2015 RATE DESIGN APPLICATION (RDA) WORKSHOP 12

APPLICATION STRUCTURE AND ISSUES

FOR GENERATIONS

30 July 2015

FORM OF RDA = OUTLINE OF WORKSHOP

1. Chapter 1: Introduction
2. Chapter 2: Context for the Application and Rate Design Evaluation
3. Chapter 3: Cost of Service (COS)
4. Chapter 4: Rate Class Segmentation
5. Chapter 5: Residential Rate Design
6. Chapter 6: General Service Rate Design
7. Chapter 7: Transmission Service Rate Design
8. Chapter 8: Terms and Conditions

Next Steps

RDA CHAPTER 1

INTRODUCTION

1. Rate Design Terminology and Definitions
2. Rate Design Relationship to Revenue Requirements Application (RRA) and 2013 Integrated Resource Plan (IRP)
3. RDA Modules 1 and 2
4. Proposed Regulatory process

TERMINOLOGY AND DEFINITIONS

Rate Class	• Class of service or sector based on consumption level and pattern, and utility cost to serve. Currently, BC Hydro has seven rate classes: 1. Residential 2. Small General Service (SGS) 3. Medium General Service (MGS) 4. Large General Service (LGS) (2–4: General Service) 5. Transmission Service 6. Irrigation 7. Street Lighting
Revenue Neutral	• Yielding the same forecast revenue that would have resulted from the rate structure that is being replaced • All BC Hydro proposed Residential and General Service rate structures are revenue neutral; potential minor variation with Rate Schedule (RS) 1823 (bill neutrality)
Default Rates	• Rates that all customers pay in the absence of options
Optional Rates	• Rates that customers can voluntarily choose to be on

RATE DESIGN RELATIONSHIP TO RRA AND IRP

- RRA is input into COS analysis
- RRA sets revenue requirement and supports design and estimation of forecast revenue neutral rates and analysis of bill impacts
- IRP addresses resource need, type and timing of resources to meet demand
- Key IRP link to rate design is BC Hydro's energy Long Run Marginal Cost (LRMC)

Lower End of Energy LRMC Range and Fiscal Year (cents/kWh)	Upper End of Energy LRMC Range and Fiscal Year (cents/kWh)
F2016: 9.36	F2016: 11.01
F2017: 9.54	F2017: 11.23
F2018: 9.73	F2018: 11.45
F2019: 9.93	F2019: 11.68

Note: Section 9.2.12 of BC Hydro's November 2013 IRP sets out the energy LRMC range of $85 per megawatt hour (/MWh) to $100/MWh ($F2013). For rate making purposes for all rate classes except Transmission service, BC Hydro factors in Distribution losses and uses a 2 per cent inflation assumption for F2016-F2019; for Transmission service BC Hydro uses the inflation assumption.

BC hydro
FOR GENERATIONS

RDA MODULES

- Feedback: given broad RDA scope, consider regulatory review in stages
- Feedback: Extension policies identified as components for a future module
- General agreement to confirm default structures as foundation for future review of Residential and General Service rate options

Module 1 (current)	**Key components** • COS • Residential default rate structure & E-Plus rate • General Service default rate structures • Transmission default rate structure and rate options • Electric Tariff Terms and Conditions

Module 2
(to follow Module 1 decision)
	To include consideration of:
	• Non-Integrated Areas rate design
	• Review of Farms and Irrigation services
	• Residential and General Service rate options:
	    • Electric Vehicle rate
	    • Pre-payment
	    • General Service demand and interruptible rate options
	• Commercial E-Plus rates
	• Street Lighting rate design
	• Transmission Extension Policy
	• Distribution Extension Policy

DRAFT PROPOSED REGULATORY PROCESS

Filing of Application	17 September 2015
BCUC Issues Regulatory Timetable	29 September 2015
Round 1 BCUC Information Requests (IRs)	9 October 2015
Round 1 Intervener IRs	16 October 2015
BC Hydro responses to round 1 IRs	25 November 2015
Procedural Conference	15 December 2015

Procedural Conference to determine in part:

1. Interest in pursuing Streamlined Review and/or Negotiated Settlement processes for parts of Application (additional round of IRs and oral hearing for remaining parts);
2. If interveners intend to file evidence

RDA CHAPTER 2

CONTEXT AND EVALUATION

1. Legal Context
2. Regulatory Context
3. BC Hydro Priorities
4. Bonbright Criteria
5. Stakeholder Engagement
6. Out of Scope Topics

BC hydro FOR GENERATIONS

LEGAL CONTEXT

Rate Setting under the *Utilities Commission Act*, Sections 58-61	• BC Hydro refers to the legal test that its proposed rates, and the rates to be set by BCUC, must be "fair, just and not unduly discriminatory"
Direction No. 7 and the Heritage Contract and Transmission Service rates (TSR)	• Rates established on a cost of service basis, not market prices • New customers entitled to low-cost Heritage Resources • Rate increase caps of 4% F2017, 3.5% F2018 and 3% F2019 on average • Direction regarding TSR; incl. RS 1823 Tier 1/2 90%/10%
Direction No. 7 and Rate Rebalancing	• Amendment to Section 9 of Direction 7 to the BCUC: *(3) In setting the authority's rates for F2017, F2018, F2019 … , the Commission must not set rates for the authority for the purpose of changing the revenue-to-cost ratio for a class of customers.*

BChydro
FOR GENERATIONS

PROPOSED F2019 COS

- At Workshop 1, stakeholders raised the issue of whether BC Hydro should file COS for BCUC review more frequently than RDAs
- Stakeholders have also begun to raise the impact of the Direction No. 7 rate rebalancing amendment on the review of the F2016 COS
  - BC Hydro submits Fully Allocated Cost of Service results with the Commission every year pursuant to 2007 RDA Direction 2
  - BC Hydro will continue with this
  - There is value in reviewing the F2016 COS with the 2015 RDA – this will be addressed as part of Chapter 3
- BC Hydro proposes to review COS methodologies again in F2019 and file a study for BCUC review to inform F2020 and beyond

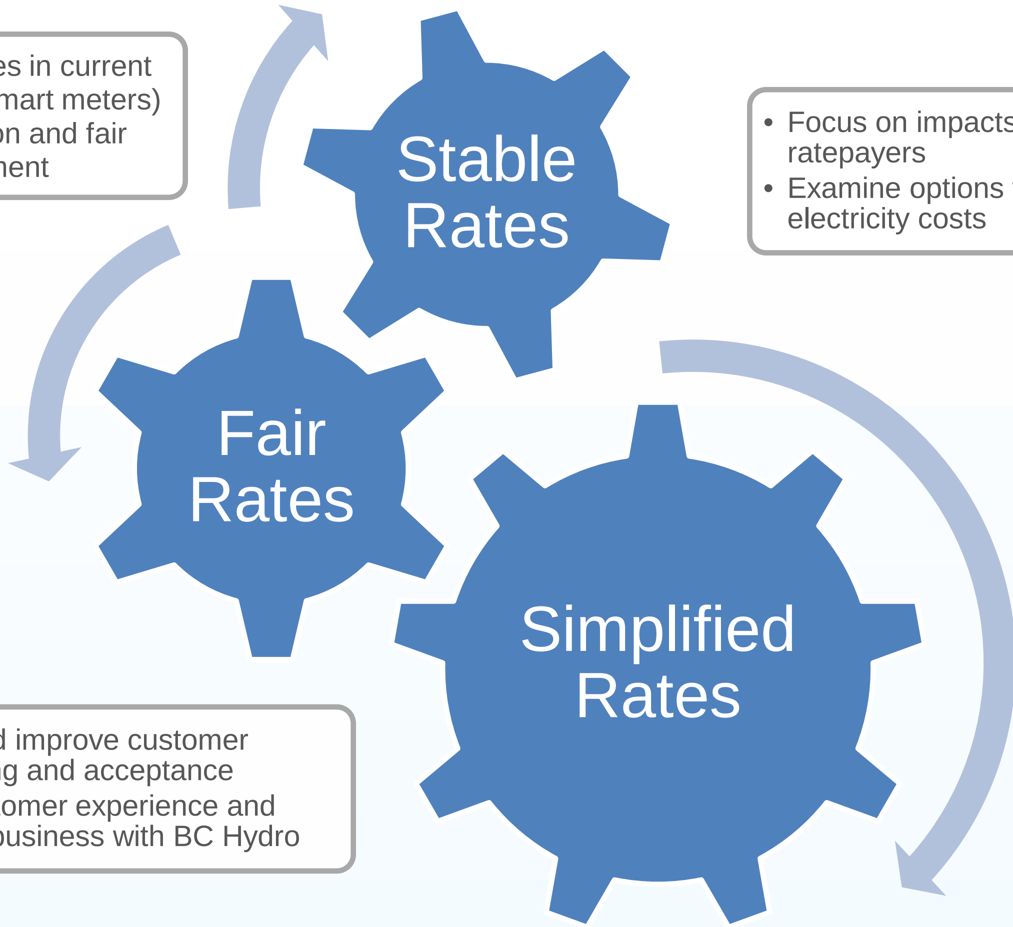
REGULATORY CONTEXT

Items informing scope include:

