues**
    - BC Hydro Maximum Contribution
    - Extensions – Illustrative
    - Schedule & Cost Allocation issues
    - Extension Examples
    - Extension Fee Refunds
    - Terms and Conditions Updates
3. **RDA Timeframe & Next Steps**
4. **Questions & Comments**

RDA – OVERVIEW

A rate design application is a proposal to change to how rates are structured, how costs are allocated between different “classes” of customers and update the Terms and Conditions, including standard charges, in BC Hydro’s Electric Tariff. BC Hydro submits rate design applications to the British Columbia Utilities Commission (BCUC) for approval.

Currently, BC Hydro is consulting with and engaging customers for the next Rate Design Application, which will be filed with the BCUC in summer 2015. In addition to distribution extension policy, we are considering: cost of service, residential and general service rates, industrial rates, and extension policies along with the terms and conditions, and standard charges. You can find an overview of issues being considered in the presentation from the first RDA workshop available at: bchydro.com/content/dam/BCHydro/customer-portal/documents/corporate/regulatory-planning-documents/regulatory-matters/rate-design-application-workshop-presentation-may8-2014.pdf

LEGAL / REGULATORY

- BC Hydro believes that the Electric Tariff, including Section 8 which governs Distribution extensions, is in scope for its 2015 RDA;

- Any BC Hydro Distribution proposals would be informed by the 1996 SET Guidelines, the prior BCUC 2007 RDA decision, subsequent developments such as Direction 7 to the BCUC, and customer engagement;

- Appendix A to Direction 7 is the Heritage Contract, which provides that BC Hydro's rates are established on a cost of service basis, and thus the incremental cost of energy is set aside and not included in the Distribution extension cost calculation

