

June 22, 2016

**VIA EMAIL**

Laurel Ross  
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BC Utilities Commission  
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Reply to: Sarah Khan  
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Our file: 7615

Dear Ms. Ross:

**Re: BC Hydro 2015 Rate Design Application Module 1  
Information Request Responses of BCOAPO *et al.***

We write to file responses to the following parties' Information Requests to BCOAPO in the above noted proceeding:

1. **British Columbia Utilities Commission (BCUC)**
2. BC Hydro and Power Authority (BC Hydro)
3. BC Sustainable Energy Association and Sierra Club of BC (BCSEA)
4. Commercial Energy Consumers Association of British Columbia (CEC)
5. Movement of United Professionals (MoveUp)
6. Zone II Ratepayers Group (Zone II)

Please note that some of our responses contain links to various documents. We have indicated when links are replicated elsewhere in the responses.

Please let us know if you have any questions.

Sincerely,

**BC Public Interest Advocacy Centre**

Sarah Khan & Erin Pritchard  
Barristers and Solicitors

c. Tom Loski, Chief Regulatory Officer, BC Hydro  
Registered participants

Encl.

**British Columbia Old Age Pensioners Organization *et al.*  
Responses to British Columbia Utilities Commission  
Information Request No. 1 on BCOAPO Evidence**

**June 22, 2016**

**British Columbia Hydro and Power Authority  
2015 Rate Design Application  
Project No. 6398781**

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**British Columbia Old Age Pensioners Organization et al.  
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2015 Rate Design Application**

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**A. DIRECT TESTIMONY OF ROGER COLTON**

**1.0 Reference: Exhibit C2-12, Colton Evidence p. 13, pp. 17-18  
The need for an essential services usage block**

On page 17, Mr. Colton states “In addition, section 60 of the Utilities Commission Act (“UCA”), subsection 60(1)(b), provides that the Commission “must have due regard in the setting of a rate. . .to encourage public utilities to increase efficiency, decrease costs and enhance performance” (2015 Rate Design Application, at p. 2-4). While the Company asserts that this “efficiency criterion” applies only to the procurement of energy and capacity resources (BCOAPO IR 1.7.1), there is nothing in the language of the statute which supports this limitation.”

And at page 13, he states “The proposal for an Essential Services usage block, however, is not based exclusively on affordability concerns. It is a mechanism through which BC Hydro can simultaneously address affordability concerns, improve cost reflectivity in rates, and improve the efficiency of its operations and reduce overall operating costs.”

1.1 Would Mr. Colton or BCOAPO lay out the legal requirement for the rate design requirements for an essential services block for low income residential customers in the province of B.C.?

**RESPONSE**

The Commission is not legally required to order BC Hydro to implement an essential services usage block for low income residential customers. The Commission does have the jurisdiction to order BC Hydro to implement an essential services usage block for the reasons outlined in Mr. Colton’s Direct Testimony at Exhibit C2-12.

Similarly, the Commission was not legally required to implement a residential inclining block rate. However, there were good reasons for the Commission to implement the RIB rate, and the RIB rate has resulted in residential rates that are more just and reasonable than flat rates were.

1.2 In Mr. Colton’s opinion, is the BCUC required to create an essential services block or is it something that should be done because it is deemed

to be consistent with efficient rate making?

## RESPONSE

Mr. Colton's Direct Testimony states that the Essential Services Usage Block should be adopted because it:

- improves cost-reflectivity and thus is consistent with the fair apportionment of costs amongst customers;
- encourages BC Hydro to increase efficiency, decrease costs, and enhance performance; and
- improves affordability.

1.3 Would it not be preferable to have an explicit BC Government policy or Directive to implement low income assistance programs before the Commission initiates an essential services program? If not, why not? If yes, what actions has BCOAPO taken with Government to secure such a policy or Directive?

## RESPONSE

The Commission has jurisdiction to implement low income assistance programs such as an essential services usage block, a crisis intervention fund and low income customer rules, so it is not preferable or necessary for the BC Government to issue an explicit policy or Directive prior to the Commission ordering such programs. The Honourable Minister of Energy and Mines has stated publicly that he believes that residential electricity is affordable for low income BC Hydro customers, and so it would be pointless to ask the Minister to implement such a policy or directive.

In addition, the BC Government regularly issues directions to the Commission regarding the Commission's jurisdiction over BC Hydro – some recent examples are listed below:

- March 6, 2014 Direction No. 7 to the Commission, which directs, among other things, that:
  - In the revenue requirement context, the Commission must not allow rates to increase by more than 4 per cent in F2017, 3.5 per cent in F2018 and 3 per cent in F2019 on average, compared to the rates of BC Hydro immediately before the increases;
  - The Commission must set the Deferral Account Rate Rider for F2015 and future years of BC Hydro at 5 per cent, and must not order any change to the DARR except on application by BC Hydro.
- July 15, 2015 B.C. Reg. 140/2015, which amended section 9 of Direction No. 7 by providing that in setting rates for BC Hydro for F2017-F2019, the

Commission must not set rates for the purposes of changing the R/C ratio for a class of customers.

- The 2012 amendments to Special Direction No. 10 to the Commission (SD 10), which, among other things, provides that the Commission, in setting rates for BC Hydro, must use the planning criterion of average water.

Despite that BCOAPO has been publicly discussing various iterations of its proposed BC Hydro low income assistance programs since early 2015, the BC Government has not issued any legislative amendments, policies or Directives taking away jurisdiction from the Commission to implement low income programs for energy utility customers. BC Hydro's September 2015 RDA (Exhibit B-1, Chapter 5, page 5-2 and Chapter 8, section 8.6) references that BCOAPO will be filing evidence about its proposals. BCOAPO provided further details about these proposals in its October, 2015 letter to the Commission (Exhibit C2-2), its submissions at the January 19, 2016 Procedural Conference (RDA Transcript Volume 1, pages 48-56), and in the evidence it filed on May 9, 2016 (Exhibits C2-12 and C2-12-1 (Confidential)).

The Commission has jurisdiction over BC Hydro's Rate Design Application, and can and should use the power granted to it to order BC Hydro to implement the low income assistance programs BCOAPO proposes.

- 1.4 Was the Ontario Electricity Support Program (OESP) initiated by that Government or did the Ontario Energy Board initiate the program without endorsement by the Ontario government?

## RESPONSE

The OESP was initiated by the OEB following endorsement by the Ontario government, after legal action by low income stakeholders. However, there were a number of steps leading to this endorsement. At Exhibit B-1, pages 5-58 to 5-60, BC Hydro outlines the steps leading to the implementation of the OESP. The OEB began implementing the Low Income Energy Assistance Program, the predecessor program to the OESP, following the decision in *Advocacy Centre for Tenants-Ontario v. Ontario Energy Board*, 2008 CanLII 23487 (ON SCDC).

In that case, the majority of the court found that OEB did have jurisdiction to use "any method or technique it considers appropriate" in approving "just and reasonable rates" under Part III (Gas Regulation), section 36 of the *Ontario Energy Board Act*. The majority found that the OEB did have jurisdiction to consider customers' ability to pay when setting utility rates.

### **2.0 Reference: Exhibit C2-12, Colton Evidence, p. 4 Purpose of testimony**

In Mr. Colton's direct testimony, he lists his purposes as the examination of: (1) the reasonableness of an Essential Services usage block within the RIB Step-1 rate, (2) establishing and funding a crisis intervention fund, (3) the role of

considering low income DSM, and (4) the reasonableness of a series of proposed low income Terms and Conditions.

Mr. Colton concludes that the need for an initial block is required to serve an affordability need.

- 2.1 Please provide examples, if any, of the use of an essential services usage block in other utilities in jurisdictions in Canada and the justification and/or requirements for providing such services on affordability grounds.

## RESPONSE

BCOAPO is not aware of any examples of the use of an essential services usage block in other utilities in jurisdictions in Canada.

- 2.2 Please describe the use of an essential services usage block in other jurisdictions in North America outside Canada. Please provide the justification and/or requirements for providing such services on affordability grounds.

## RESPONSE

Please see the following, which is also cited at BCOAPO's response to BCSEA IR 4.2A:

Roger Colton, *Inverted Block Tariffs and Universal Lifeline Rates: Their Use and Usability for Delivering Low-Income Electric Rate Relief*, online: Fisher, Sheehan & Colton Public Finance & General Economics  
[http://www.fsconline.com/downloads/Papers/2008%2002%20Hydro\\_Quebec\\_Lifeline-Final.pdf](http://www.fsconline.com/downloads/Papers/2008%2002%20Hydro_Quebec_Lifeline-Final.pdf).

### 3.0 Reference: **Exhibit C2-12, Colton Evidence pp. 5-6** **The need for an essential services usage block**

On page 5, Mr. Colton states "There is no dispute in this proceeding that income and usage are directly related. The Company reports that its "2013 RIB Evaluation Report found that average per-capita disposable income for the Province of B.C. has a statistically significant effect on consumption." BC Hydro further notes that its 2014 REUS indicates that "electricity consumption varies with household income (i.e., overall there is a positive correlation). This relationship is statistically significant."

On page 6, Mr. Colton states that the median low-income consumption is only 71 percent as high as the median consumption of residential customers as a whole. He further states that this difference between residential consumption as a whole and low-income consumption is evident over differing customer characteristics.

- 3.1 The essential services block is proposed to be part of the existing residential rate schedule. Would it be a better alternative to offer this

usage block in a newly created residential rate schedule? Please discuss.

## RESPONSE

Mr. Colton would not object to offering this usage block in a newly created residential rate schedule. He does not, however, see a newly created residential rate schedule as being a necessary step in the adoption of the proposed Essential Services Usage Block.

- 3.2 While there may not be dispute that income and usage are correlated, would Mr. Colton please provide the cause-effect analysis that low income has an effect on consumption. Could the low consumption be caused by other factors such as dwelling size or family size? Does Mr. Colton have data related to income elasticity on electricity demand in addition to price elasticity on electricity demand? If so, please provide the research results on income elasticity and the source of the research.

## RESPONSE

Please see BCOAPO's response to BCSEA IR 4.2. See also: BCOAPO's responses to BCSEA IRs 13.3 and 13.4.