Prior BCUC Decisions	• 1991 RDA ('rate shock', 10% bill impact test) • 1995 Industrial Services Options Application (RS 1848, real time pricing) • 2003 Heritage Contract and TSR Stepped Rates Inquiry • 2005 TSR Application • 2007 RDA • 2008 Residential Inclining Block (RIB) Rate Application • 2009 FortisBC COS/RDA • 2010 Large General Service (LGS) Application/Negotiated Settlement • 2013 RIB Application and prior RIB re-pricing decisions
2013 Industrial Electricity Policy Review	• Postage stamp rates (Rec. #9) • No end-use rates unless directed by Government or no ratepayer impact (Rec. #10) • Provide options to reduce electricity costs (Rec. #11, #13) [no unbundled transmission]
RRA and November 2013 IRP	• Approved F2016 revenue requirements used for RDA COS study • 10-year rate plan • Main link of IRP to RDA is LRMC; Demand Side Management (DSM) and Electricity Purchase Agreement renewals are marginal resources

BC HYDRO RATE DESIGN PRIORITIES

- Evaluate rate structures in current context (e.g. LRMC, smart meters)
- Evaluate cost causation and fair intra-class apportionment



- Focus on impacts to BC Hydro ratepayers
- Examine options to reduce electricity costs

- Facilitate and improve customer understanding and acceptance
- Improve customer experience and ability to do business with BC Hydro

RATE DESIGN CRITERIA

Grouping of the 8 Bonbright Criteria	Criteria Application
Economic Efficiency 1. Price signals that encourage efficient use and discourage inefficient use	• Energy LRMC is the appropriate reference • Targeted outcome of efficient price signal measured as energy conservation (GWh)
Fairness 2. Fair apportionment of costs among customers 3. Avoid undue discrimination	• Intra-class: Cost causation, including cost recovery through fixed versus variable charges; analyze bill impacts to assess cost shifts • Legal requirement, and so this criterion is not traded-off: BC Hydro accepts Bonbright view that rates are unduly discriminatory when they have a serious distortion effect on the relative use of the service - means rate structures must not be divorced from the nature and quality of the associated service, including cost of service
Practicality 4. Customer understanding and acceptance, practical and cost effective to implement 5. Freedom from controversies as to proper interpretation	• BC Hydro and stakeholder opinion • Greater weight to views of customers taking service under the particular rate structure being assessed unless there are cost implications for other customer classes • Maximum and customer bill impact (including the 10 per cent bill impact test; “amber signal”) • One-time implementation and sustaining costs (quantified or qualitative ranking otherwise); • Jurisdictional references, provided the different legal and regulatory regimes and customer characteristics are taken into account (BC Hydro completed for COS, Residential, General Service, Transmission, Terms and Conditions)
Stability 6. Recovery of revenue requirement 7. Revenue stability 8. Rate stability	• Recovery of revenue requirement is not traded-off • Forecast revenue neutrality • Design, pricing and transition certainty, and flexibility to changes in rates, loads, LRMC, etc.

STAKEHOLDER ENGAGEMENT

1. **Topic Specific Workshops RDA Module 1**
   - Direct review and participant feedback on issues, alternatives and performance
   - Written comment period and BC Hydro consideration of feedback received

Workshop 1	Overall Scope	8 May 2014	Workshop 8b	General Service Rates 1-2	21 January 2015
Workshop 2	Cost of Service 1	19 June 2014	Workshop 9a	Residential Rates 2-1	28 April 2015
Workshop 3	Residential Rates 1	25 June 2014	Workshop 10	Transmission Rates 2	7 May 2015
Workshop 4	Cost of Service 2	7 October 2014	Workshop 9b	Residential Rates 2-2	21 May 2015
Workshop 5	Transmission Rates 1	22 October 2014	Workshop 11a	General Service 2-1	25 June 2015
Workshop 8a	General Service Rates 1-1	21 January 2015	Workshop 11b	General Service 2-2	26 June 2015

2. **Customer focus groups**; examples:
   - Residential three-step rates
   - E-Plus town halls
   - MGS and LGS customer group meetings

3. **Face-to-face meetings**, examples:
   - Electric Vehicles (BCSEA)
   - Low Income considerations (BCOAPO)
   - General Service rate options (CEC)
   - Residential segmentation and RIB issues (COPE 378)
   - Freshet rate (AMPC)

OUT OF SCOPE TOPICS

1. **Matters recently reviewed by the Commission**
   - Net Metering
   - FortisBC Power Purchase Agreement
   - Meter Choices
   - Contracted Generator Baseline Guidelines
   - Shore Power rates

2. **Rate designs that are contrary to, or subject of B.C. Government policy or enactment**
   - Mandatory Time of Use (TOU) for Residential or Commercial customers
   - Creation of new regional rates – Postage stamp rates confirmed as BC Government policy
   - Feed in Tariff – Section 16 of *Clean Energy Act* requires cabinet to enact regulation
   - Specific tariffs for Northwest Transmission Line and Liquefied Natural Gas

3. **Tariffs outside of load supplying rates (Open Access Transmission Tariff)**

4. **DSM program expenditures**
   - Evidence will be presented in the 2015 RDA on low income DSM programs

RDA CHAPTER 3

COST OF SERVICE

1. Purpose of COS Study
2. F2016 Cost Classification
3. Analysis
4. Historic Revenue to Cost (R/C) Ratios
5. F2015 COS Study Changes

PURPOSE OF COS STUDY

Cost causation informs means of cost recovery:

1. How rate classes are defined (segmentation)
2. How costs are assigned <u>to</u> each rate class (allocation)
3. How costs are assigned <u>within</u> each rate class (rate design)

F2016 COST CLASSIFICATION

Rate Class	Energy	Demand	Customer
Residential	35%	52%	13%
SGS	38%	50%	12%
MGS	43%	52%	5%
LGS	50%	49%	1%
Irrigation	42%	45%	13%
Streetlighting	30%	47%	23%
Transmission	65%	35%	0%

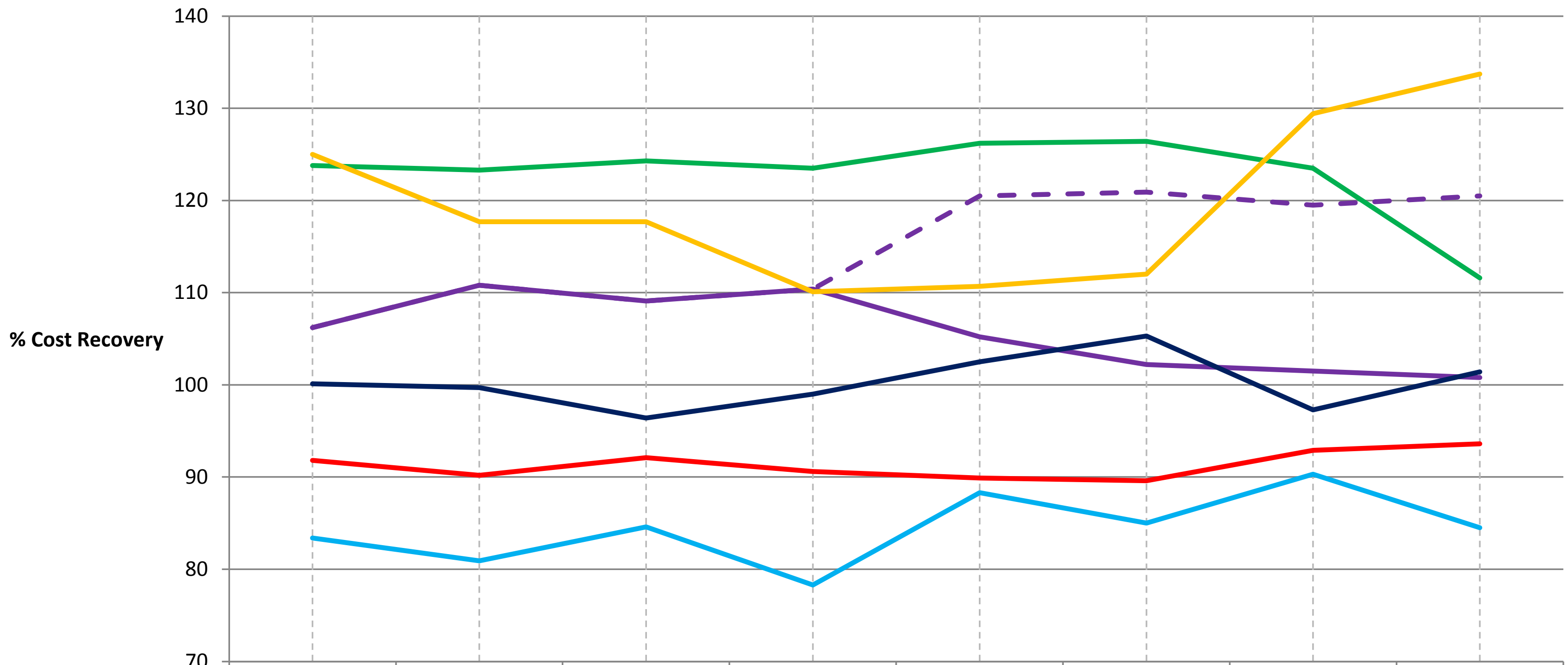
ANALYSIS OF COS STUDY

Even under consistent methodology, R/C ratios vary year-over-year due to:

- Fluctuating costs by function
- Load changes by rate class
- Creation of new rate classes (as with LGS and MGS in 2011)