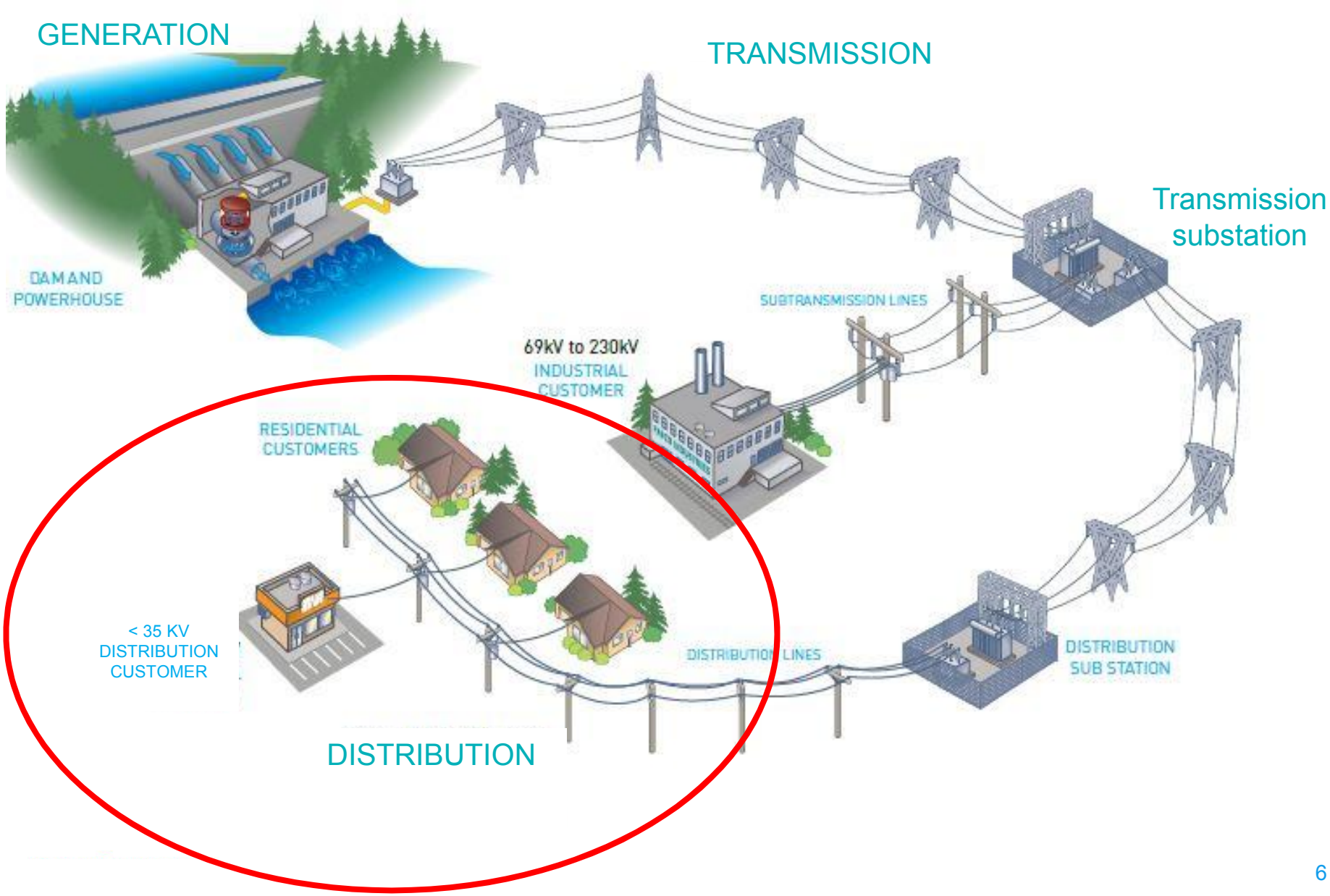
2007 RDA CONTEXT

2007 RDA Decision

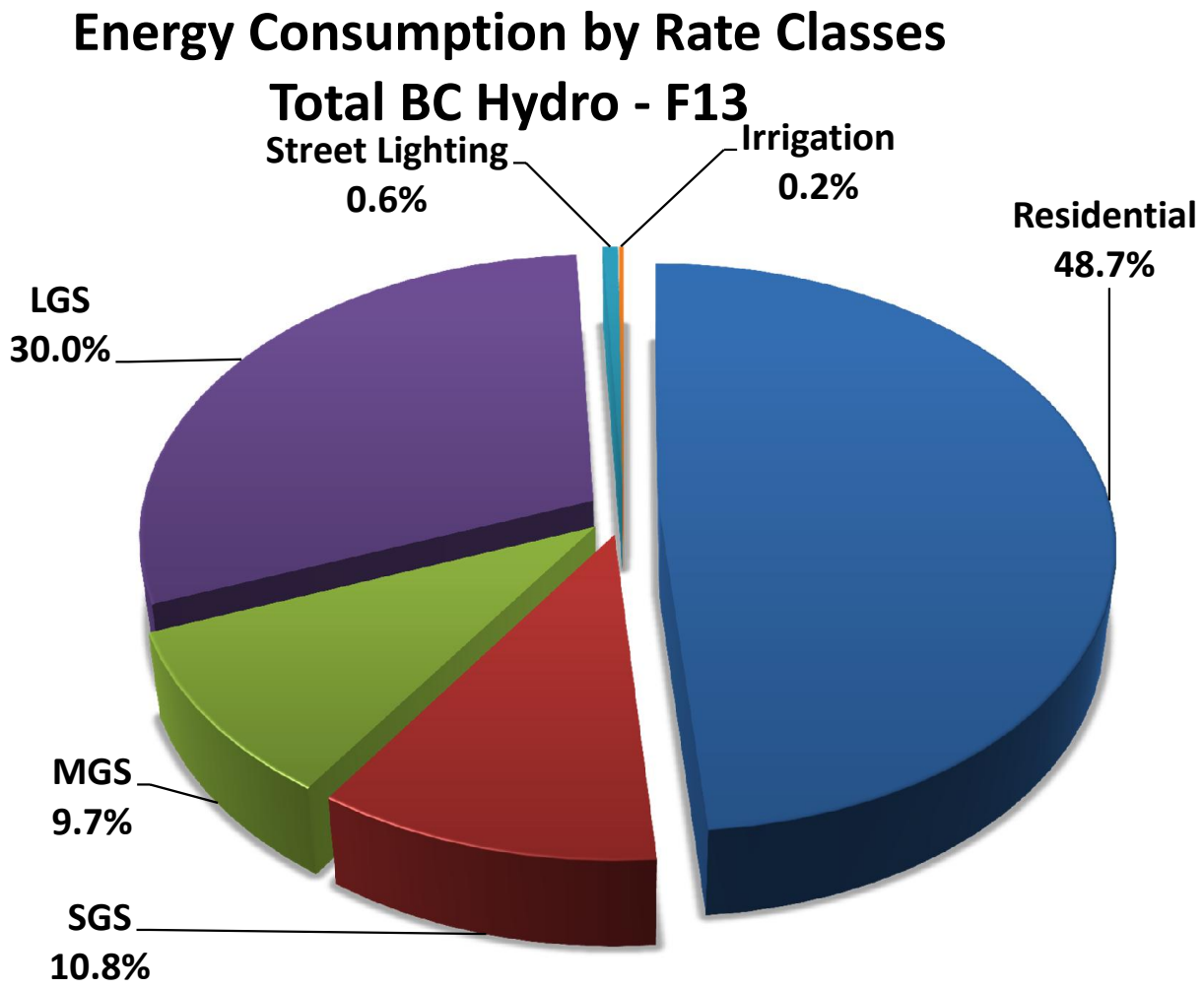
- The BCUC highlighted recommendations # 1 & #5 from the 1996 SET Guidelines:
  - #1 (discounted cash flow evaluation of system extensions)
  - #5 (consideration of all incremental costs and benefits) but that, “events have taken place since 1996 that must be considered”. Most notable is Direction No. 7