### **4.0 Reference: Exhibit C2-12, Colton Evidence, p. 7 The need for an essential services usage block**

On page 7 Mr. Colton states "The Company readily concedes that low usage is associated with greater non-responsiveness to price changes. The Company states that its RIB design assumptions include that "customers with a higher level of consumption tend to have a higher responsiveness to price."

- 4.1 Please confirm that Mr. Colton is suggesting that because low use customers have less room to make further reductions in energy usage, it is one of the reasons for Mr. Colton to propose the essential services usage block.

## RESPONSE

Not confirmed. Mr. Colton does not agree that the question accurately restates the cited testimony.

- 4.2 Has Mr. Colton considered instead the alternative of leaving alone the energy component of the rate design but allowing low-income customers to be exempt from the fixed basic charges? If not, why not? If so, please discuss the pros and cons of this rate design versus the complexity of setting a usage block and assessing the discount for this block.

## RESPONSE

Please see BCOAPO's response to MoveUp IR 3.2.

**5.0 Reference: Exhibit C2-12, Colton Evidence p.10**  
**The need for an essential services usage block**

On page 10, Mr. Colton states “As I reported in my Hydro-Quebec research, identified above, these observations were confirmed in the context of a Canadian province. An analysis by the Energy Research Group, a research institute within the Department of Electrical and Computer Engineering (Dalhousie University, Halifax, Nova Scotia), presented to the Nova Scotia Utility and Review Board (UARB), explained...”

- 5.1 Please provide the findings of the regulatory tribunals in Quebec and Nova Scotia regarding the relationship between low usage of low income customers and higher efficiency of usage by the low income customers (i.e., lower demand costs per unit of consumption and lower energy costs per unit of consumption)?

**RESPONSE**

Mr. Colton is not aware of whether these two referenced reports were ever made the subject of findings of fact by the regulatory tribunals in Quebec and Nova Scotia.

- 5.2 Would these arguments hold true in B.C. where the low residential Tier 1 rate does not reflect the full cost of demand or energy?

**RESPONSE**

Yes. As Mr. Colton’s Direct Testimony stated:

“Low-use customers, for example, make a lower contribution to the Company’s peak demand, according to BC Hydro. (BCOAPO 1.81.1). While the Company states that it has not performed any study of load curves by customer income (BCOAPO 1.72.1), it acknowledges that “generally, higher Residential consumption correlates with larger seasonal variation in consumption.” (BCOAPO 1.72.1(a)).

Moreover, while the Company has not calculated load factors for low-income, low use customers (BCOAPO 1.70.1, 1.72.1, 1.86.1, 1.90.1), higher use residential customers tend to have lower load factors. Higher use, the Company states, is associated with higher peak demand (BCOAPO 1.81.1). Since BC Hydro calculates annual load factor as total annual energy (numerator) divided by the product of annual peak demand (denominator) and annual hours (denominator) (BCOAPO 1.54.0), the lower load factor of higher usage residential customers (and, correspondingly, the higher load factor of low-use residential customers) is evident (see also: BCOAPO 1.49.1).

These observations are significant in that the Company states that “low load factors are indicative of customers that are relatively more costly to serve and load factor is therefore a consideration when evaluating rate class segmentation.”

(BC Hydro's 2015 Rate Design Application, at page 4-8; BCOAPO 1.49.1) (emphasis added). Despite these relatively lower costs that low-income customers impose on the system as low use customers, low-use customers do not have the reduced costs reflected in their rates" (Direct Testimony of Roger Colton at page 8, line 19 through page 9, line 15 (Exhibit C2-12, PDF pages 13-14/341)).

5.3 Does either of Quebec or Nova Scotia have inclining block residential rates?

## RESPONSE

Hydro Quebec has an inclining block residential rate which includes a fixed charge of \$0.4064 for each day in the consumption period, plus \$0.0571/kWh for energy consumed up to the product of 30 kWh and the number of days in the consumption period, and \$0.0868/kWh for the remaining consumption, plus a monthly charge of \$3.78 per kilowatt of billing demand in excess of 50 kilowatts during the summer period, or \$6.21 per kilowatt of billing demand in excess of 50 kilowatts during the winter period. For more information, see Hydro-Québec, *Rate D: Domestic Rate for residential and farm customers*, online: Hydro-Québec <http://www.hydroquebec.com/residential/customer-space/account-and-billing/understanding-bill/residential-rates/rate-d.html>

Nova Scotia Power Inc. does not have an inclining block rate; its "Domestic Service Tariff" provides for a fixed customer charge (which also functions as the monthly minimum charge), and a flat energy charge. For more information, see Nova Scotia Power, *Domestic Service Tariff*, online: Nova Scotia Power <http://www.nspower.ca/en/home/about-us/electricity-rates-and-regulations/rates/domestic-service-tariff.aspx>

Nova Scotia Power also has an optional "Domestic Service Time of Day Tariff, which is only available to customers employing electric-based heating systems utilizing Electric Thermal Storage (ETS) equipment, and electric in-floor radiant heating systems utilizing thermal storage and appropriate timing and controls approved by the Company. See Nova Scotia Power, *Domestic Service Time-of-Day Tariff (Optional)*, online: Nova Scotia Power <http://www.nspower.ca/en/home/about-us/electricity-rates-and-regulations/rates/domestic-service-TOD.aspx>

Antigonish Electric Utility (Nova Scotia) has a similar rate structure to Nova Scotia Power (i.e. basic charge and flat energy charge).

The Town of Lunenburg Electric Utility in Nova Scotia has an inclining block residential rate (Nova Scotia Utility and Review Board, Order in 2015 Amendments to Schedule of Rates for Electric Supply and Services, see [http://www.explorelunenburg.ca/index.php?option=com\\_docman&view=download&alias=1222-2015-approved-rates&category\\_slug=electric-utility&Itemid=893](http://www.explorelunenburg.ca/index.php?option=com_docman&view=download&alias=1222-2015-approved-rates&category_slug=electric-utility&Itemid=893)).

- 5.4 Has either province implemented an equivalent of the essential services block? If yes, please explain the programs.

## **RESPONSE**

As far as BCOAPO is aware, neither Quebec nor Nova Scotia has implemented an equivalent of the essential services usage block.

### **6.0 Reference: Exhibit C2-12, Colton Evidence pp.14, 15 & 17 Establishing the essential services usage block**

On page 14, Mr. Colton states “I recommend that the Essential Services usage block be set at 400 kWh a month, 4,800 kWh per year.”

And at page 15, he notes that BC Hydro’s definition of low use “varies between 370 kWh per month and 380 kWh per month.”

At page 17, he notes that fewer than 30% of residential customers have annual usage below 4,800 kWh.

- 6.1 To the best of Mr. Colton’s knowledge, what level of end-use service would 400 kWh provide for a family living in an apartment in BC Hydro’s service regions? Would it typically cover refrigeration, hot water, lighting and stove? Should the usage block be region-specific?

## **RESPONSE**

- i. Yes, it would typically cover refrigeration, hot water, lighting and stove
- ii. Mr. Colton is not proposing that the Essential Services Usage Block be region-specific.

- 6.2 What would the current bi-monthly bill be for a family consuming 400 kWh/month (basic charge plus energy)?

## **RESPONSE**

The calculation of a bi-monthly bill, assuming that consumption is spread equally over each month, can be derived from the BC Hydro response to BCOAPO IR 1.74.1. When requested by BCOAPO, BC Hydro was unable to provide either monthly usage data or monthly billing data (BCOAPO 1.74.1).

- 6.3 What is the proportion of the 30% of residential customers currently consuming under 4,800 kWh that fits the definition of low income?

## **RESPONSE**

Annual consumption for low income customers by decile is set forth in BC Hydro’s response to BCOAPO 1.58.3.

- 6.4 Please identify the cut-off levels for other low income programs operating in Canada and also for those operating in the US?

## RESPONSE

Please see BCOAPO's response to MoveUp IR 2.2.

### 7.0 Reference: Exhibit C2-12, Colton Evidence, p. 20 Establishing essential services usage block discount - ECAP

On page 20, Mr. Colton states "Energy efficiency investments are an effective *supplement* to the distribution of bill affordability assistance to address low-income energy needs over the long term."

- 7.1 Does BCOAPO or Mr. Colton have any information on the effectiveness of ECAP for low income customers?

## RESPONSE

BC Hydro provided BCOAPO with the ESK Impact Evaluation for 2009 and 2010 as Attachment 1, BCOAPO IR 1.105.1 (revised); the ECAP program evaluation for 2009 and 2010 as Attachment 2, BCOAPO IR 1.105.1 (revised); and its assessment of "threshold setting" for low income energy conservation programs as Attachment 2, BCOAPO 1.106.1 (revised). Other assessments of the ESK and ECAP programs were presented in Mr. Colton's Direct Testimony, Part 3, beginning at page 62 (Exhibit C2-12, PDF page 67/341).

- 7.2 Are such programs in Canada and the US effective for low income apartment renters?

Please discuss.