An up-to-date COS study is the best tool for assessing fairness of existing rates – e.g., demand charge cost recovery

HISTORIC RATE CLASS R/C RATIOS



	F2008	F2009	F2010	F2011	F2012	F2013	F2014	F2016 (Forecast)
Residential	91.8	90.2	92.1	90.6	89.9	89.6	92.9	93.6
GS < 35 kW	123.8	123.3	124.3	123.5	126.2	126.4	123.5	111.6
MGS	106.2	110.8	109.1	110.4	120.5	120.9	119.5	120.5
LGS	106.2	110.8	109.1	110.4	105.2	102.2	101.5	100.8
Irrigation	83.4	80.9	84.6	78.3	88.3	85	90.3	84.5
Street Lighting	125	117.7	117.7	110.1	110.7	112	129.4	133.7
Transmission	100.1	99.7	96.4	99	102.5	105.3	97.3	101.4

BC hydro FOR GENERATIONS

* Until F2012, MGS & LGS customers were grouped into one rate class so the R/C ratios shown for F2008 to F2011 reflect what customers in the respective rate classes would have experienced as part of the blended rate class

F2016 COS STUDY CHANGES

Functionalization

- DSM costs updated to 90-5-5% Generation-Transmission-Distribution
- Independent power producer (IPP) Capital Leases updated to 100% Generation
- Information Technology costs updated across functions (previously 100% Generation)

Classification

- Generation updated to 55-45% Energy-Demand
- IPP costs updated to 93-7% Energy-Demand
- Distribution sub-functionalization method introduced
- Customer Care updated to 100% Customer

RDA CHAPTER 4

SEGMENTATION

1. BC Hydro Rate Classes
2. Residential Segmentation
3. General Service Segmentation
4. Transmission Segmentation
5. Irrigation / Street Lighting Segmentation

BACKGROUND

- BC Hydro's COS study uses the existing 7 rate classes
  - 1991 COS study had 12 rate classes including separate classes for BC Hydro owned street lights, Distribution Rate Transmission Voltage Customers, and West Kootenay Power (now FortisBC)
  - 2007 RDA COS study had 6 rate classes, which became 7 when the GS > 35 kW class was broken into MGS and LGS
- Rate classes are a convenient way to group customers with similar characteristics
  - Fewer rate classes allows revenues and costs to be more easily tracked and understood in a COS study
  - More rate classes can enhance transparency and facilitate more targeted allocations of cost
- Different rates within a rate class can adjust for cost differences; e.g., there are differences between primary and secondary metering / transformer ownership

SEGMENTATION: LOAD CHARACTERISTICS

- Size of average peak demands (coincident and non-coincident)
- Size of average loads (peak demand and energy requirements)
- Load factor
- Coincident peak (CP) diversity factor
- Non-coincident peak (NCP) diversity factor
- Seasonal and non-firm energy requirements

SEGMENTATION: SERVICE CHARACTERISTICS

- Customer density factors
- Service voltage levels
- Single phase vs. three phase services
- Special reliability or metering requirements
- Seasonal energy usage
- Full or partial energy requirements

SEGMENTATION: OTHER FACTORS

- Rate design and administration issues
- Special situations (e.g., customer owned facilities, standby service for customer with own generation, etc.)

RESIDENTIAL SEGMENTATION

- COPE 378 asked BC Hydro to explore segmenting the residential class by heating type and dwelling type
- In the meeting with COPE 378 on 29 June 2015, BC Hydro assessed the following:
  - Segmenting by **heating type** – there is a continuum of heating sources and customers cannot easily be categorized into “electric heat” and “non electric heat”
  - Segmenting by **dwelling type** – there is no cost basis for this segmentation because dwelling type has no relationship to load profile or differences in $/kWh cost of serving customers
  - The administration costs of maintaining databases for either of the above potential segmentation would be high
- BC Hydro observed that almost all utilities have a single residential class of customers

HEATING TYPE

Main heating system	Total						
	'01	'03	'06	'08	'10	'12	'14
Base	5391	5608	4225	6459	7255	7907	7451
	%	%	%	%	%	%	%
Furnace (central forced air only)	48	49	40	38	39	36	34
Electric baseboards	22	21	23	24	25	25	27
Hot water baseboards	7	8	7	8	7	8	7
Both furnace and electric baseboards	9	6	8	9	7	7	6
Heat pump – air source	1	1	2	3	3	5	5
Natural gas fireplace	4	5	5	5	5	4	4
Hot water radiant floor	2	3	4	3	4	3	4
Hot water radiators	2	3	3	3	2	3	2
Wood stove	3	3	4	4	3	3	2

- There's a wide distribution of primary space heating
- Heating end use variability is increasing
- Furnace shares have dropped from 48% in 2001 to 34% now

  85% of furnace category fueled by natural gas

BChydro
FOR GENERATIONS

HEATING TYPE

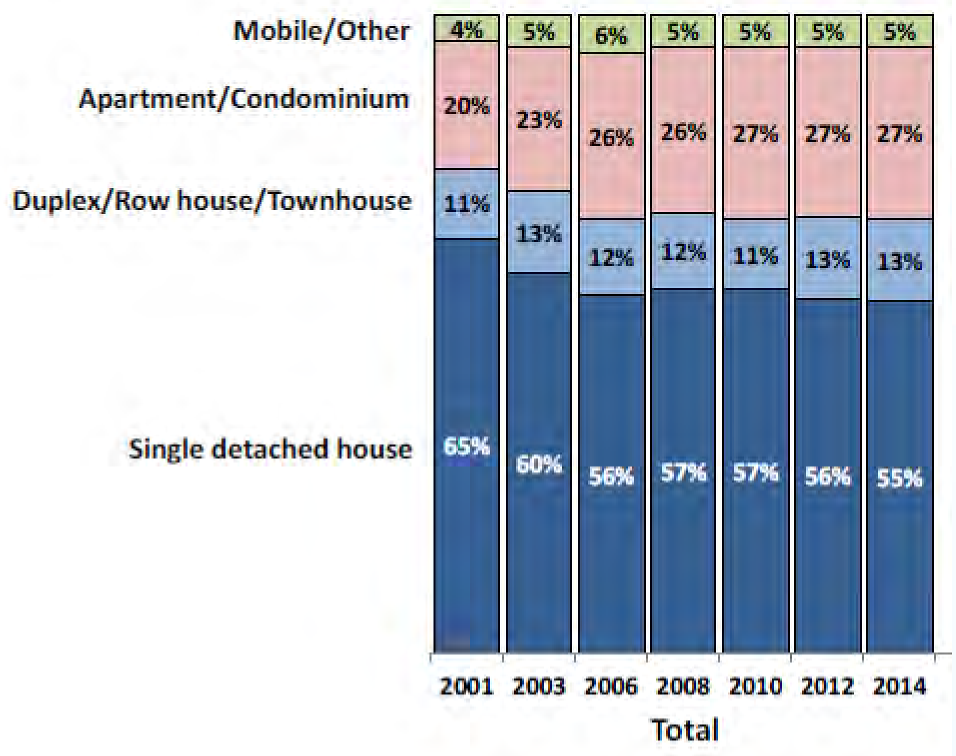
Primary Heating System	Daily kWh Estimate		
	Lower Quartile	Median	Upper Quartile
Electric Central forced air furnace	42.7	70.4	95.0
Electric baseboards	48.8	66.8	87.6
Both forced air and baseboards	49.6	71.4	98.7
Heat pump - air	42.9	57.2	75.1
Hot water baseboards	104.2	129.5	157.0

Secondary Heating System	Daily kWh Estimate		
	Lower Quartile	Median	Upper Quartile
Electric baseboards	28.3	40.5	53.0
Electric baseboards:Electric portable heaters	28.2	39.7	61.9
Electric baseboards:Electric radiant ceiling/floor	21.9	41.2	46.6
Electric fireplace	21.7	29.0	41.3

Customers classified as “non electric” or “secondary” electric users in some cases use more electricity than primary electric customers

BC hydro
FOR GENERATIONS

DWELLING TYPE



Heating type rather than dwelling type contributes to differences in the c/kWh cost of serving residential customers

Dwelling type is more correlated to total energy consumption than per unit costs of electricity

STAKEHOLDER FEEDBACK AND CONSIDERATION

To date, no identified basis to revisit SGS 35 kW breakpoint

Suggested alternatives to existing MGS and LGS rate classes:

- Single class of re-merged LGS and MGS rate classes
- New class of extra large LGS customers (e.g., 2,000 kW) under a TSR-like rate
- Examine heterogeneity of existing MGS & LGS classes to better segment similar customers

COS ANALYSIS: METHODOLOGY

BC Hydro's costs are primarily driven by three customer load characteristics, which are the focus of its analysis

Cost Category	Percent of Costs for GS Rate Classes	Allocator
Generation Energy	45.5%	kWh
Generation & Transmission Demand	30.1%	4CP
Distribution Demand	18.2%	NCP
Total for three load characteristics	93.8%	

FOR GENERATIONS

MGS AND LGS

Method 1

- Samples of 1000 customers from each of SGS, MGS and LGS classes
- F2016 forecast costs assigned to GS rate classes pooled and re-allocated pro rata by individual customer kWh, 4 CP demand, and NCP demand
- Results presented in Workshop 11a (25 June 2015) inconclusive