- As per Appendix A to Order no.G-20-08, the BCUC approved the Maximum BC Hydro Contributions but recommended that BC Hydro address to the following in the next RDA:
  - The selection and definition of a guiding principle for the determination of Allowances;
  - How the Allowances should be calculated;
  - The period to be covered by the analysis; and
  - The suitable discount rate to be used.

DISTRIBUTION SYSTEM



DISTRIBUTION CUSTOMER CHARACTERISTICS



1.9M
customers

36,379
GWh

$3,086M
revenue

Source: BC Hydro F2013 FACOS Study

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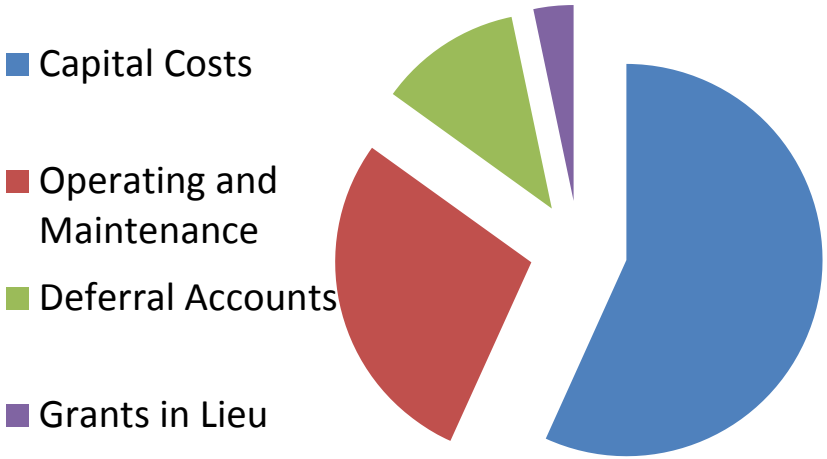
MAXIMUM BC HYDRO CONTRIBUTION

Distribution Revenue Requirements



- Costs are used as a proxy for revenue
- $347.5 M was used for allowances per BCUC order G-20-08 in capital related costs
- Capital costs include depreciation, finance, and return on equity

1. Allocation Factors

2. Discount period: 20 yrs.

3. Discount Rate:

8% - 2007 RDA

7% - Proposed

Customer Class	Maximum BC Hydro Contribution
Residential	$1475 per single family dwelling
General Service	$200 per kW of billing demand
Irrigation	$150 per kW of billing demand
Street Lighting	$150 per fixture