## RESPONSE

The following documents indicate that there are a multitude of energy efficiency program designs and structures that can deliver cost-effective energy efficiency measures to renters, including apartment renters in multi-family buildings:

- Martin Kushler, Dan York, and Patti Witte, *Meeting Essential Needs: The Results of a National Search for Exemplary Utility-Funded Low-Income Energy Efficiency Programs*, online: Maryland Public Service Commission [http://webapp.psc.state.md.us/intranet/Casenum/NewIndex3\\_VOpenFile.cfm?filepath=C:%5CAdminDocket%5CPublicConferences%5CPC12%5C22%5C%5CU053-new.pdf](http://webapp.psc.state.md.us/intranet/Casenum/NewIndex3_VOpenFile.cfm?filepath=C:%5CAdminDocket%5CPublicConferences%5CPC12%5C22%5C%5CU053-new.pdf)
- Rachel Cluett, Jennifer Amann, and Sodavy Ou, *Building Better Energy Efficiency Programs for Low-Income Households*, online: California Energy Commission <http://docketpublic.energy.ca.gov/PublicDocuments/16-OIR->

[02/TN211059\\_20160414T121836\\_Building\\_Better\\_Energy\\_Efficiency\\_Programs\\_for\\_LowIncome\\_Househ.pdf](#)

- Lauren Ross, Michael Jarrett, and Dan York, *Reaching More Residents: Opportunities for Increasing Participation in Multifamily Energy Efficiency Programs*, online: BC Public Interest Advocacy Centre [http://bcpiac.com/wp-content/uploads/2016/06/Ross-Jarrett-York\\_2016\\_Reaching-more-residents.pdf](http://bcpiac.com/wp-content/uploads/2016/06/Ross-Jarrett-York_2016_Reaching-more-residents.pdf)
- Michael Bodaken and Todd Nedwick, *Utilities and Community Developers Partner to Improve the Energy Efficiency of Affordable Rental Housing Nationwide*, online: Federal Reserve Bank of San Francisco [http://www.frbsf.org/community-development/files/cdir\\_vol10issue1-Utilities-and-Community-Developers-Partner.pdf](http://www.frbsf.org/community-development/files/cdir_vol10issue1-Utilities-and-Community-Developers-Partner.pdf)
- National Housing Trust, *Utility-Funded Energy Efficiency Programs: An Untapped Resource for Affordable Housing*, online: National Housing Trust [http://www.nhtinc.org/downloads/nht\\_mf\\_utility\\_programs\\_fact\\_sheet.pdf](http://www.nhtinc.org/downloads/nht_mf_utility_programs_fact_sheet.pdf)
- National Housing Trust, *Partnering for Success: An Action Guide for Advancing Utility Energy Efficiency Funding for Multifamily Rental Housing*, online: National Housing Trust <http://www.nhtinc.org/downloads/partnering-for-success-action-guide.pdf>
- Rental Housing Energy Efficiency Work Group, *Energy Efficiency in Rental Housing*, online: Clean Energy Resource Teams <http://www.cleanenergyresourceteams.org/files/RentalHousingEnergyEfficiencyWorkGroupDocument.pdf>

**8.0 Reference: Exhibit C2-12, Colton Evidence, pp. 27-34  
Intake, eligibility and income verification**

Mr. Colton proposes a three stage process of income verification and program administration.

- 8.1 Are there other intake processes in the US that BC Hydro should review before implementing an essential services usage block?

**RESPONSE**

The “three-stage process,” as described in Mr. Colton’s testimony, involves allowing progressively more ways for low income customers to enroll in an Essential Services Usage Block. The process Mr. Colton recommends relies on a third party administrator who is already skilled in, and perhaps already engaged in, the process of intake and income verification to perform such verifications for the Essential Services Usage Block; the primary alternative would be to have BC Hydro conduct the process of intake and income verification in-house. While stakeholders might wish to “review” such an intake and income verification process before implementing an Essential Services Usage

Block, BCOAPO understands that BC Hydro does not seek to perform such intake and income verification tasks, and in any event, BCOAPO does not recommend such an approach.

- 8.2 Would BC Hydro be expected to fund the third party enrolment process and administration? If yes, what would this cost likely be and has it been factored into the total costs of the program?

## **RESPONSE**

See Direct Testimony of Roger Colton at page 30, line 20 through page 31, line 3 (Exhibit C2-12, PDF pages 35-36/341).

- 8.3 If the program is being administered by a third party is there not a risk of cost escalation and inappropriate enrolment? Please discuss the experiences in Ontario and the U.S.

## **RESPONSE**

To Mr. Colton's knowledge, neither Ontario nor programs in the United States have experienced "cost escalation and inappropriate enrollment" for programs administered by a third party.

### **9.0 Reference: Exhibit C2-12, Colton Evidence, p. 36 Essential services usage block**

Mr. Colton is proposing that the essential services usage block be a monthly usage block of 400 kWh with a discount of \$0.04/kWh.

- 9.1 Is the block cumulative, i.e., if a low-income customer consumes less than 400 kWh a month, whether the surplus could be included in the next billing period? Why or why not?

## **RESPONSE**

No, the block is not cumulative and would not be included in the next billing period. Allowing a low income consumer to accumulate a "surplus" and carry that surplus forward to a future month would detract from the use of energy as a surrogate for peak demand and the cost implications associated therewith.

### **10.0 Reference: Exhibit C2-12, Colton Evidence, pp.36-37 Crisis intervention fund**

Mr. Colton explains the Crisis Intervention Program as follows "A crisis intervention program would involve providing funds when a low-income customer faces a situation that threatens the continuing ability of that customer to take electric service. Such a crisis situation may, but need not necessarily, involve providing a grant to prevent the disconnection of service for nonpayment. In the

alternative, a crisis intervention grant might respond to a level of arrears that the program administrator deems is of sufficient size that the customer will never be capable of retiring them in full. Moreover, a crisis situation might involve circumstances where a customer is already “off-system” and lacks sufficient funds to make an arrearage payment, along with paying a reconnection charge and possibly a cash security deposit.”

10.1 Is this fund an essential component of implementing an essential services usage block? Why or why not?

## RESPONSE

To the extent that the question’s term “essential component” mean that a crisis fund is a *sine qua non* for an Essential Services Usage Block, the response is no. However, the synergistic impact of the Essential Services Usage Block, the DSM programs, the Crisis Intervention Fund, and the low income Terms and Conditions were noted in Mr. Colton’s Direct Testimony at footnote 11, page 20 (Exhibit C2-12, PDF page 25/341).

10.2 Would it not be better and less costly to allow BC Hydro the ability to further extend low cost credit and/or debt forgiveness to essential services block customers rather than implementing a crisis intervention fund operated by an independent third party? Why or why not?

## RESPONSE

No, it would neither be “less costly” nor “better.” Utility staff are not trained to engage in intake and income verification. Moreover, Mr. Colton is presently a part of a research team working for the Water Research Foundation, the research arm of the American Water Works Association, examining how to reach “hard to reach” customers. Research has reported that customers in payment trouble are unlikely to go to their creditor, and provide comprehensive documentation of their incomes, in order to receive assistance. Administration through an independent third party administrator would be more likely to serve the need. See generally Natasha Cortis, Ilan Katz and Roger Patulny, *Engaging Hard-to-Reach Families and Children: Stronger Families and Communities Strategy 2004–2009*, online: Australia Government Department of Social Services <https://www.dss.gov.au/sites/default/files/documents/op26.pdf>

10.3 If the program is being administered by a third party is there not a risk of cost escalation and inappropriate enrolment? Please discuss the experiences in Ontario and the U.S. for the REACH program.

## RESPONSE

To Mr. Colton’s knowledge, neither Ontario nor the REACH program operated pursuant to the United States federal Low-Income Home Energy Assistance Program (LIHEAP) statute have experienced “cost escalation and inappropriate enrollment” for programs administered by a third party.

**11.0 Reference: Exhibit C2-12, Colton Evidence, pp. 36-37  
Crisis intervention fund**

Mr. Colton proposes a residential bill rider of \$0.25/month to fund the crisis intervention fund at roughly \$5.4 million/year.

11.1 How was this funding limit determined?

**RESPONSE**

Please see BCOAPO's response to CEC IR 19.2.

11.2 What is the funding mechanism and limits for the Ontario program? Are there any other such programs in Canada?

**RESPONSE**

Ontario's Low-Income Energy Assistance Program Emergency Financial Assistance is described in the OEB's OESP and LEAP Policy Manual dated October, 2015, which can be found at Ontario Energy Board, *OESP & LEAP Programs Manual*, online: Ontario Energy Board <http://www.ontarioenergyboard.ca/oeb/ Documents/Documents/OESP LEAP Program Manual.pdf>. At page 2, the Manual summarizes the LEAP EFA:

LEAP EFA is a grant program intended to provide emergency relief to eligible low-income customers who may be experiencing difficulty paying current arrears. It is intended to be applied only to outstanding gas or electricity bill payments. It is not intended to provide regular or ongoing bill payment assistance.

Customers of natural gas and electricity distributors, as well as unit sub-meter providers are eligible for LEAP EFA.

Although LEAP EFA is funded by all ratepayers through each distributor's rates, distributors and social agencies may also raise money from private donations to supplement LEAP EFA funding. Unlike the OESP, the funds provided by a particular distributor for LEAP EFA must be used only for that distributor's customers, or customers of unit sub-meter providers operating within that distributor's service area.

Customers can apply for LEAP through an intake agency that has partnered with the local distributor. The delivery of LEAP EFA relies heavily on the cooperation between distributors and social service agencies.

[footnotes omitted]

The LEAP EFA is described in more detail on pages 14-24 of the Manual, and the grant amounts are described on pages 24-25:

The grant level for LEAP EFA is set at a maximum of \$500 per fuel, per household, per year. Agencies may use their judgement for customers with electrically heated homes to offer up to \$600 per household, if necessary.

If the applicant owes less than the maximum, the grant cannot exceed the amount owed.

If the applicant owes more than the maximum, a maximum grant of \$500 (or \$600 for an approved electrically heated home) may be provided, as long as the applicant will be able to sustain their energy service following the grant. In such cases, the agency should have a documented rationale.

Options for applicants who owe more than the maximum to sustain their energy service include:

- Entering into an arrears payment arrangement with the service provider for the balance owing (see sections 7 for electricity and 8 for natural gas customers); and/or
- Supplementary assistance through other funds for the balance.

If these options are not available the applicant may be denied assistance on the basis that they cannot sustain their energy service and should be referred to other programs for assistance. Grants should not include amounts owed for equipment rental (e.g. water heater) or equipment financing charges.

[footnotes omitted]

The funding mechanism for the LEAP EFA is set out on page 39 of the Ontario Energy Board's Filing Requirements For Electricity Distribution Rate Applications - 2015 Edition for 2016 Rate Applications – Chapter 2 Cost of Service (Ontario Energy Board, *Filing Requirements For Electricity Distribution Rate Applications – 2015 Edition for 2016 Rate Applications – Chapter 2 Cost of Service*, online: Ontario Energy Board [http://www.ontarioenergyboard.ca/oeb/ Documents/2016EDR/OEB\\_Filing%20Requirements\\_2016Rates\\_Chapter%202.pdf](http://www.ontarioenergyboard.ca/oeb/ Documents/2016EDR/OEB_Filing%20Requirements_2016Rates_Chapter%202.pdf))

#### *2.4.3.6 Low-income Energy Assistance Programs (LEAP)*

The OEB recognizes the challenges that energy costs can pose for low income consumers, and believes that there needs to be a comprehensive and province-wide approach for providing assistance to respond to affordability issues.

In March 2009, the OEB issued its Report of the Board: Low Income Energy Assistance Program (the LEAP Report) which describes policies and measures for electricity and natural gas distributors to assist low-income energy consumers, including emergency financial assistance.