Method 2

- Existing MGS and LGS customers clustered for analysis
- F16 forecast costs assigned to MGS and LGS rate classes pooled and re-allocated pro rata by each cluster's kWh, 4CP demand, and NCP demand
- Results show no reason to deviate from 150 kW breakpoint and need for further analysis into possible 'XLGS' segmentation

COS ANALYSIS

Energy:

Cost per kWh does not vary by customer or rate class; therefore no basis for segmentation

NCP:

Cost per kW does not vary by rate class; further analysis required on direct assignment of transformers

4CP:

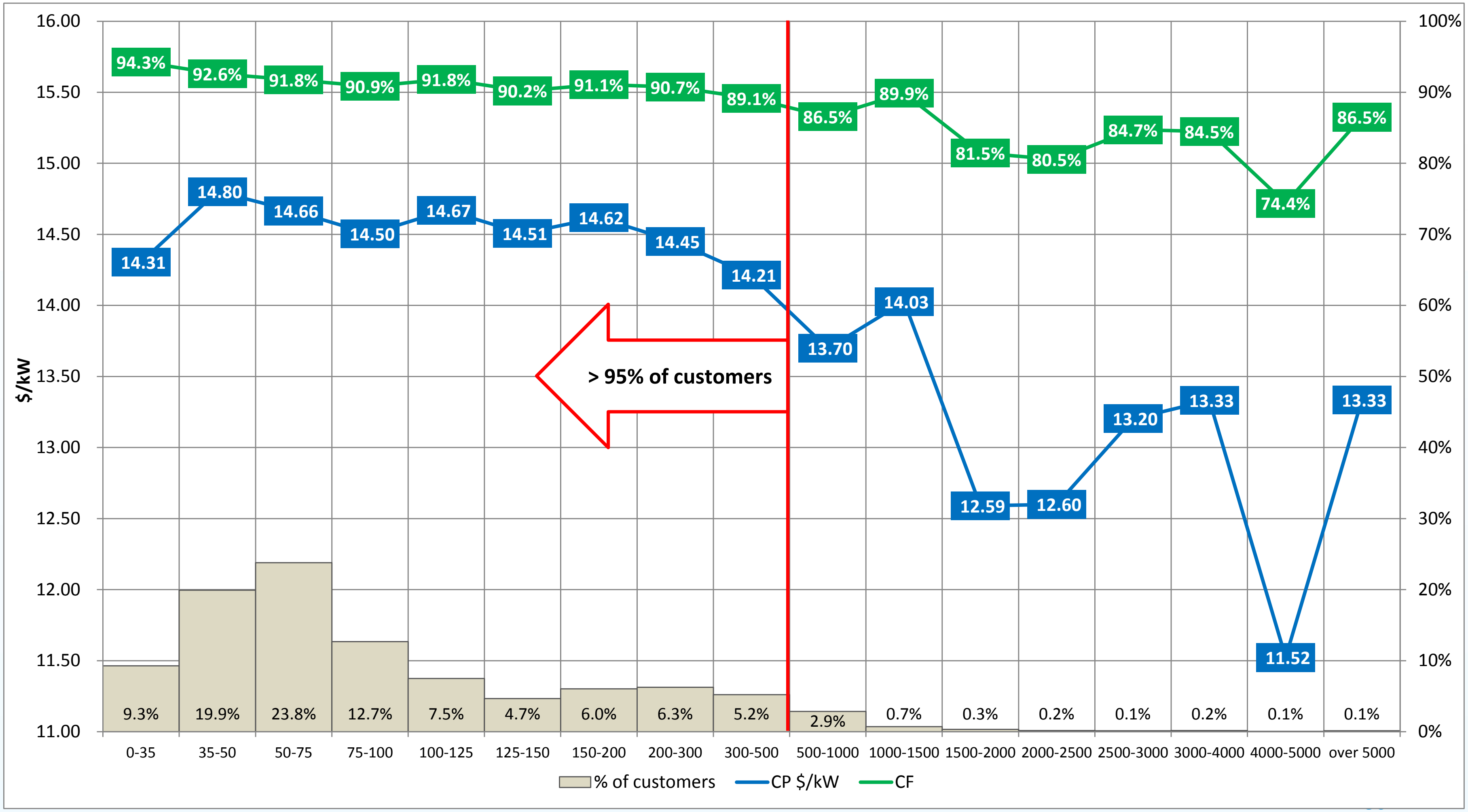
Correlation between coincidence factor and customer size (NCP) indicates cost per kW trending down with customer size

INITIAL CLUSTERS FOR COS ANALYSIS

Cluster Lower Limit (kW)	Cluster Upper Limit (kW)	Number of MGS & LGS Customers	Cluster NCP (MW)	Cluster 4CP (MW)
0	35	2,250	83	69
>35	50	4,825	120	104
>50	75	5,764	206	176
>75	100	3,073	158	133
>100	125	1,816	121	103
>125	150	1,135	93	79
>150	200	1,464	151	129
>200	300	1,517	226	191
>300	500	1,262	305	252
>500	1000	694	322	257
>1000	1500	177	145	118
>1500	2000	79	98	72
>2000	2500	45	71	52
>2500	3000	35	67	52
>3000	4000	38	99	77
>4000	5000	14	51	34
>5000	none	35	187	145