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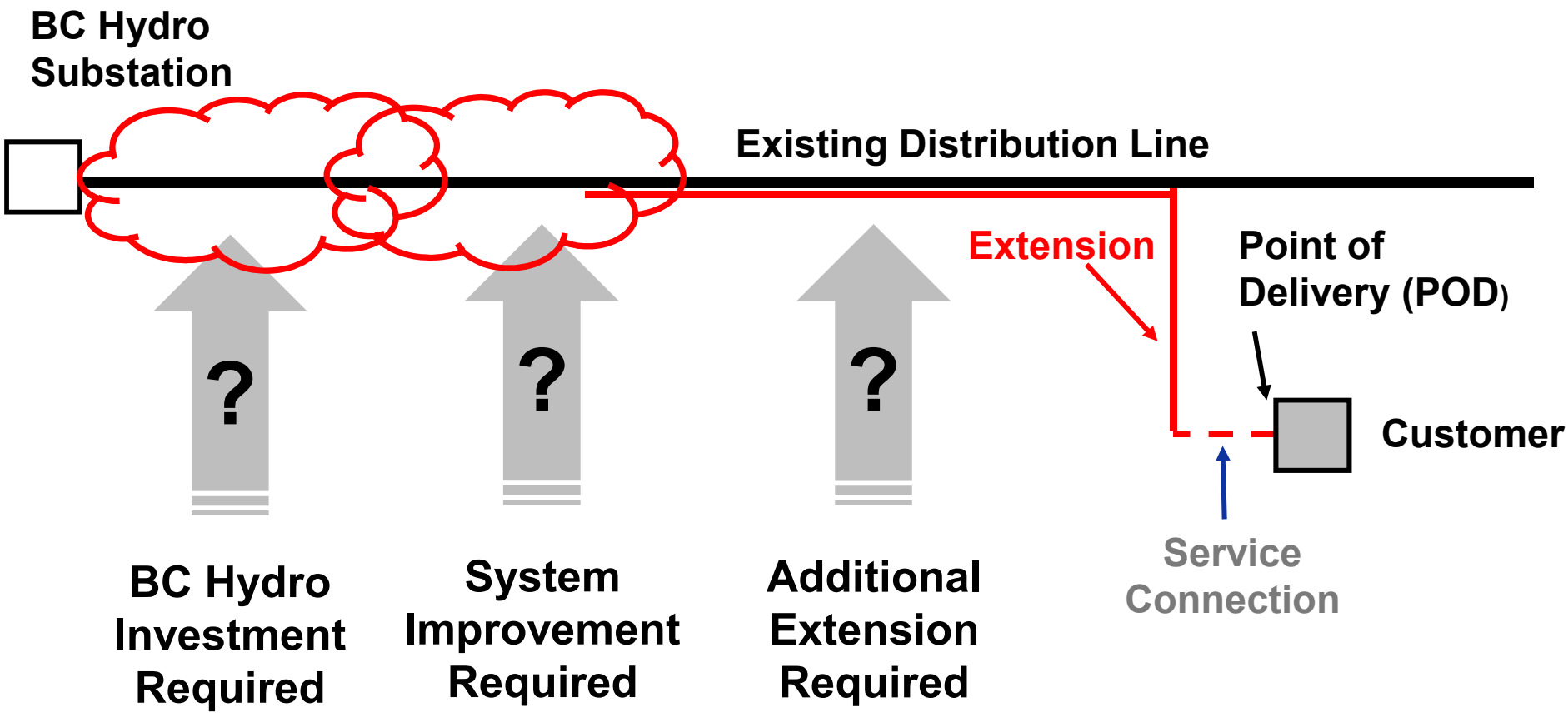
ILLUSTRATIVE DISTRIBUTION EXTENSION



The extension provisions of the tariff are meant to provide a method of determining how a utility and a customer will share the costs of serving the new customer.

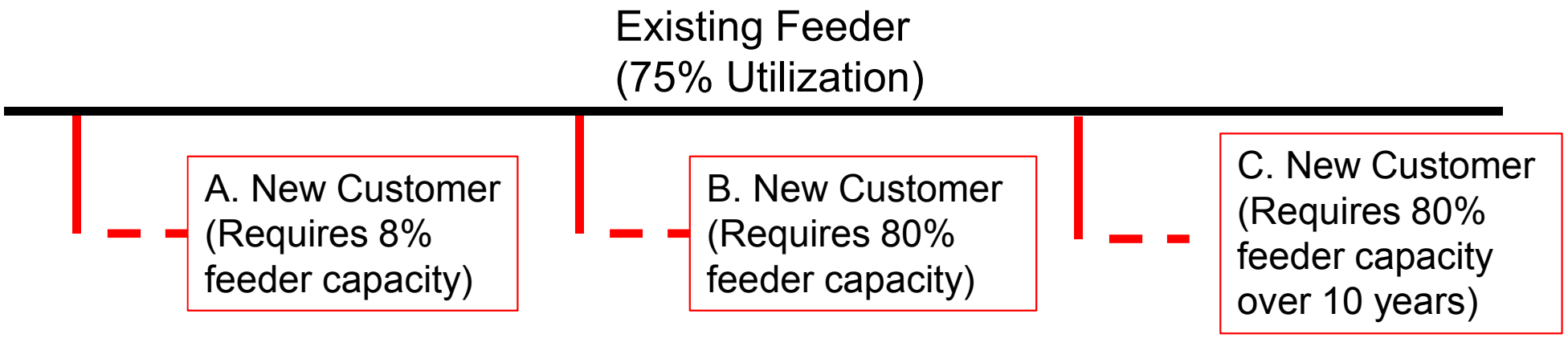
NOTE: Examples of some potential scenarios will be illustrated later in this presentation.