As set out in the LEAP Report, the OEB has determined that the greater of

0.12% of a distributor's OEB-approved distribution revenue requirement, or \$2,000, is a reasonable commitment by all distributors to emergency financial assistance. The \$2,000 minimum is intended to ensure that, for smaller distributors, more funding is available than otherwise would be if based solely on a percentage of distribution revenues. The LEAP amount must be calculated based on total distribution revenues, and is to be recovered from all rate classes based on the respective distribution revenue of each of those rate classes.

A distributor must include the relevant LEAP amount as part of its OM&A expenses. For greater clarity, OEB-approved total distribution revenue means a distributor's forecasted service revenue requirement as approved by the OEB.

A distributor must also state whether or not any amounts have been included in its test year revenue requirement for legacy programs, such as Winter Warmth. If this is the case, the programs and amounts must be identified and a brief description of each of the programs must be provided.

The LEAP program and funding for LEAP will continue in tandem with the Ontario Energy Support Program that will be in place effective January 1, 2016.

BCOAPO is not aware of any other electricity ratepayer-funded residential crisis intervention/emergency assistance programs in Canada.

11.3 Would a customer be eligible to access this funding more than once or more than once per year? Is an upper limit being contemplated?

## **RESPONSE**

Mr. Colton's Direct Testimony states (page 37, line 20 through page 38, line 3 (Exhibit C2-12, PDF pages 42-43/341)) as follows:

"Crisis intervention is not intended to be an annual income supplement for low-income customers; nor is it intended to be a regular source of energy assistance funding. As the administrator of the local crisis intervention fund for my own local community, I know from personal experience that, instead, a crisis intervention grant is intended to respond to unexpected and temporary circumstances that place a customer's service in jeopardy."

Mr. Colton's Direct Testimony further states (page 44, lines 9-14 (Exhibit C2-12, PDF page 49/341)):

"I recommend that the third party administrator, through a collaborative process involving the Company and other stakeholders, establish a set of program design guidelines. Developing such design guidelines, however, is not a necessary process to be pursued prior to approval of the funding mechanism. Instead, establishing the funding mechanism is the first necessary step."

Having said that, the Belmont Affordable Shelter Fund, the local crisis

intervention that Mr. Colton personally administers, imposes limitations providing: (1) no more than a \$350 grant; (2) no more than one grant per year; (3) no routine annual reliance on BASF fund; (4) service in danger of loss due to nonpayment as a precondition.

11.4 Assuming a customer defaults on one bimonthly bill of 800 kWh, how many such defaults could be funded per year? How does this compare with the current level of defaults experienced by BC Hydro?

## RESPONSE

Please see BCOAPO's response to BCUC IR 11.3.

**12.0 Reference: Exhibit C2-12, Colton Evidence, Part 4 Terms and Conditions, pp. 63-68; Exhibit B-5, BCOAPO IR 1.192.1, Attachment 1, Section 5.3, pp. 31-36**  
**Cost effectiveness as the appropriate business case analysis**

On pages 63-64 of his direct testimony, Mr. Colton states "BC Hydro inappropriately seeks to impose a cost-benefit ratio restriction on the proposed Terms and Conditions" in reference to BC Hydro's "Assessment of Potential Low Income Terms & Conditions" filed as Attachment 1 to BCOAPO IR 1.192.1.

In Section 5.3 of BC Hydro's "Assessment of Potential Low Income Terms & Conditions" filed as Attachment 1 to BCOAPO IR 1.192.1, BC Hydro provides an analysis of the "cost-effectiveness of BC Hydro's collection processes, as well as to the degree in which low income terms and conditions could improve their effectiveness."

12.1 Please clarify whether Mr. Colton's testimony is that BC Hydro has not performed a cost-effectiveness analysis in addition to a cost-benefit analysis or if Mr. Colton does not agree with the method and/or results of BC Hydro's cost-effectiveness analysis.

## RESPONSE

Mr. Colton's testimony is that BC Hydro has not performed a cost-effectiveness analysis.

12.1.1 If his testimony is that BC Hydro has not performed a cost-effectiveness analysis, please explain the basis for this testimony.

## RESPONSE

BC Hydro's economic analysis of proposed Low Income Terms and Conditions is set forth in response to BCOAPO 1.192. This economic analysis is a cost-benefit analysis. As BC Hydro acknowledges in the text of its analysis, BCOAPO does not believe that

BC Hydro appropriately identified and quantified either the costs or the benefits in its analysis. Moreover, as Mr. Colton states in his Direct Testimony, it is not possible to identify and quantify all of the benefits of the Terms and Conditions being discussed.

Setting aside whether the cost-benefit analysis presented by BC Hydro was appropriately done, it is not a cost-effectiveness analysis. BC Hydro's analysis seeks to compare what it claims to be the costs to what it claims to be the cost-savings rather than seeking to determine which mechanisms are the most effective and efficient as described in Mr. Colton's testimony regarding the difference between a cost-benefit analysis and a cost-effectiveness analysis.

12.1.2 If his testimony is that he does not agree with the method and/or results of BC Hydro's cost-effectiveness analysis, please explain why and include specific references to BC Hydro's analysis.

## RESPONSE

Please see BCOAPO's response to BCUC IR 12.1.

BC Hydro states on page 36 of its "Assessment of Potential Low Income Terms & Conditions" that it "cannot definitively conclude that low income terms and conditions are a cost-effective response to bad debt and collection costs."

On page 68 (Exhibit C2-12, PDF page 73/341) of Mr. Colton's direct testimony he states: "Overall, a utility such as BC Hydro can be expected not only to collect more money through the Terms and Conditions discussed below, but to spend less money in the process of collection in doing so."

12.2 Please confirm, or explain otherwise, that based on his direct testimony he disagrees with BC Hydro's assertion that it cannot definitively conclude that low income terms and conditions are a cost-effective response to bad debt and collection costs.

## RESPONSE

BC Hydro did not provide a cost-effectiveness analysis. Low Income Terms and Conditions such as those recommended in Mr. Colton's Direct Testimony are a cost-effective response to inability to pay. See Mr. Colton's presentation titled "Business Case for Improving Low-Income Services: BC Hydro." (Attachment 1). See also the following documents:

- Roger Colton, "Water Affordability in Philadelphia: Comparing the Tiered Discount and Percentage of Income-Based Bill Affordability Proposals." (2015). Available at: [http://bcpiac.com/wp-content/uploads/2016/06/Colton\\_Water\\_Affordability\\_Philadelphia\\_October-2015.pdf](http://bcpiac.com/wp-content/uploads/2016/06/Colton_Water_Affordability_Philadelphia_October-2015.pdf)
- Roger Colton, *Water Bill Affordability for the City of Philadelphia*, online: City of

Philadelphia

<http://www.phila.gov/water/rateboard/PDF/CityInformationRequestsSet%20I.pdf>

- Roger Colton, “Final Evaluation of the Xcel Energy PEAP Program.” (2012). Available at: [http://bcpiac.com/wp-content/uploads/2016/06/Colton\\_Presentation\\_Xcel-Energy\\_Feb-2012.pdf](http://bcpiac.com/wp-content/uploads/2016/06/Colton_Presentation_Xcel-Energy_Feb-2012.pdf)
- Roger Colton, *Public Service Company of Colorado’s (PSCo) Pilot Energy Assistance Program (PEAP) and Electric Assistance Program (EAP): 2011 Final Evaluation Report*, online: Fisher, Sheehan & Colton Public Finance & General Economics  
[http://www.fsconline.com/downloads/Papers/2012%2002%20Xcel\\_PEAP\\_Evaluation.pdf](http://www.fsconline.com/downloads/Papers/2012%2002%20Xcel_PEAP_Evaluation.pdf)
- Roger Colton, *An Outcome Evaluation of Indiana’s Low-Income Rate Affordability Programs*, online: Fisher, Sheehan & Colton Public Finance & General Economics  
<http://www.fsconline.com/downloads/Papers/2007%2007%20IN%20Outcome%20Evaluation-final.pdf>

12.3 Please specifically explain the differences in the analysis provided in Mr. Colton’s direct testimony compared to BC Hydro’s analysis in response to BCOAPO IR 1.192.1, with specific references to both analyses, which support his conclusion that a utility such as BC Hydro can be expected to collect more money through his proposed Terms and Conditions and to spend less money in the collection process.

## RESPONSE

Please see BCOAPO’s response to BCUC IR 12.2 and accompanying attachments.

**13.0 Reference: Exhibit C2-12, Colton Evidence, Part 4 Terms and Conditions, pp. 68-77;  
Exhibit B-5, BCOAPO IR 1.192.1, Attachment 1, pp. 45-52  
Cold weather shutoff protections**

On page 77 of Mr. Colton’s direct testimony he concludes that “the termination of service during British Columbia’s cold weather months is an inherently dangerous activity” and he recommends that “BC Hydro adopt a system of restrictions on the termination of service during the cold weather period of November 1 through April 1 of each winter heating season irrespective of income.”

On pages 51 and 52 of BC Hydro’s “Review of Proposed Low Income Terms & Conditions” filed as Attachment 1 to BCOAPO IR 1.192.1, BC Hydro lists the following two considerations underpinning its proposals related to winter disconnections: (i) restrictions on winter disconnections should be regional; and (ii) restrictions should be based primarily on temperature rather than on a date

range, particularly in warmer regions.

- 13.1 Please provide a detailed discussion of the reasonableness of BC Hydro's proposals stated in the above preamble (i.e. regional restrictions and restrictions based on temperature as opposed to a date range).

## **RESPONSE**

Regional restrictions and restrictions based on temperature do not meet the health and safety objectives presented in Mr. Colton's Direct Testimony.

- 13.2 In consideration of the historical weather and temperature patterns in British Columbia, please explain why Mr. Colton considers it reasonable for BC Hydro to adopt restrictions on winter disconnections for a time period as broad as November through March.

## **RESPONSE**

The recommended date range is necessary to meet the health and safety objectives presented in Mr. Colton's Direct Testimony. BC Hydro asserted, without documentation, that temperatures must reach "freezing temperatures" in order to be dangerous. The information presented in Mr. Colton's Direct Testimony, Appendix D demonstrates the contrary.