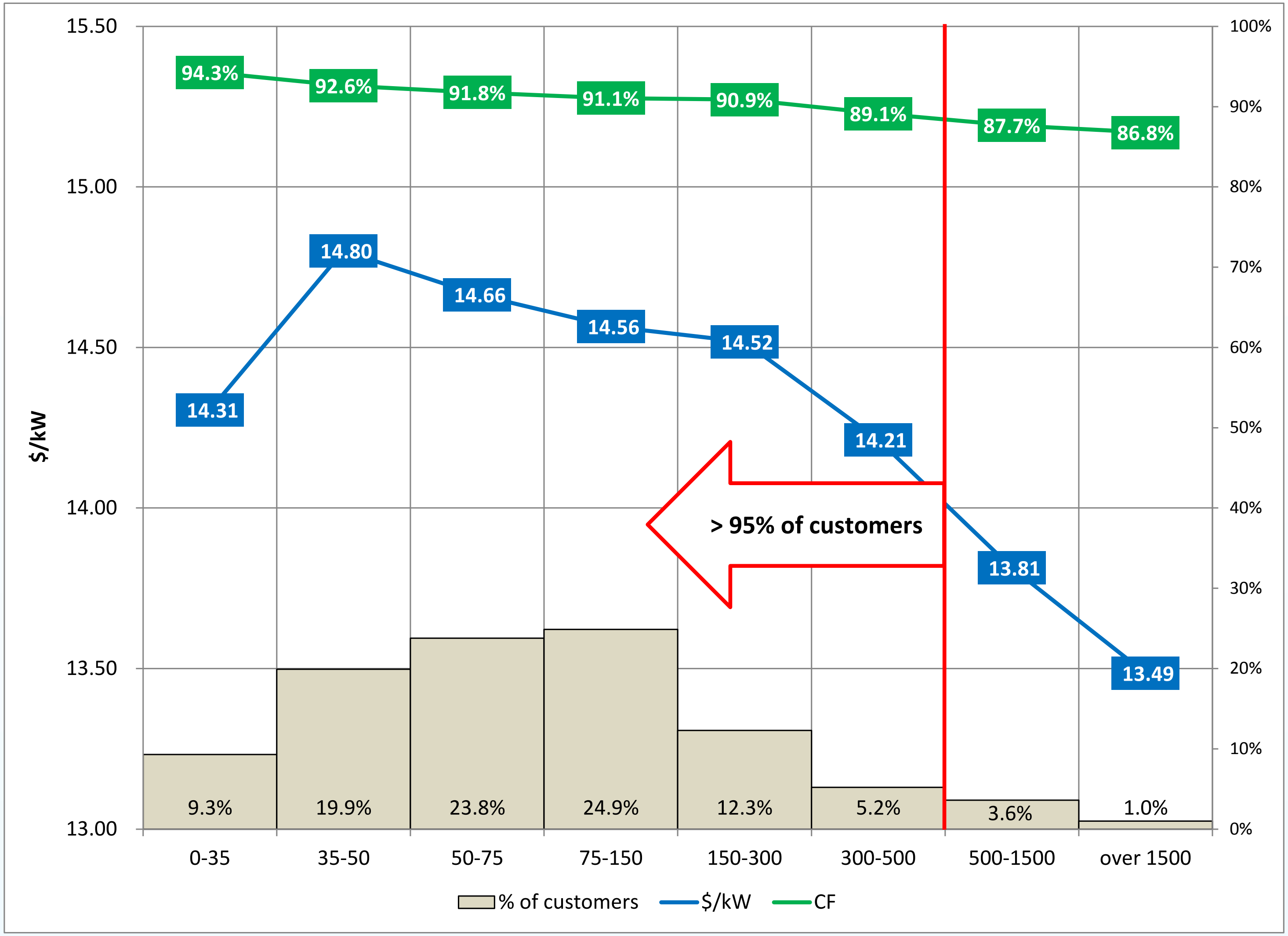
COS ANALYSIS: 4CP COSTS

CP Average Cost / kW and System Peak Coincidence by **Cluster**



COS ANALYSIS: 4CP COSTS

CP Average Cost / kW & System Peak Coincidence by **Grouped Clusters**



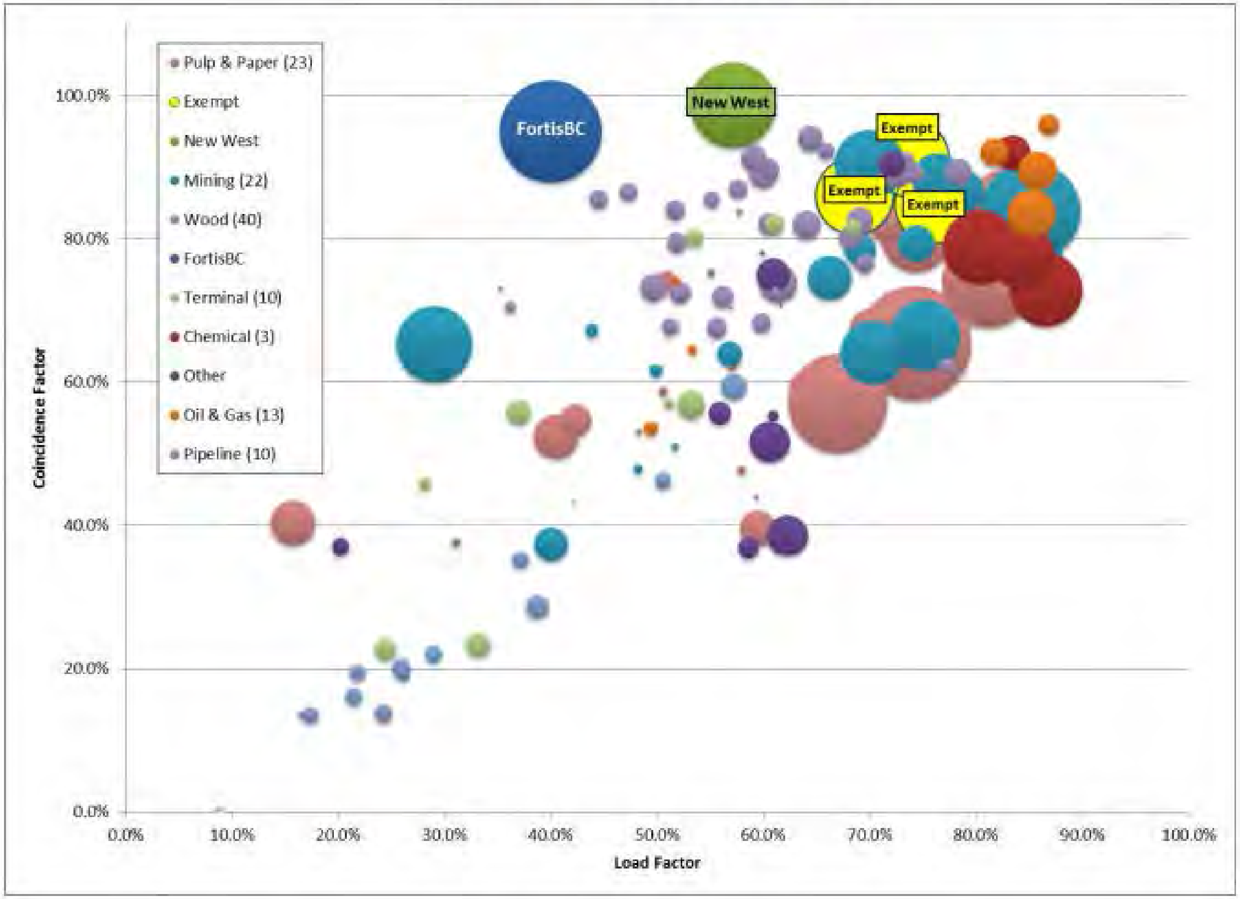
CONCLUSIONS

- Results of Method 2
  - Coincidence is somewhat correlated with customer size
  - As coincidence factor decreases, costs decrease on a $/kW basis
  - Breakpoints vary depending on clustering - there is a downward trend but the breakpoint is difficult to pinpoint
  - Evidence supports not deviating from status quo
- Further analysis on large customers (over 2,000 kW) to be undertaken in conjunction with AMPC for purposes of the TSR-like rate to be explored in Module 2

TRANSMISSION SEGMENTATION

FortisBC and City of New Westminster (New West) loads are more coincident to the system peak and have lower load factors than a typical industrial customer

Figure 7 Comparison of Coincidence Factor and Load Factor for TSR Customers



- Size of bubbles is annual peak (customer size)
- From the Consideration Memo to the October 22, 2014 TSR workshop

Proposal:
Treat FortisBC and New West as separate rate classes

TRANSMISSION SEGMENTATION

- In the May 7th TSR workshop notes BC Hydro indicated that it planned to calculate individual R/C ratios for each customer in the transmission rate class to assess intra class variability
- These R/C ratios are not reflective of true costs because they don't account for the fact some customers have done DSM. However, they do give a sense of intra class variability

Customer	From the top 5 customers within each major industry (randomized)	Estimated R/C ratio
1	Forestry	96%
2	Forestry	103%
3	Forestry	91%
4	Mining	90%
5	Mining	93%
6	Mining	97%
7	Oil and gas	99%
8	Oil and gas	100%
9	Oil and gas	95%
10	Ports	106%
11	Ports	102%
12	Ports	139%
13	Pipelines	147%
14	FortisBC	87%
15	City of New Westminster	90%

Assumptions: F2014 actual costs and revenues and F2014 load profile information

IRRIGATION / STREET LIGHTING

Rate design for both of these rate classes will be dealt with in Module 2 of the RDA. However, BC Hydro has reviewed the segmentation of each as part of Module 1:

- Irrigation as separate rate class - no segmentation issues have been identified to date
- Street lighting – BC Hydro currently has a single rate class for customer-owned and BC Hydro-owned lights; however, there are meaningful cost differences between both types of service
  - Overall R/C ratio of a single street lighting rate class = 135%
  - R/C ratio for BC Hydro owned lights (RS 1701 and 1755) = 175%
  - R/C ratio for customer owned lights (RS 1702, 1704) = 105%
- R/C ratio differences occur because revenues from BC Hydro-owned lights increase every year, while O&M costs have fallen and street lighting rate base has remained steady

Proposal: Create a separate rate class for BC Hydro owned lights

RDA CHAPTER 5

RESIDENTIAL RATES

1. Default Rate Structure
2. Residential E-Plus

RESIDENTIAL DEFAULT RATE STRUCTURE

Preferred Default Rate Structure	RDA Alternatives	Issues / Rationale
1. SQ RIB Rate Structure • 2-step • Existing threshold	• Three step rate • Surcharge on high consumption? (Ontario and California)	• Some stakeholder advocacy for low income relief in electricity rates • Legal issue of whether a low income rate can be set by BCUC • No cost basis to set third step; and will likely not deliver additional conservation
	• Flat Rate	• Exposure of all residential accounts to current LRMC; simplicity • Reverse benefit of RIB to low users, including some low income • Lower bills to very large consumers • Likely reduction in conservation as compared to RIB rate
2. SQ RIB Rate Pricing Principle • General rate increases to each component (Step 1, Step 2 and Basic Charge (Option 1)	• General rate increases to Step 1 and Basic Charge only (Option 2)	• Option 1 maintains current differential between the Step 1 and Step 2 rates, and by extension, a Step 2 rate currently > LRMC • Option 2 holds Step 2 rate at its current level and narrows differential between the Step 1 and Step 2 rates • Higher bill impacts for most customers, including low income customers, expected under Option 2 – see Flat rate
3. SQ Basic Charge	• None carried forward	• Increasing Basic Charge causes unwarranted bill impacts to low users, some low income • Minimum charge is blunt and does not achieve substantial rate relief at Step 1

RESIDENTIAL E-PLUS RATE DESIGN

Preferred Rate Design	RDA Alternatives	Issues / Rationale

Amend tariff conditions to provide practical interruptible option (Option 3)
 	
• Align rate design with purpose given current circumstances; access to market; "useful purpose"
 	
• Amend special conditions to allow interruption 'as available' for both energy & capacity
 	
• Increase energy rate by RRA
	• **SQ (Option 1)**
	  • No change to existing special conditions regarding interruption and notice;
	  • Continue verification of accounts, natural attrition of service (Option 1)
	
	• **Phase-out (Option 2)**
	  • End the E-Plus rate and transfer Residential accounts to default rates (40% avg. bill increase)
	
	(Commercial E-Plus RDA Module 2)
		• Practical inability to interrupt; not the usual 'as available' language in interruptible tariffs; difficult to define and/or act upon lack of surplus hydro energy + no other economical supply
		
		• Level and cost of service: defined as non-firm, but planned and operated as firm; subsidized
		
		• Attrition in accounts
		
		• Bill impacts of ending service
		
		• Customer feedback overwhelming to maintain E-Plus service under existing terms and conditions