ISSUE: SCHEDULE & COST ALLOCATION

With the BC Hydro Distribution system reaching full, or nearly full, capacity in most regions the key issues we are seeing are with:

- Larger Developments
  - Requires significant capacity necessitating costly upstream system improvements
- Developments Phased over Several Years
  - Developers looking to defer/spread costs evenly over development life
  - Electrical capacity is more of a step function requiring minimal costs in some phases and significant costs in other phases
- Densification vs. Green Field
  - Existing and aged, possibly fully loaded distribution systems that need to be reconfigured to accommodate new development
- Extensions to Rural Communities
  - Communities supplied via long radial lines looking to expand and are limited by existing infrastructure.

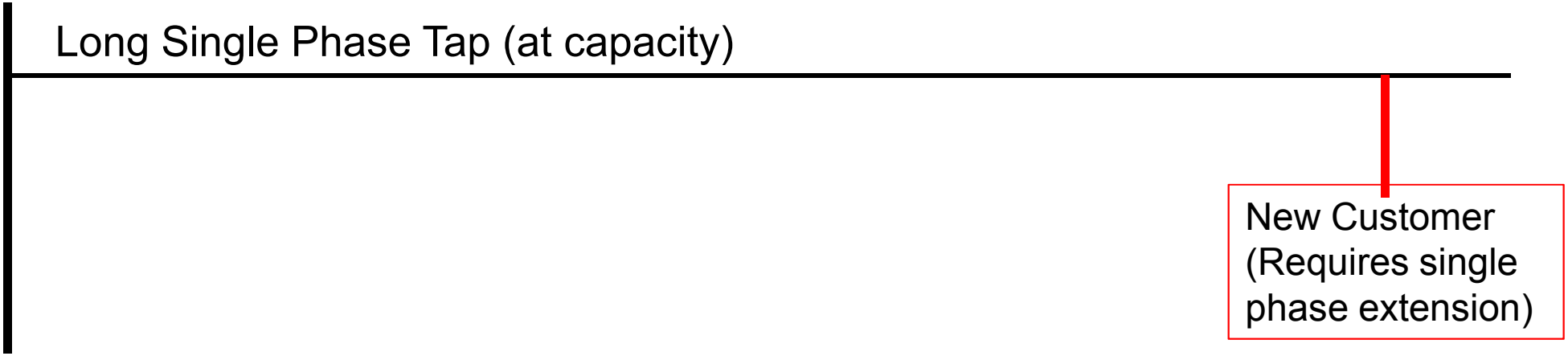
EXTENSION EXAMPLES



- Every new customer has some impact to the Distribution system which at some point will necessitate System Improvements.
- Sometimes those improvements can be deferred. Other times those improvements are required immediately to serve the load. Some multi-phase projects require capacity increases over time.
- For these examples under our current business practices:
  A. Would pay for their Extensions but would most likely not pay for System Improvement as no facilities would have to be constructed to accommodate.
  B. Would likely have some form of Extension/System Improvement as work upstream of the customer would need to be done to accommodate. (some costs may be offset by the BCH contribution).
  C. Is more complex as it resembles characteristics of example A) as well as B). Ultimately, the development needs are more aligned with B) but if possible, work is staged to try to align the schedule of Extension work with the developer. (as per phased developments discussed).

EXTENSION EXAMPLES

Long Single Phase Tap (at capacity)