BC Hydro further states on page 46: "B.C.'s weather conditions are different than those in the rest of the country, with the Lower Mainland and Vancouver Island rarely reaching freezing temperatures. Accordingly, the drivers and program conditions for a winter disconnection moratorium are very different depending on location. Any potential moratorium should reflect these differences."

- 13.3 Please discuss the reasonableness of BC Hydro's assessment that BC's weather conditions are different than those in the rest of Canada.

## **RESPONSE**

Mr. Colton has no basis to agree or disagree with BC Hydro's assessment that BC's weather conditions are different than those in the rest of Canada.

- 13.4 Please discuss the impact, if any, that BC's weather conditions may have on the need for restrictions on winter disconnections.

## **RESPONSE**

Please see BCOAPO's response to BCUC IRs 13.2 and 13.3. However, Mr. Colton notes that both Washington State and Idaho, two states with weather conditions which do not substantively differ from British Columbia, have date-based winter shutoff protections. Please see the reports cited in BCOAPO's response to CEC IR 20.1.

**14.0 Reference: Exhibit C2-12, Colton Evidence, Part 4 Terms and Conditions, pp. 83-88; Exhibit B-5, BCOAPO IR 1.192.1, Attachment 1, pp. 40-44 Deferred payment arrangements**

On page 87 of Mr. Colton's direct testimony, he recommends "several modifications to BC Hydro practices and procedures that will improve both the effectiveness and the efficiency of the Company's use of deferred payment plans as a collection tool."

He further states on page 87 that these modifications are specifically for payment plans offered to customers with income less than 100 percent of LICO and include: (i) setting down payments at ten percent of the outstanding delinquency; and (ii) offering a payment plan term of not less than 12 months.

14.1 Please provide a fulsome explanation of how his first proposed modification (i.e. setting down payments at ten percent of a customer's outstanding delinquency) will improve the effectiveness and the efficiency of BC Hydro's use of deferred payment plans.

**RESPONSE**

Improving the affordability of payment plans, which include down payments, can reasonably be expected not only to increase payments and decrease costs, but to increase the efficiency and effectiveness of payment plans as a collection mechanism. See, without limitation, BCOAPO's response to BCUC IR 12.2.

14.2 Please explain how he determined the appropriate quantum of the down payment (i.e. 10 percent of the outstanding delinquency).

**RESPONSE**

Please see BCOAPO's response to CEC IR 24.1.

BC Hydro states the following on page 44 of its "Review of Proposed Low Income Terms & Conditions":

BC Hydro recognizes there are situations in which a repayment term longer than three months is appropriate but is opposed to establishing mandatory terms for Installment Plans. Instead, BC Hydro proposes to investigate the practicality of providing collections agents with the authority to offer longer payment terms, for example, up to 6 or 8 months, provided that the outstanding balance would be paid before the next winter heating cycle.

14.3 Please explain why Mr. Colton considers a payment plan term of not less than 12 months to be most appropriate for achieving improved efficiency and effectiveness of collections. Why is a minimum payment plan term of 12 months required to achieve improved efficiency and effectiveness?

## RESPONSE

Mr. Colton's proposal is based on an assessment of the data provided by BC Hydro in response to BCOAPO 1.204(c) through 1.204(i). That data requested:

- (c) The average term (in months) of deferred payment arrangements entered into;
- (d) The average dollar amount of arrears made subject to the deferred payment arrangement disaggregated by their term (in months) of the payment arrangement agreement;
- (e) The average monthly installment of deferred payment arrangements disaggregated by their term (in months) of the payment arrangement agreement;
- (f) The distribution of new deferred payment arrangements by their term (in months);
- (g) The number of defaulted deferred payment arrangements;
- (h) The number of defaulted deferred payment arrangements disaggregated by their term (in months) of the payment arrangement agreement; and
- (i) The number of completed (or "successful") deferred payment arrangements disaggregated by their term (in months) of the payment arrangement agreement.

The data analysis supports the conclusions that the average installment is not affordable to a low income household. Less than 1.7% (2,392 of 141,497) payment plans were of 13 months in length or longer. Less than one-half of one percent of payment plans (484 of 141,497) were of 14 months or longer. The average monthly payment of payment plans of 12 months or less was \$278, compared to the average monthly payment of payment plans 13 – 24 of \$109. The average monthly payment of payment plans four months or less (83% of all plans: 117,322 / 141,497) was \$292.

An increased term of payment plan did not have a substantial effect on the likelihood that the plan would default. While 64% of plans three months in length defaulted, and 68% of plans four months in length did, 67% of plans 12 and 22 months (respectively) did. The Company reports that 71% of plans 5, 7, 10 and 20 months in length defaulted (though there were only 17 plans 20 months in length, compared to nearly 6,500 5 and 7 months). While 74% of plans six months in length defaulted, 75% of plans 24 months in length did (though there were only 76 plans 24 months in length, compared to nearly 7,600 six months). Mr. Colton's conclusions were based on a complete analysis of the data provided in response to BCOAPO 1.204, only a summary of which has been provided above.

14.3.1 As part of this response, please discuss the reasonableness of BC

Hydro's suggestion of a payment plan term which allows for the outstanding balance to be paid before the next winter heating cycle and discuss the risks, if any, of customers carrying forward unpaid balances from one winter heating season into the next heating season.

**RESPONSE**

An unpayable payment plan places the underlying debt in jeopardy, irrespective of the next winter heating cycle. Nearly 50% of BC Hydro's payment plans that were two months in length defaulted. Between 64% and 75% of BC Hydro's payment plans that were between three and eight months in length defaulted. A lower percentage of payment plans with terms of 12 and 13 months respectively defaulted than payment plans with terms of four through eight months. BC Hydro expressed a "concern," without documentation, that carrying a balance from one winter heating season into the next would increase risks of nonpayment.

| Term | Total | # Default | Pct Default |
|------|-------|-----------|-------------|
| 1    | 343   | 105       | 31%         |
| 2    | 74824 | 36487     | 49%         |
| 3    | 31788 | 20381     | 64%         |
| 4    | 10367 | 7025      | 68%         |
| 5    | 4211  | 2982      | 71%         |
| 6    | 7561  | 5616      | 74%         |
| 7    | 2247  | 1586      | 71%         |
| 8    | 1188  | 887       | 75%         |
| 9    | 793   | 550       | 69%         |
| 10   | 879   | 622       | 71%         |
| 11   | 627   | 439       | 70%         |
| 12   | 4277  | 2877      | 67%         |
| 13   | 1908  | 1206      | 63%         |

Data Source: Attachment 1 to BC Hydro's Response to BCOAPO 1.204.1(f) and BCOAPO 1.204.1(h).

**15.0 Reference: Exhibit C2-12, Colton Evidence, Part 4 Terms and Conditions, pp. 105-117  
Reform security deposits**

On page 110 of Mr. Colton's direct testimony, he states the following:

I recommend that the Company's proposal to impose cash security deposits on all new residential customers be denied. While I do not

disparage the Company's efforts to control uncollectible accounts, the tool that the Company proposes here (i.e., to impose deposits on all new residential customers) is not reasonably related to accomplishing the end the Company purports to seek."

- 15.1 Please confirm, or explain otherwise, that his statement in the above preamble that BC Hydro proposes to impose deposits on all new residential customers should be interpreted as all new residential customers without established credit.

## RESPONSE

Mr. Colton's Direct Testimony states: "BC Hydro states it that can assess a security deposit in two situations: (1) when an applicant for service has not established credit satisfactory to BC Hydro; and (2) when an existing customer has not maintained a credit history satisfactory to BC Hydro (Exhibit B-1, 2015 Rate Design Application, at 8-10)" (page 105, lines 10-13 (Exhibit C2-12, PDF page 110/341)). The Company asserts that "current security deposit practices are largely ineffective." (BCOAPO 1.192.1 (revised)). Mr. Colton acknowledges that BC Hydro states that "All new Residential customers without established credit will be assessed a security deposit equal to one-time their average monthly bill, rather than two- or three-times as is currently required under the tariff." (Id.) However, BC Hydro further states: "For new customers in apartments, the security deposit will be established as a standard \$50." (BCOAPO 1.192.1 (revised)); see also, BCOAPO IR 1.198.2, Attachment 2). BC Hydro proposes, in other words, to impose deposits not simply in response to bad credit history, but also in response to no credit history.

On page 112 of Mr. Colton's direct testimony, he states the following: "Aside from the business aspects of the issue, to forbid the use of non-utility credit experience is consistent with long-standing utility regulatory principles proscribing the denial of service for "collateral" matters."

- 15.2 Please further explain his reference to "the long-standing utility regulatory principles proscribing the denial of service for collateral matters."

## RESPONSE

Charles Harak and Olivia Bae Wein present a discussion of the long-standing utility regulatory principles proscribing the denial of utility service for collateral matters in pages 68-77 of *Access to Utility Service: Regulated, De-Regulated and Unregulated Utilities, Deliverable Fuels, and Telecommunications*, 4th ed (National Consumer Law Center, 2008). Find this chapter online at [http://bcpiac.com/wp-content/uploads/2016/06/Access-to-Utility-Service\\_4th-ED\\_pages-68-76.pdf](http://bcpiac.com/wp-content/uploads/2016/06/Access-to-Utility-Service_4th-ED_pages-68-76.pdf).

- 15.2.1 Please specifically describe and provide examples of these "collateral matters" and describe the "long-standing utility regulatory principles" which prevent the denial of service for collateral matters.

## RESPONSE

Please see BCOAPO's response to BCUC IR 15.2.

On page 115 (Exhibit C2-12, PDF page 120/341) of his direct testimony, he states: "One alternative to cash security deposits is the solicitation of third-party sureties."

- 15.3 Please provide examples of regulated utilities in other jurisdictions which accept third-party sureties as an alternative to cash security deposits.

## RESPONSE

Mr. Colton has not undertaken a comprehensive review of all jurisdictions to determine which jurisdictions accept third party guarantors and/or sureties. However the following report contains an annotated model regulation regarding cash security deposits that includes a section on third party guarantors as an alternative to cash security deposits:

Roger Colton, *Residential Cash Security Deposits: A Model State Commission Regulation*, online: Fisher, Sheehan & Colton Public Finance & General Economics [http://www.fsconline.com/downloads/FSC%20Newsletter/news2013/n2013\\_0304.pdf](http://www.fsconline.com/downloads/FSC%20Newsletter/news2013/n2013_0304.pdf)

- 15.3.1 For each of the regulated utilities identified in the above response, please generally explain how the system of accepting sureties is administered and the impacts (both positive and negative) that the acceptance of these sureties has had on both the utility and the ratepayers.