BChydro
FOR GENERATIONS

RDA CHAPTER 6

GENERAL SERVICE RATES

1. SGS Rate Structure
2. MGS Rate Structure
3. LGS Rate Structure

BC hydro
FOR GENERATIONS

SGS DEFAULT RATE STRUCTURE

Preferred Rate Structure	RDA Alternatives	Issues / Rationale
1. **SQ SGS Flat Energy Rate**	• None	• No major issues - flat rate within range of LRMC • Inclining block rate unsuited to heterogeneous class • Jurisdictional review supports no demand charge
2. **Increase Basic Charge**	• Status Quo	• Increase fixed cost recovery consistent with Residential rate class (~45%) • Improves fairness in fixed cost recovery • Limited bill impacts

BC hydro
FOR GENERATIONS

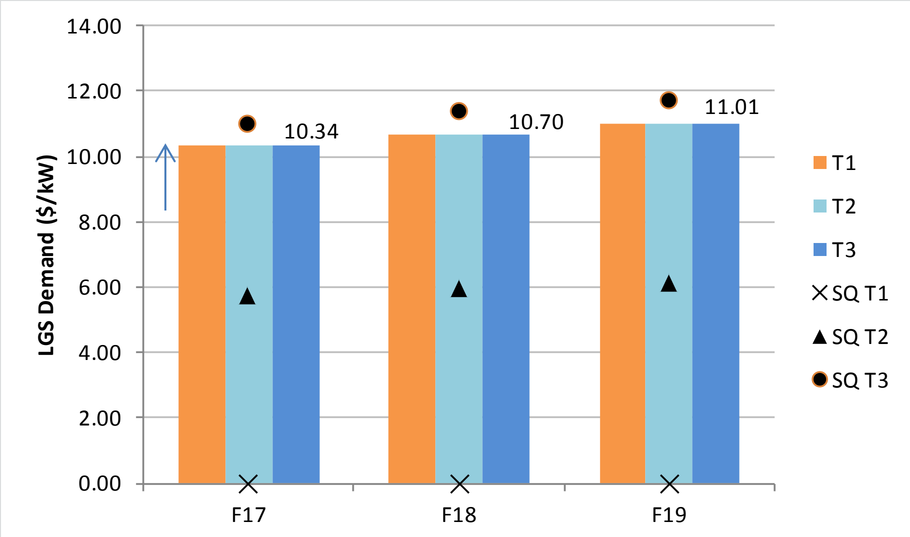
MGS DEFAULT RATE STRUCTURE

Preferred Rate Structure	RDA Alternative	Issues / Rationale
1. Flat Energy Rate (No Baseline)	• Status Quo alternative modelled only for comparison	• Status Quo rates do not provide clear price signal for conservation and are poorly understood • No conservation delivered nor forecasted • Two-part rates unsuited to this class; limited resources • Flat rate reflective of LRMC • Flat rate removes all substantive issues of baseline rates • Inclining block rate unsuited to heterogeneous class
2. Flat Demand Structure (T1=T2=T3)	• Status Quo (3-Step) • Two-step Demand Charge	• Fairness in cost causation & recovery • Customer understanding and acceptance (simplified) • Bill impacts generally offset with impacts of energy charge changes
3. Increase Demand Fixed Cost Recovery from 15% to 35%	• Status Quo	• Fairness in cost causation & recovery • Increase further offsets bill impacts of energy charge changes to high load factor, high consumption customers

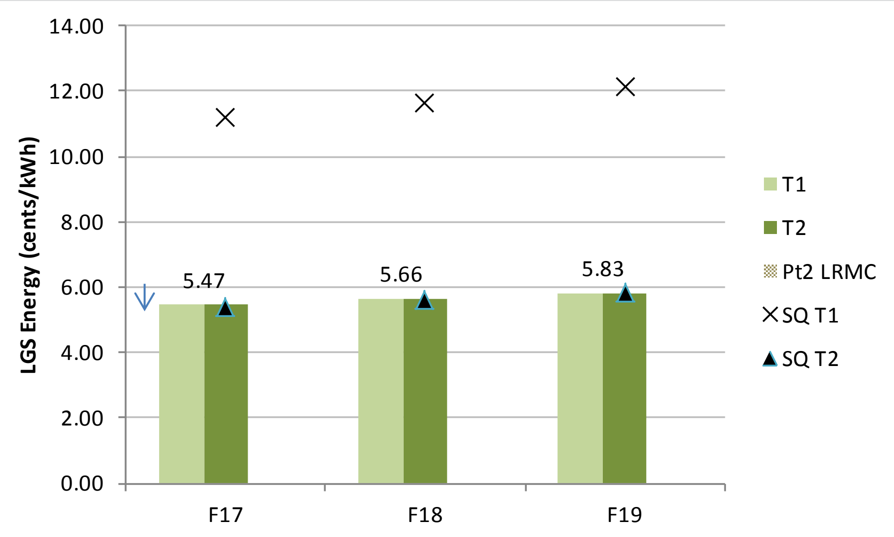
LGS DEFAULT RATE STRUCTURE

Leading Option Rate Structure	RDA Alternative	Issues / Rationale
1. **Flat Energy Rate (No Baseline)**	• Status Quo • Simplified Status Quo (flatten Part 1 rates + modify provisions to address customer concerns or improve conservations signal) • Some stakeholders are advocating for TSR-like rate for the largest LGS users	• Status quo rates do not provide clear price signal for conservation, are complex and are poorly understood • Little conservation delivered and none forecast going forward • Simplified Status Quo may not improve price signal but will impose bill impacts & not mitigate baseline issues • Flat rate below LRMC; however baseline structures are complex and the efficient price signal is not well understood • Commitment to explore merits of TSR-like structure - TSR-like rate could be proposed in Module 2
2. **Flat Demand Structure** (T1=T2=T3)	• Status Quo (3-Step) • Two-step Demand Charge	• Fairness in cost causation & recovery • Customer understanding and acceptance • Bill impacts generally offset with impacts of energy charge changes
3. **Increase Demand Fixed Cost Recovery ~50% to 65%**	• Status Quo	• Fairness in cost causation & recovery • Increase further offsets bill impacts of energy charge changes to high load factor, high consumption customers – next slides • Level approximates Transmission service demand cost recovery

INCREASE LGS DEMAND COST RECOVERY TO 65% (FLAT DEMAND, FLAT ENERGY)



Demand Charges



Energy Charges

Illustrative Customer Bill (F2017)

Load Factor of 46%, Baseline Consumption = 744,240 kWh per year, Billed kW = 185 kW each month

Customer Scenario	Demand Charge	Energy Charge	Basic Charge	Total Bill	SQ Bill	Variance
Consume at baseline	$22,948	$40,696	$86	$63,730	$63,112	$618 (1%)
+ 5% from baseline	$22,948	$42,731	$86	$65,764	$66,870	-$1,106 (-2%)
- 5% from baseline	$22,948	$38,662	$86	$61,695	$59,354	$2,341 (4%)

Note: Illustrative bill computation excludes rate rider, discounts, ratchets, and other provisions

BC hydro FOR GENERATIONS

Observations:

- Relative to current cost recovery (53%), Energy charges are Lower and Demand charges are Higher
- Low load factor customers have less benefit
- More aggressive offsetting
- Most adverse impacts on low consuming, low load factor customers.
- F17 equivalent rate structure at current cost recovery:
  Demand: $8.43/kW
  Energy: 5.94c/kWh

F17 ILLUSTRATIVE SENSITIVITY ANALYSIS OF BILL IMPACT
FLAT DEMAND, FLAT ENERGY CHARGE

65% Demand Cost Recovery

Annual Consumption kWh

Highest kw

Load Factor

*	200,000	400,000	600,000	800,000	1,000,000	1,200,000	1,400,000	1,600,000	1,800,000	2,000,000	2,200,000	2,400,000	2,600,000	2,800,000	3,000,000	3,200,000	3,400,000
10%	4.5%	2.3%	1.6%	1.3%	1.1%	0.9%	0.8%	0.8%	0.7%	0.7%	0.6%	0.6%	0.6%	0.6%	0.5%	0.5%	0.5%
20%	-0.8%	4.9%	3.8%	3.2%	2.9%	2.7%	2.5%	2.4%	2.3%	2.2%	2.2%	2.1%	2.1%	2.1%	2.0%	2.0%	2.0%
30%	-10.5%	6.7%	5.2%	4.5%	4.1%	3.8%	3.6%	3.5%	3.4%	3.3%	3.2%	3.1%	3.1%	3.0%	3.0%	3.0%	2.9%
40%	-16.2%	1.4%	6.3%	5.4%	5.0%	4.6%	4.4%	4.2%	4.1%	4.0%	3.9%	3.8%	3.8%	3.7%	3.7%	3.7%	3.6%
50%	-20.0%	-2.5%	5.2%	6.1%	5.6%	5.2%	5.0%	4.8%	4.7%	4.6%	4.5%	4.4%	4.3%	4.3%	4.2%	4.2%	4.1%
60%	-22.7%	-5.2%	2.5%	6.7%	6.1%	5.7%	5.5%	5.3%	5.1%	5.0%	4.9%	4.8%	4.7%	4.7%	4.6%	4.6%	4.5%
70%	-25.2%	-7.3%	0.5%	4.9%	6.5%	6.1%	5.8%	5.6%	5.4%	5.3%	5.2%	5.1%	5.0%	5.0%	4.9%	4.9%	4.8%
80%	-27.8%	-8.9%	-1.1%	3.3%	6.1%	6.4%	6.1%	5.9%	5.7%	5.6%	5.5%	5.4%	5.3%	5.2%	5.2%	5.1%	5.1%
90%	-29.7%	-10.2%	-2.4%	2.0%	4.8%	6.7%	6.4%	6.1%	6.0%	5.8%	5.7%	5.6%	5.5%	5.5%	5.4%	5.3%	5.3%