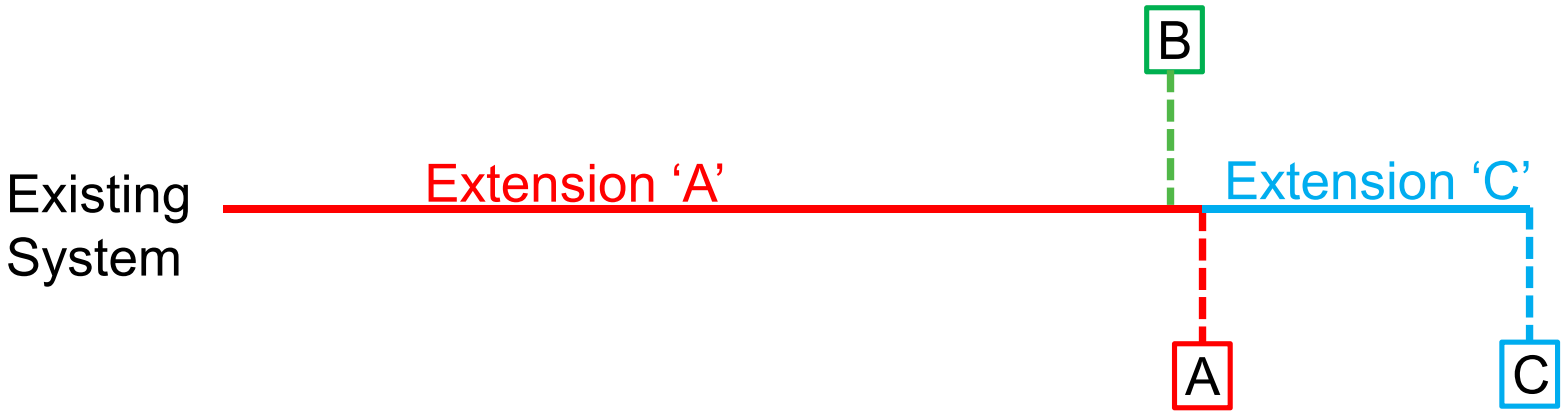
In this second example, a new customer requires a single phase extension, but due to the existing single phase line being at capacity additional work must occur to accommodate the customer's load.

- Should this customer pay more because their request came later when the system hit its capacity limit?
- Should BC Hydro pay to increase the system capacity?

Issues – Is this Equitable?

- Customer cannot connect unless upstream capacity restraint is resolved.
- Previous customers, with similar loads, were able to connect without requiring System Improvements.
- The new Customer is the "straw that broke the camel's back".
- **Should <u>every</u> customer contribute to upstream improvements whether they are constructed at the time of their extension?**
- How should BC Hydro fairly assess system impacts of individual customers. All new customer loads impact the upstream system?

EXTENSION FEE REFUNDS



Customer "A" (the "Pioneer") :

- Builds an extension and a service connection from BC Hydro's existing distribution system. The cost of the extension is offset by the BC Hydro Contribution.

Customer "B":

- Builds a service connection directly from Customer "A's" extension. No extension is required (i.e. their full BC Hydro Contribution is available as a refund to Customer A).

Customer "C":

- Builds a subsequent extension and service connection off of Customer "A's" extension. The cost of the extension is offset by the BC Hydro Contribution

When Customer "A" applies for an Extension Fee Refund, (within the next 5 years) they would be entitled to any of Customer "B" & "C's" unused contributions.

Current Issues for review / feedback:

- "Free – Riders" – new customers who do not contribute appropriately or at all to the extension.
- Refunds are limited to 5 years after an extension is energized.
- Complicated to evaluate non-radial extensions (i.e. offloading occurs to accommodate new extension)
- Completely manual / complex process

T&C UPDATES FOR SPECIFIC SECTIONS OF THE ELECTRIC TARIFF

- **BC Hydro proposes that a review of the Electric Tariff (Distribution) would focus mainly on Section 8 (Customer Extensions).**

- **BC Hydro proposes that the review also include all the Terms & Conditions sections to develop recommendations for increased clarification. For example, the "Definition" section will be reviewed to be revised, clarified or created with the outcome of the tariff recommendations.**

TIMELINE

Activity	Date
Distribution Extension customer/stakeholder meetings	Month of August
Summary notes from Distribution Extension meetings, including BC Hydro initial comments, provided to participants	Sept. 5th
Feedback comments from meeting participants to be forwarded to BC Hydro	30 days after circulation of meeting summary notes
Transmission Extension workshop	Late October 2014
Distribution Extension workshop to discuss issues and feedback from customer meetings	Mid - November 2014

NEXT STEPS

Please send feedback for this presentation to:

- **Email: rena.messerschmidt@bchydro.com**

For all general 2015 RDA feedback, questions or if you are interested in participating in other Rate Design engagement activities, please contact us by:

- **Mail: BC Hydro, BC Hydro Regulatory Group – "Attention 2015 RDA", 16th Floor, 333 Dunsmuir St., Vancouver, B.C. V6B-5R3**
- **Fax: 604-623-4407, "Attention 2015 RDA"**
- **Email: bchydroregulatorygroup@bchydro.com**
- **Web: www.bchydro.com/about/planning_regulatory/2015-rate-design.html**