## RESPONSE

Please see BCOAPO's response to BCUC IR 15.3. Mr. Colton is not aware of any study that has been conducted concerning the "impacts (both positive and negative) that the acceptance of these sureties has had on both the utility and the ratepayers."

- 15.4 Please explain how BC Hydro would verify that the third party providing the surety has the ability to assume responsibility for a household's bill in the event of non-payment.

## RESPONSE

Please see BCOAPO's response to BCUC IR 15.3.

On page 116 (Exhibit C2-12, PDF page 121/341) of Mr. Colton's direct testimony, he states: "There is no reason why the qualifications of a surety for a utility bill should be any more stringent than the qualifications of a surety for any other type of consumer credit."

- 15.5 Please provide examples of the "other types of consumer credit" referenced in the preamble above which accept sureties.

## RESPONSE

From Mr. Colton's experience as long-time Chair of the Board of Directors of a non-profit housing developer, he is most familiar with guarantors for rent and mortgages. He has not undertaken a comprehensive study of all types of consumer credit which accepts guarantors.

15.5.1 Please list and explain the qualifications that are required by other types of consumer credit when accepting a surety.

## RESPONSE

Mr. Colton's Direct Testimony addresses what qualifications are *not* required. For example, a landlord accepting a guarantor in lieu of a deposit does not necessarily require the guarantor to be a tenant of the same landlord. A mortgage holder that accepts a guarantor does not necessarily require the guarantor to be a mortgage holder at the same financial institution. Neither does a landlord or mortgage holder necessarily require a guarantor to be the same class of customer as the person for whom a guarantee is provided.

### **16.0 Reference: Exhibit C2-12, Colton Evidence, Part 4 Terms and Conditions, pp. 117-121 Implement specific practices and procedures**

On pages 120 and 121 of Mr. Colton's direct testimony, he recommends that BC Hydro "undertake a customer segmentation study that is specifically directed toward characterizing patterns of nonpayment; identifying the characteristics of nonpayers; identifying predictors of nonpayment; and identifying early indicators of nonpayment."

16.1 Based on Mr. Colton's experience with customer segmentation studies and taking into consideration his recommendations for BC Hydro described on pages 120 and 121 of his direct testimony, please provide a detailed discussion of the time and resources that would be required for BC Hydro to undertake the recommended customer segmentation study. Please provide support for these estimates and explain all assumptions made.

## RESPONSE

A segmentation study using internal utility data could be done for less than \$250,000 in less than six months. A segmentation study using internal utility data and externally-generated demographic data could be undertaken for less than \$500,000 and less than one year. These estimates are based on Mr. Colton's experience both in performing evaluations using internal utility data and his familiarity with studies using externally-generated demographic survey data.

16.2 Please provide examples of other Canadian utilities which have performed

similar customer segmentation studies.

## RESPONSE

Mr. Colton has not undertaken a study of which Canadian utilities, if any have undertaken similar customer segmentation studies. For one example of a utility segmentation study, see Philadelphia Gas Works, "Customer Segmentation Analysis – Final Analysis & Recommendations." (2005). Available at: [http://bcpiac.com/wp-content/uploads/2016/06/PGW\\_Segmentation-full-report\\_August-2005.pdf](http://bcpiac.com/wp-content/uploads/2016/06/PGW_Segmentation-full-report_August-2005.pdf)

For an executive summary of this presentation, see Philadelphia Gas Works, "Customer Segmentation Analysis – Executive Summary." (2005). Available at: [http://bcpiac.com/wp-content/uploads/2016/06/PGW\\_Segmentation-exec-summary\\_August-2005.pdf](http://bcpiac.com/wp-content/uploads/2016/06/PGW_Segmentation-exec-summary_August-2005.pdf)

See also Ron Grosse, "Win-Win Alternatives for Credit and Collection." (Green Bay, WI: Public Service Corporation, 1995). Available at: [http://bcpiac.com/wp-content/uploads/2016/06/Grosse\\_Win-Win-Collectons\\_August-1997.pdf](http://bcpiac.com/wp-content/uploads/2016/06/Grosse_Win-Win-Collectons_August-1997.pdf), also cited in BCOAPO response to CEC IR 18.1.

## B. EXPERT EVIDENCE AND BCOAPO'S POSITION

### 17.0 Reference: **Exhibit C2-12, Colton Evidence, Part 1, pp. 7, 13; Terasen Gas Inc. [now FortisBC Energy Inc. (FEI)], 2004 Market-based commodity rates Order G-64-04, Appendix A, p. 10** **Essential services rate: Problem definition**

Mr. Colton, on behalf of BCOAPO, states on page 13 of Exhibit C2-12: "[The proposal for an Essential Services usage block] is a mechanism through which BC Hydro can simultaneously address affordability concerns, improve cost reflectivity in rates, and improve the efficiency of its operations and reduce overall operating costs" and on page 7: "The Company readily concedes that low usage is associated with greater non-responsiveness to price changes."

The Commission states on page 10 of Appendix A to Order G-64-04: "Including a Bad Debt charge in the Gas Management Fee ... is therefore an effective risk management strategy."

17.1 Please explain, for each item listed below, whether BCOAPO considers it to be a key driver of the essential services usage block proposal:

- to address the problem of affordability;
- to improve cost reflectivity in rates;
- to address 'greater non-responsiveness of price changes for low use customers'. If yes, please explain why this is not already adequately addressed through the Residential Including Block (RIB) rate;

- to address greater non-responsiveness of ‘low-income high use’ customers compared to other high-use customers. If yes, please explain why the proposed rate appears to target all low-income users rather than just ‘low-income/high use’ customers; and
- to reduce BC Hydro bad debts by reducing the bills of a customer segment with above average bad debts. If yes, please explain whether this approach is an effective risk management strategy for a utility.

## RESPONSE

Key drivers of the Essential Services Usage Block proposal include addressing affordability, improving cost-reflectivity, and improving the effectiveness and efficiency of BC Hydro’s operations. The first two bullets stated above, therefore, are “key drivers” of the Essential Services Usage Block proposal. The “greater non-responsiveness of price changes for low use customers,” or for “low-income high use customers,” is not a consideration. Mr. Colton has explained elsewhere why price signals are largely ineffective for low income customers; see, for example:

- Roger Colton, *Home Energy Affordability in Manitoba: A Low-Income Affordability Program for Manitoba Hydro*, online: Green Action Centre <http://greenactioncentre.ca/wp-content/uploads/2011/01/Home-Energy-Affordability-in-Manitoba-A-Low-Income-Affordability-Program-for-Manitoba-Hydro.pdf>
- Roger Colton, “Client Consumption Patterns within an Income-Based Energy Assistance Program” (1990) 24:4 *Journal of Economic Issues* 1079. (Available at [http://bcpiac.com/wp-content/uploads/2016/06/Colton\\_1990\\_EAP\\_Usage\\_Patterns.pdf](http://bcpiac.com/wp-content/uploads/2016/06/Colton_1990_EAP_Usage_Patterns.pdf))
- Roger Colton, *Water Bill Affordability for the City of Philadelphia*, online: City of Philadelphia <http://www.phila.gov/water/rateboard/PDF/CityInformationRequestsSet%201.pdf>

The Essential Services Usage Block, particularly when the synergistic effects of the BCOAPO’s proposed low income DSM and low income Terms and Conditions are also taken into account, will improve the efficiency and effectiveness of BC Hydro collections (and thus reduce bad debt). The objective is not to reduce bad debt. The reduction of bad debt is a metric by which the improved effectiveness and efficiency of collections can be measured. See also BCOAPO’s response to BC Hydro’s IR 19.2 – Attachment 1.

**18.0 Reference: BC Gas Utility Ltd. (now FEI) 1993 Phase B rate design decision G-101-93, p. 24; Terasen Utilities (now FEI) final submission on the 2008 BC Hydro residential inclining block (RIB) proceeding, pp. 7, 8; BC Hydro 2008 RIB Decision G-124-08, pp. 32, 33  
Essential services rate: Affordability – Commission jurisdiction**

The Commission stated on page 24 of the 1993 BC Gas Utility Ltd. Phase B Rate Design Decision (G-101-93): “Also, the Commission notes that the [Consumers’ Association of Canada (B.C. Branch) et al], representing some of the social groups most likely to benefit, did not advocate inverted rates as a means of subsidizing low consumption customers. The Commission is generally of the belief that decisions about income distribution are best left to elected representatives.”

Terasen Utilities’ (now FEI) Submission on the BC Hydro 2008 RIB Application stated on pages 7, 8:

As summarized in the headnote to *Prince George Gas v. Inland Natural Gas*, a 1956 decision of the British Columbia Court of Appeal (copy attached) to which BCOAPO did not refer:

A requirement that one group of consumers contribute to the overall costs of a public utility system serving them and others does not, per se, constitute a subsidy; that depends on the circumstances. In so far as those costs fairly constitute part of the cost of providing service to the consumers they may be a proper element in the rates those consumers are called upon to pay; the fact that such contribution to those costs may reduce the rates of other consumers does not make it a subsidy. However, in that case the benefit to the other consumers is not the specific purpose of the contribution, but the incidental result flowing from a proper rate based upon the cost of service. On the other hand, that contribution becomes a subsidy if its specific purpose is to benefit other consumers without regard to the extent those costs properly enter into the cost of serving the contributing customers. ...

... To be clear, the reason lifeline rates are impermissible in British Columbia is not because they are not cost-based, but rather because they have as their purpose creating a cross-subsidy within the residential class. The Commission observed in the December 11, 1987 *Inland Gas* decision that the Commission can consider “a variety of factors which the Commission considers relevant, not only cost of service:”

The Commission finds that, so long as departures from cost-based rates are based on evidence other than solely a desire to

implement a policy of subsidizing one class of customers at the expense of another, it cannot be said that those rates are not just, reasonable and not unduly discriminatory. (pp. 17-18)

On pages 32 and 33 of the Commission Reasons for Decision to Order G-124-08 on the BC Hydro 2008 RIB Application, the Commission stated: “The Commission Panel has determined that it is unnecessary for it to decide the issue at this time because it has concluded that even if it had the jurisdiction to do so; it would not exercise that discretion as part of this Decision. For reasons that are set out in Section 4.2.4, the Commission Panel finds that the vast majority of BC Hydro’s low-income customers will be better off under a simple two-step inclining block structure that is revenue neutral for the residential customer class than under the current flat rate structure.”