Lowest kw

Red means higher than Class Average Rate Change (CARC) of 4% for F17

53% Demand Cost Recovery

Annual Consumption kWh

Highest kw

Load Factor

*	200,000	400,000	600,000	800,000	1,000,000	1,200,000	1,400,000	1,600,000	1,800,000	2,000,000	2,200,000	2,400,000	2,600,000	2,800,000	3,000,000	3,200,000	3,400,000
10%	-6.9%	-8.8%	-9.5%	-9.8%	-10.0%	-10.1%	-10.2%	-10.2%	-10.3%	-10.3%	-10.4%	-10.4%	-10.4%	-10.4%	-10.5%	-10.5%	-10.5%
20%	-7.4%	-2.1%	-3.1%	-3.7%	-4.0%	-4.2%	-4.3%	-4.4%	-4.5%	-4.6%	-4.6%	-4.7%	-4.7%	-4.8%	-4.8%	-4.8%	-4.8%
30%	-14.0%	2.5%	1.1%	0.4%	0.0%	-0.3%	-0.5%	-0.6%	-0.7%	-0.8%	-0.9%	-0.9%	-1.0%	-1.0%	-1.1%	-1.1%	-1.1%
40%	-18.0%	-0.7%	4.1%	3.3%	2.8%	2.5%	2.3%	2.1%	2.0%	1.9%	1.8%	1.7%	1.7%	1.6%	1.6%	1.5%	1.5%
50%	-20.5%	-3.1%	4.6%	5.5%	4.9%	4.6%	4.3%	4.1%	4.0%	3.9%	3.8%	3.7%	3.6%	3.6%	3.5%	3.5%	3.5%
60%	-22.3%	-4.8%	3.0%	7.1%	6.6%	6.2%	5.9%	5.7%	5.6%	5.4%	5.3%	5.2%	5.2%	5.1%	5.1%	5.0%	5.0%
70%	-24.3%	-6.1%	1.8%	6.2%	7.9%	7.5%	7.2%	7.0%	6.8%	6.7%	6.6%	6.5%	6.4%	6.3%	6.3%	6.2%	6.2%
80%	-26.3%	-7.1%	0.8%	5.3%	8.2%	8.5%	8.2%	8.0%	7.8%	7.7%	7.6%	7.5%	7.4%	7.3%	7.3%	7.2%	7.2%
90%	-27.9%	-7.9%	0.1%	4.6%	7.5%	9.4%	9.1%	8.8%	8.6%	8.5%	8.4%	8.3%	8.2%	8.1%	8.1%	8.0%	8.0%

Lowest kw

Red means higher than CARC of 4% for F17

***Note: Very high sensitivity on low load factor, lower consumption customers due to T2 kW much higher than SQ, even though T1 is free .**

BC hydro

FOR GENERATIONS

F17 ILLUSTRATIVE SENSITIVITY ANALYSIS OF BILL DIFFERENCE LESS RRA FLAT DEMAND, FLAT ENERGY CHARGE

65% Demand Cost Recovery

Annual Consumption kWh

Highest kw

Load Factor

*	200,000	400,000	600,000	800,000	1,000,000	1,200,000	1,400,000	1,600,000	1,800,000	2,000,000	2,200,000	2,400,000	2,600,000	2,800,000	3,000,000	3,200,000	3,400,000
10%	0.5%	-1.7%	-2.4%	-2.7%	-2.9%	-3.1%	-3.2%	-3.2%	-3.3%	-3.3%	-3.4%	-3.4%	-3.4%	-3.4%	-3.5%	-3.5%	-3.5%
20%	-4.8%	0.9%	-0.2%	-0.8%	-1.1%	-1.3%	-1.5%	-1.6%	-1.7%	-1.8%	-1.8%	-1.9%	-1.9%	-1.9%	-2.0%	-2.0%	-2.0%
30%	-14.5%	2.7%	1.2%	0.5%	0.1%	-0.2%	-0.4%	-0.5%	-0.6%	-0.7%	-0.8%	-0.9%	-0.9%	-1.0%	-1.0%	-1.0%	-1.1%
40%	-20.2%	-2.6%	2.3%	1.4%	1.0%	0.6%	0.4%	0.2%	0.1%	0.0%	-0.1%	-0.2%	-0.2%	-0.3%	-0.3%	-0.3%	-0.4%
50%	-24.0%	-6.5%	1.2%	2.1%	1.6%	1.2%	1.0%	0.8%	0.7%	0.6%	0.5%	0.4%	0.3%	0.3%	0.2%	0.2%	0.1%
60%	-26.7%	-9.2%	-1.5%	2.7%	2.1%	1.7%	1.5%	1.3%	1.1%	1.0%	0.9%	0.8%	0.7%	0.7%	0.6%	0.6%	0.5%
70%	-29.2%	-11.3%	-3.5%	0.9%	2.5%	2.1%	1.8%	1.6%	1.4%	1.3%	1.2%	1.1%	1.0%	1.0%	0.9%	0.9%	0.8%
80%	-31.8%	-12.9%	-5.1%	-0.7%	2.1%	2.4%	2.1%	1.9%	1.7%	1.6%	1.5%	1.4%	1.3%	1.2%	1.2%	1.1%	1.1%
90%	-33.7%	-14.2%	-6.4%	-2.0%	0.8%	2.7%	2.4%	2.1%	2.0%	1.8%	1.7%	1.6%	1.5%	1.5%	1.4%	1.3%	1.3%

Lowest kw

Red means higher than RRA

53% Demand Cost Recovery

Annual Consumption kWh

Highest kw

Load Factor

*	200,000	400,000	600,000	800,000	1,000,000	1,200,000	1,400,000	1,600,000	1,800,000	2,000,000	2,200,000	2,400,000	2,600,000	2,800,000	3,000,000	3,200,000	3,400,000
10%	-10.9%	-12.8%	-13.5%	-13.8%	-14.0%	-14.1%	-14.2%	-14.2%	-14.3%	-14.3%	-14.4%	-14.4%	-14.4%	-14.4%	-14.5%	-14.5%	-14.5%
20%	-11.4%	-6.1%	-7.1%	-7.7%	-8.0%	-8.2%	-8.3%	-8.4%	-8.5%	-8.6%	-8.6%	-8.7%	-8.7%	-8.8%	-8.8%	-8.8%	-8.8%
30%	-18.0%	-1.5%	-2.9%	-3.6%	-4.0%	-4.3%	-4.5%	-4.6%	-4.7%	-4.8%	-4.9%	-4.9%	-5.0%	-5.0%	-5.1%	-5.1%	-5.1%
40%	-22.0%	-4.7%	0.1%	-0.7%	-1.2%	-1.5%	-1.7%	-1.9%	-2.0%	-2.1%	-2.2%	-2.3%	-2.3%	-2.4%	-2.4%	-2.5%	-2.5%
50%	-24.5%	-7.1%	0.6%	1.5%	0.9%	0.6%	0.3%	0.1%	0.0%	-0.1%	-0.2%	-0.3%	-0.4%	-0.4%	-0.5%	-0.5%	-0.5%
60%	-26.3%	-8.8%	-1.0%	3.1%	2.6%	2.2%	1.9%	1.7%	1.6%	1.4%	1.3%	1.2%	1.2%	1.1%	1.1%	1.0%	1.0%
70%	-28.3%	-10.1%	-2.2%	2.2%	3.9%	3.5%	3.2%	3.0%	2.8%	2.7%	2.6%	2.5%	2.4%	2.3%	2.3%	2.2%	2.2%
80%	-30.3%	-11.1%	-3.2%	1.3%	4.2%	4.5%	4.2%	4.0%	3.8%	3.7%	3.6%	3.5%	3.4%	3.3%	3.3%	3.2%	3.2%
90%	-31.9%	-11.9%	-3.9%	0.6%	3.5%	5.4%	5.1%	4.8%	4.6%	4.5%	4.4%	4.3%	4.2%	4.1%	4.1%	4.0%	4.0%

Lowest kw

Red means higher than RRA

***Note: Very high sensitivity on low load factor, lower consumption customers due to T2 kW much higher than SQ, even though T1 is free .**

BC hydro

FOR GENERATIONS

RDA CHAPTER 7

TRANSMISSION RATES

1. RS 1823 – Stepped Rate
2. Other Transmission Service Rates
3. Freshet Rate

RS 1823 – STEPPED RATE

RDA Element	Proposal	Pros / Cons
1. Pricing Option Option 1: Apply GRI to Tier 1 and Tier 2 equally Option 2: Apply GRI to Tier 1 only Option 3: Apply GRI to Tier 2 only, then to Tier 1 and Tier 2 equally *GRI = general rate increases*	**Option 1**	**Pros** • Preserves revenue neutrality • Preserves relative differential between Tier 1 and Tier 2 • Bill impact is same as GRI • Reduced incidence of ad hoc adjustments to Tier 2 (to align with LRMC)
2. Definition of Revenue Neutrality Option 1: Bill Neutrality Option 2: Revenue Neutrality on Forecast Basis	**Option 1**	**Pros** • Consistent with approach used since 2006 • No customer bill impact if consumption at CBL **Cons** • Not consistent with approach used with other rates (RIB, MGS, LGS)