18.1 Does BCOAPO consider that the specific purpose of the Essential Service usage block is to provide a subsidy to low income customers? If no, please explain. If yes, please explain whether the 1956 decision of the BC Court of Appeal and the December 11, 1987 Inland Gas Decision referred to by Terasen Utilities in the 2008 BC Hydro RIB proceeding are relevant considerations.

## RESPONSE

No. BCOAPO considers that the specific purposes of the Essential Services Usage Block are to “simultaneously address affordability concerns, improve cost reflectivity in rates, and improve the efficiency of [BC Hydro’s] operations and reduce overall operating costs” (Direct Testimony of Roger Colton at page 13 (Exhibit C2-12, PDF page 18/341)). As Mr. Colton notes in his testimony, affordability is certainly an underlying issue with the provision of an Essential Services Usage Block – he states that “in the absence of an Essential Services usage block, BC Hydro is increasing rates to households for whom service is already unaffordable (as documented by BCOAPO witness Seth Klein); who lack the ability to mitigate those rate increases through usage reduction; and who are facing the higher rates even though they impose lower costs on the Company” (Direct Testimony of Roger Colton, page 13 (Exhibit C2-12, PDF page 18/341)).

Providing a discounted rate to low income customers in the form of the Essential Services Usage Block is one method in which BCOAPO proposes those purposes might be achieved.

Notwithstanding the above, BCOAPO acknowledges that it is open to parties to cite the 1956 decision of the BC Court of Appeal and the December 11, 1987 Inland Gas Decision; however, in our view, these decisions are quite dated, and were not made in consideration of the current context of increasing BC Hydro rates, and a lack of corresponding increases in income for those with the lowest incomes in the province. Whether rates are just, reasonable and not unduly discriminatory is a “question of mixed law and fact” – questions of mixed law and fact are questions about whether the facts

satisfy the legal tests (*Canada (Director of Investigation and Research) v. Southam Inc.*, [1997] 1 S.C.R. 748 at para. 35). Analysis of whether discrimination in rates is “undue”, for example, requires application to the current factual context. BCOAPO also notes that while previous Commission decisions may be cited, they are not binding on the Panel in this proceeding.

- 18.2 Does BCOAPO disagree with the Commission’s determination in Decision G-101-93 that “decisions about income distribution are best left to elected representatives”? Please explain why/why not.

## RESPONSE

BCOAPO agrees that elected representatives could address issues of income distribution through a variety of means. With specific regard to electricity affordability issues, the current government has shown no inclination to acknowledge or address these problems, and Honorable Minister of Energy and Mines Bill Bennett has consistently responded to questions about energy affordability by stating that BC Hydro’s rates, as the third lowest in North America, are already affordable.

While the provincial government could take steps to address electricity affordability issues, the BC Utilities Commission also has the jurisdiction to address these issues as they are empowered to look at whether rates are just, reasonable and not unduly discriminatory.

The reasons for decision at p.24 actually read as follows:

### 4.4.2 Inverted Rates

The Commission agrees with Dr. Watkins' description of the two possible justifications for inverted rates, these being rising costs and income distribution.

While it has generally been recognized that natural gas prices may be below long-run replacement cost, there is considerable uncertainty about the shape of the long-run cost curve for natural gas. It is increasingly suggested that with the exception of short-term corrections, the production cost of natural gas in North America will not rise significantly for many years, even with dramatic increases in consumption.

This argument implies that inverted block rates may not be appropriate, if the goal is to provide a signal for long-run economic efficiency. However, if the natural gas price were to include not-yet-internalized environmental costs, the issue becomes complicated. Depending on how natural gas compares with alternatives (such as efficiency and/or fuel substitutes), there may or may not be justification for inverted rates.

Also, the Commission notes that the CACBC, representing some of the social groups most likely to benefit, did not advocate inverted rates as a means of subsidizing low consumption customers. The Commission is generally of the

belief that decisions about income distribution are best left to elected representatives.

[Emphasis added]

18.3 Does BCOAPO disagree with the Commission's determination on page 32 of the Reasons for Decision to Order G-124-08 that, even if the Commission has justification to approve differentiated or reduced rates for low-income residential customers, it should not do so as the RIB rate benefits the vast majority of BC Hydro's low-income customers? Please explain why/why not.

## RESPONSE

In BC Hydro's 2008 Residential Inclining Block (RIB) application, which resulted in Commission Order G-124-08 and the Reasons for Decision, and the implementation of the current two-step inclining block structure, BCOAPO made submissions on establishing a "lifeline" rate for BC Hydro's residential ratepayers, arguing both that the Commission had the jurisdiction to consider a lifeline rate and that it should exercise its jurisdiction to do so. In its decision, the Commission Panel held that it did not need to decide whether it had the jurisdiction to implement a lifeline rate, because even if it had the jurisdiction to do so, it would not exercise that discretion at that time (Reasons for Decision to Order G-124-08, September 24, 2008, at page 32).

As noted in the question above, the Commission's reason for this decision was that the vast majority of BC Hydro's low-income customers would experience some rate relief from the two-block rate structure (Reasons for Decision to Order G-124-08, September 24, 2008, p.33). That decision was made in a particular factual context, with reference to then current data. Since that time, electricity prices have continued to increase, without a corresponding increase in income for low income customers. The Commission's analysis of whether a discounted rate for low income customers is now warranted requires application to the current factual context.

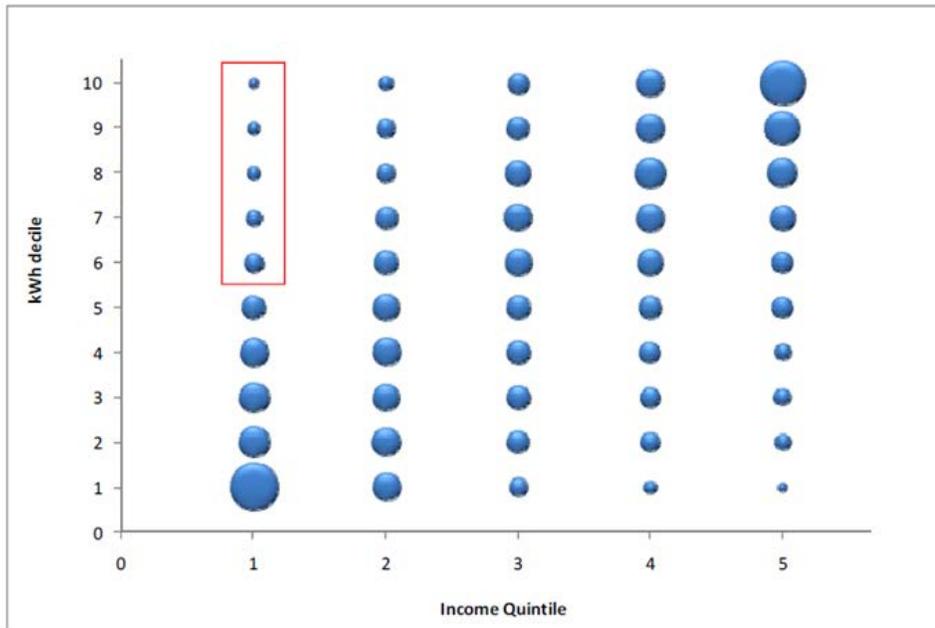
**19.0 Reference: Centre of Sustainable Energy, Understanding 'High Use Low Income' Energy Consumers, 2010, pp. 9, 13;<sup>1</sup> Exhibit C2-12, Part 3, p. 48  
Essential services rate: Affordability – high use/low income customers**

A 2010 UK report by the Centre of Sustainable Energy titled 'Understanding 'High Use Low Income' Energy Consumers' (2010 UK Report) includes the following chart (Figure 6) on page 9:

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<sup>1</sup> Vicki White, Simon Roberts and Ian Preston, *Understanding 'High Use Low Income' Energy Consumers*, online: Centre for Sustainable Energy [https://www.cse.org.uk/downloads/reports-and-publications/policy/energy-justice/understanding\\_high\\_use\\_low\\_income\\_energy\\_consumers.pdf](https://www.cse.org.uk/downloads/reports-and-publications/policy/energy-justice/understanding_high_use_low_income_energy_consumers.pdf)

Figure 6. Distribution of households by income quintile and energy consumption decile (width of bubbles represents (weighted) number of households)



Mr. Colton, on behalf of BCOAPO, submits on page 48 of Exhibit C2-12: “My experience has allowed me to identify at least the following “market barriers” that disproportionately impede the installation of energy efficiency measures by low income households: ...”.

- 19.1 Does BCOAPO consider that a distribution of households by income and energy consumption in BC would be expected to be directionally consistent with the results shown in Figure 6 of the 2010 UK report? Please explain.

## RESPONSE

BCOAPO would expect electricity consumption in BC to be directionally consistent with Figure 6 (page 9) of the cited UK report. A greater proportion of low income households would fall into increasingly lower deciles of consumption (kWh). This “directional consistency” is expected notwithstanding the fact that the UK report warns that “...consumption values should be treated with some caution” (Centre for Sustainable Energy, at 3). In agreeing that “directional consistency” could reasonably be expected, BCOAPO does not agree with the Center for Sustainable Energy’s use of “disposable income” (Centre for Sustainable Income, at 5) as the appropriate measure of “being poor.” Neither does BCOAPO’s agreement of a reasonable expectation of “directional consistency” indicate agreement that an appropriate definition of “low income” status is households with income at or below 60% of median income (Centre for Sustainable Energy, at 5) BCOAPO does not necessarily agree that the Centre for Sustainable Energy’s data is applicable to British Columbia. For example, the UK Report notes that “gas central heating, and indeed access to gas at all, is less common in the lower

income deciles, hence gas consumption for a large proportion of these households is zero. It follows that a reliance on electricity for heating is more common among lower income households, hence increasing the average consumption of this fuel to nearer that of the higher income deciles.” (Centre for Sustainable Energy, at 7). The “directional consistency” that BCOAPO agrees could reasonably be expected is perhaps more clearly illustrated in Figure 7 (page 10) of the Centre for Sustainable Energy report. BCOAPO notes that the data in neither Figure 6 nor Figure 7 have been “equivalised” as defined by the Centre for Sustainable Energy (Centre for Sustainable Energy, at Annex 4). As can be seen, the “directional consistency” with which BCOAPO is agreeing is narrow, heavily nuanced, and significantly limited.