BC hydro
FOR GENERATIONS

RS 1823 – STEPPED RATE (CONTINUED)

RDA Element	Proposal	Pros / Cons
3. Demand Charge - Definition of Billing Demand Option 1: Status quo Heavy Load Hour (HLH) definition Option 2: Modify HLH definition	**Option 1**	**Pros** • Definition of HLH (0600 to 2200 Monday to Saturday, except statutory holidays) is a 16 hour block consistent with BC Hydro's system capacity requirements **Cons** • Treats all hours within the HLH period the same (e.g., no super peak price)

OTHER TRANSMISSION SERVICE RATES

RDA Element	Proposal	Rationale
RS 1825 – Time of Use	**Maintain status quo**	• Efforts are being directed at development of a load curtailment pilot • It is not likely that there can be a significant enough difference between on peak and off peak rates to encourage a change in consumption patterns • Peer utilities operating under a market structure similar to BC Hydro do not offer voluntary TOU (Manitoba Hydro is examining)
RS 1827 – Rate for Exempt Customers	**Maintain status quo**	• There does not appear to be a significant change in circumstance for any of the four exempted customers • Exemption of UBC and New West confirmed under Direction No. 7 • Exempted customers have undertaken a significant amount of DSM

BC hydro
FOR GENERATIONS

OTHER TRANSMISSION SERVICE RATES (CONT.)

RDA Element	Proposal	Rationale
RS 1852 – Modified Demand	**Maintain status quo, with some possible amendments**	• Aside from requests for additional information, no stakeholder feedback received
RS 1853 – IPP Station Service	**Maintain status quo**	• Aside from requests for additional information, no stakeholder feedback received
RS 1880 – Standby and Maintenance	**Maintain status quo**	• In 2005 TSR Application, BC Hydro had initially proposed an energy charge based on Mid-C hourly index • Some customers were concerned about the potential volatility of Mid-C price and charge was therefore aligned to RS 1823 Tier 2 rate • CEC raised the issue of interruptible energy charge pricing in the Shore Power rate proceeding (spot market versus firm energy pricing)

FRESHET RATE

Component	Proposal	Rationale
Freshet period	May to July	• Consensus that this is reasonable for the pilot program
Product Option	Spot pricing with no volume nomination	• TSR customer support for this option and general agreement among stakeholders
Characteristics	2 year pilot program, non-firm, no demand charge	• General support from stakeholders
Pricing	• Daily HLH and LLH ICE index pricing • $0/MWh price floor and BPA Wheeling fee added	• Consistent with other market-based rates used by BC Hydro • Price floor ensures BC Hydro does not sell energy for less than spill value. Wheeling supported by many stakeholders and consistent with other BC Hydro rates
Baselines	Hourly aMW baseline with an adjustment mechanism.	• Net to Gross ratio mechanism provides benefits to customers only if there is a net gain in freshet load in either HLH or LLH periods

FRESHET RATE (CONTINUED)

Component	Proposal	Rationale
Baseline period	Energy and demand baselines set using data from May to July 2015	• BC Hydro expects 2015 consumption data to reasonably reflect “normal” operation
Adjustments	Prior periods used for the baseline if there are significant events affecting the data	• Reduces administration and simplifies baseline setting
Take-up	Take-up of the rate expected to range between 5 aMW and 30 aMW	• Same range provided as the May 7th workshop • Chemical plants and some pulp and paper mills are the most likely candidates for the rate
Shifting	See next slide	• Some stakeholders expressed concern that shifting load from the non-freshet to the freshet could negatively impact other ratepayers • Negative impact could be caused by the difference between Tier 1 energy loss and gain from selling at a lower Mid-C price • BC Hydro originally proposed to value shifting at the tier 1 rate but has determined this is not practical. New proposal discussed on the next two slides.

FRESHET RATE - How should shifting be valued?

Credit for a load reduction in the non-freshet

	Description	Discussion
Alternative 1 Preferred	Tier 2 rate or Tier 1 rate depending on the customer's RS1823 load relative to the RS 1823 CBL	**Pros:** • Consistent with current practice • Incents conservation in the non-freshet to do DSM. • Other options are not practical (discussed below) **Cons:** • Has negative impacts on other ratepayers (could be $4 million if 30 aMW was shifted – highly unlikely but a bookend)
Alternative 2	Tier 1 rate	**Pros:** • Least amount of impact on non-participants because tier 1 rate is closest to market prices. **Cons:** • Adjustments required to ensure qualifying events (DSM, force majeure) qualify for a tier 2 credit
Alternative 3	Tier 2 rate with any losses to non-participants recovered from participants in the second year of the freshet pilot	• CEC suggested this in their comments on BC Hydro's May 7th freshet proposal • This alternative may be impractical because BC Hydro may be unable to determine the specific time period that a customer reduces load in the non-freshet which will prevent an accurate calculation of "harm" to non-participants

BC hydro FOR GENERATIONS

RDA CHAPTER 8

TERMS AND CONDITIONS

1. Standard Charges
2. Terms and Conditions

BChydro
FOR GENERATIONS

STANDARD CHARGES

- Interveners generally support BC Hydro updating standard charges more frequently with RRAs if updates are limited to cost updates and administrative changes

Standard Charge	Current	Proposed	Issues / Rationale
Account Charge	$12.40	**$12.40**	Charge remains the same with different costs: • Call Centre cost savings from online self-serve • Cost increase for the proposed ID validation process
Reconnection Charge			• Standard reconnection costs include ABS costs, manual disconnection (5%), and manual reconnection (7%) • Overtime reconnection costs include ABS costs, blended disconnection (5% manual) and 100% manual reconnection • Call out Reconnection Charge is removed because this service is rarely requested and would be too high. • Interveners support advancing the review and implementation of the new Reconnection Charge to reflect the current costs
Standard	$125	**$30**	
Overtime	$158	**$280**	
Call out	$355	**Remove**	
Returned Payment Charge	$20	**$6**	• Reflect BCH's actual costs. This charge is currently tied to BCH's lead bank's NSF charge - not the actual costs of handling returned payments

STANDARD CHARGES (CONT.)

Standard Charge	Current	Proposed	Issues / Rationale
Meter Test Charge	$125	**$181**	• $181 reflects cost recovery of first meter connection charge • Current charge of $125 is equal to the Standard Reconnection Charge, which is not sufficient to recover costs with the proposed new Reconnection Charge of $30 • Customers will not be charged if the meter failed Measurement Canada test
DataPlus Service	$360 per year	**Remove**	• New enhanced data download service is planned to be released to all customers in early 2016 free of charge
Collection Charge	$39	**Remove**	• Outdated as most meters are disconnected remotely now and BCH's field service crew do not accept cheques from customers anymore
Late Payment Charge	1.5%	**1.5%**	• The charge recovers BCH's dunning costs and the costs of carrying charge associated with the delinquent payments, and is a means to induce prompt payments • 1.5% is in line with other Canadian Utilities • BC Hydro will demonstrate cost recovery in the Workshop 9a/9b Consideration Memo and in the 2015 RDA

TERMS & CONDITIONS

Issue	Proposed Changes	Rationale
Security Deposit (SD)	• Change the SD amount to be "Up to" 2x/3x the average monthly bill • No change to the maximum	• Administrative simplicity E.g., allows option for standardized SD amount • Customer acceptance Allows for lesser amounts when risk is not as great • Improved financial risk management Practical approach for securing low consumption accounts
	• Allow a SD deposit to be assessed or increased if actual consumption is significantly greater than the initial assessment	• Improved financial risk management • Secure high consumption accounts from walking away from the last bill • Current Tariff does not allow for raising or increasing SD after the initial account set up if the account is not in arrears

TERMS & CONDITIONS (CONT.)

Issue	Proposed Changes	Notes
Low Income (LI)	• *Under Review*	• BCH is working with the Ministry of Social Development & Social Innovations to streamline the credit actions for customers who are receiving direct social assistance. This may improve efficiency and reduce costs for both organizations • The proposed reduction of SD and reconnection charge will benefit all ratepayers, including LI customers • BCH will be providing BCOAPO with a business case for LI terms and conditions for review

NEXT STEPS

1. Comments due by 14 August 2015

BC Hydro will take comments on all topics, but is particularly interested in:

- BC Hydro's prioritization of customer understanding and acceptance, rate stability and fairness (Bonbright criteria)
- BC Hydro's proposal for a COS to be filed sometime in F2019
- Potential segmentation of FortisBC and New West from the remainder of the Transmission service rate class
- LGS demand cost recovery at 65% of fixed costs

2. Other Items & Dates

- Workshop 9a/9b Consideration Memo (Residential): Week of 3 August
- Workshop 10 Consideration Memo (Transmission): Week of 8 August
- Workshop 11a/11b Consideration Memo (General Service): End of August

3. 2015 RDA to be filed 17 September 2015

THANK YOU

SEND COMMENTS TO
bchydroregulatorygroup@bchydro.com

For further information,
please contact:
BC Hydro Regulatory Group
bchydroregulatorygroup@bchydro.com
(604) 623-4046

BC hydro
FOR GENERATIONS

Find BC Hydro at:

Facebook Flickr YouTube Twitter

www.bchydro.com