19.1.1 Does BCOAPO consider that, from an affordability perspective, the key focus when reviewing the effect of the RIB rate on low-income customers should be on those low-income customers outlined in red on Figure 6 of the 2010 UK report (i.e., high use low-income)? If no, please explain why not.

## RESPONSE

The Essential Services Usage Block rate is not a program that was designed with affordability as its sole “key” focus. If BCOAPO were designing a program with improved affordability as its key focus, it would focus on households with a high home energy burden as a percentage of income. Households with a high home energy burden as a percentage of income could include either customers with higher use and somewhat higher incomes or customers with lower use and lower incomes. An examination of the RIB rate (without consideration of the Essential Services Usage Block) should consider high use, low income customers to the extent that the RIB imposes a substantial additional burden on those customers. One question presented by such consideration would involve whether the number of high use, low income customers exceeds the capacity of low income DSM programs to serve. In contrast, as described in Mr. Colton’s Direct Testimony, adoption of the Essential Services Usage Block would not impose an unreasonable burden, even on high use customers.

19.2 Does BCOAPO consider that low-income/high use customers are less likely to respond to the RIB rate and Demand Side Management (DSM) programs (relative to other high use residential customers) by making efficient investment decisions? Please explain.

## RESPONSE

BCOAPO believes that low income/high use customers are less likely to respond to the RIB rate (relative to other high use residential customers). The ineffectiveness of using utility bills to convey “price signals” to low income customers was described in detail in the following:

- Roger Colton, *Home Energy Affordability in Manitoba: A Low-Income Affordability Program for Manitoba Hydro*, online: Fisher, Sheehan & Colton

Public Finance & General Economics <http://greenactioncentre.ca/wp-content/uploads/2011/01/Home-Energy-Affordability-in-Manitoba-A-Low-Income-Affordability-Program-for-Manitoba-Hydro.pdf>

- Roger Colton, “Client Consumption Patterns within an Income-Based Energy Assistance Program” (1990) 24:4 Journal of Economic Issues 1079. (Available at [http://bcpiac.com/wp-content/uploads/2016/06/Colton\\_1990\\_EAP\\_Usage\\_Patterns.pdf](http://bcpiac.com/wp-content/uploads/2016/06/Colton_1990_EAP_Usage_Patterns.pdf))
- Roger Colton, *Water Bill Affordability for the City of Philadelphia*, online: City of Philadelphia <http://www.phila.gov/water/rateboard/PDF/CityInformationRequestsSet%201.pdf>

For all the reasons stated in Mr. Colton’s Direct Testimony (page 46, line 27 through page 51, line 23 (Exhibit C2-12, PDF pages 51-56/341)), BCOAPO further believes that low income/high use customers are less likely to respond to residential (i.e., non-low income) DSM programs. In this regard, Mr. Colton’s Direct Testimony explains in detail the reasons why, as BC Hydro itself agrees, low income customers are unable to invest in energy efficiency measures without external assistance.

19.2.1 Does BCOAPO consider that the RIB rate structure has a greater risk in that low-income/high use customers may behave inefficiently due to the tendency to under-heat homes relative to other high use customers? Please explain.

## RESPONSE

No. For the reasons explained in its response to BCUC IR 19.2, BCOAPO does not believe that utility bills are an effective mechanism through which to provide “price signals” to low income customers regarding electricity consumption.

19.2.2 Does BCOAPO consider that the essential services usage block proposal effectively targets any potential RIB efficiency concerns identified above for the low-income/high use customer segment? Please explain.

## RESPONSE

For the reasons explained in its response to BCUC IR 19.2, BCOAPO does not believe that utility bills are an effective mechanism through which to provide “price signals” to low income customers regarding electricity consumption. The Essential Services Usage Block addresses “efficiency concerns” not in terms of usage, but rather in the terms of the billing and collection of revenue.

**20.0 Reference: Exhibit C2-12, Colton Evidence, p. 61; Hydro Amendment to RS 1289 2014 Decision, G-104-14, p. 14; BC Hydro RIB rate report proceeding, 2016, Exhibit A-9, pp. 3-5, Exhibit A-10, p.1; FBC DSM Decision G-186-14, p. 16  
Essential services rate: Affordability – DSM**

The Commission stated on page 14 of the BC Hydro 2014 Decision on the Amendment to RS 1289 Net Metering Service: "... the Panel considers the Commission would be in a better position to make a determination of the benefit of [RS 1289 rate design changes] after the evaluation of the impact of the micro-SOP and its integration with the SOP and RS 1289 DG programmes."

In Exhibit A-9, pages 3 to 5 of the BCUC RIB rate report proceeding, the Commission described the Minister's questions the report will address, including: "What evidence is available about factors that lead to high energy use and, therefore, bill impacts for customers without access to natural gas, including low income customers" and "What is the potential for existing Demand Side Management programs to mitigate these impacts?" Exhibit A-10 set the report deadline as August 5, 2016.

In the 2015-2016 FortisBC Inc. (FBC) DSM Decision on pages, the Commission stated on page 16: "...the Commission Panel agrees with the DSM focus on effectiveness and balance ...:

- effectiveness - consideration of [utility cost test (UCT)] results, addressing 'lost opportunities' (e.g., new construction) and maintaining a level of customer and trades engagement; and
- balance - providing broad opportunities for customers to participate, in particular for 'hard to reach' customers such as low income groups and renters."

Mr. Colton states on page 61 of Exhibit C2-12 (PDF page 66/341): "I recommend that in this proceeding, the Commission direct BC Hydro to make certain minimum DSM service level guarantees for low income customers."

- 20.1 Does BCOAPO consider that options to address low-income affordability concerns arising from the RIB rate include (i) rate design changes and (ii) DSM? Please explain.

## **RESPONSE**

Neither BCOAPO's proposed rate design changes nor its DSM proposals are proffered exclusively for the purpose of "address(ing) low income affordability concerns."

- 20.2 Does BCOAPO consider that the Commission would be in a better position to make a determination on the benefit of a rate change to address low-income affordability concerns arising from the RIB rate after the evaluation

of (i) the utility reports filed in the BCUC RIB rate report proceeding and/or (ii) BC Hydro's next section 44.2 DSM Expenditure Schedule filing? If no, please explain.

## RESPONSE

No. The Company's forthcoming RIB report is not designed to address the reasons Mr. Colton advances for seeking the proposed minimum service guarantee. The information and data presented in Mr. Colton's Direct Testimony supports the following conclusions:

"First, BC Hydro is under-performing on providing DSM services to its low-income population. Second, BC Hydro has failed to undertake those reasonable efforts that would allow the Company to improve its performance. Third, by under-performing with low-income DSM in particular, the Company is failing to use all reasonable and available resources to help low-income customers respond to the increased bills those low-income customers will face over time. Fourth, in the absence of reasonable BC Hydro expenditures on low-income DSM, low-income customers are effectively shut out of the market for responding to increased rates. This result is true both for market-based usage reduction measures and for energy efficiency investments that BC Hydro directs toward residential customers generally" (Direct Testimony of Roger Colton at page 60 (Exhibit C2-12, PDF page 65/341)).

The RIB rate report will not address this information, nor will it address these conclusions. Moreover, BCOAPO specifically defers the appropriate questions—the design and funding of low income programs—to the Company's DSM design proceeding.

20.3 Please explain how a request to make certain minimum DSM service level guarantees for low-income customers is within scope of a rate design application. Specifically, does BCOAPO consider that this request is more appropriately addressed in BC Hydro's long-term resource plan and/or a section 44.2 DSM Expenditure Schedule filing?

## RESPONSE

Mr. Colton addressed the extent to which his DSM proposals are within the scope of this proceeding in his Direct Testimony, page 45, lines 10-19 (Exhibit C2-12, PDF page 50/341). See also BCOAPO response to BC Hydro IR 17.1 to 17.3 and 18.1.

**21.0 Reference: Exhibit C2-12, Colton Evidence, Part 1, pp. 8, 13; BC Hydro RS 3808 proceeding, BCOAPO Final Submission, p. 10; BC Hydro RIB rate report proceeding, 2016, Exhibit A-9, p. 3 Essential services rate: Cost causation justification**

Mr. Colton states on page 8 of Exhibit C2-13: "Low-use customers ... make a lower contribution to the Company's peak demand ..." and on page 13 "[The

proposal] is a mechanism through which BC Hydro can ... improve cost reflectivity in rates ...”.

BCOAPO stated on page 10 of its Final Submission on BC Hydro RS 3808: “As BC Hydro has pointed out, it is not unusual (and indeed expected) that some customers within a given customer class will have revenue to cost ratios in excess of the class average and some will have ratios that are below. This is simply the result customers having different load characteristics and can only be avoided if a unique rate is set for each customer. However, this is administratively infeasible. Therefore some variation in revenue to cost ratios for individual customers is acceptable.”

In Exhibit A-9, page 3 of the BCUC RIB rate report proceeding, the Commission described the Minister’s questions the report would address, including: “Do the residential inclining block rates cause a cross-subsidy between customers with and without access to natural gas service?” and stated that “The utilities shall then use both (i) a FACOS approach and (ii) a comparison of average rates to long-run incremental costs approach, to analyze whether the RIB rates cause a cross-subsidy ... ”

- 21.1 Does BCOAPO consider that, while low-use customers may make a lower contribution to the Company’s peak demand, they also pay lower average unit costs for their electricity compared to high-use customers under the RIB rate? Please explain.

## **RESPONSE**

The proposition put forward in the question is not necessarily correct. Based on BC Hydro’s proposed Residential RIB rate average bills will decrease as usage increases up to 675 kWh per month. After this point, average bills will start to increase with usage but usage has to exceed 800 kWh/month before the average bill exceeds that of a Residential customer using 400 kWh/month.

- 21.2 Please explain whether it is BCOAPO’s position that the essential services usage block will improve cost reflectivity in rates for low-use customers. If yes, please explain whether the costs referred to are embedded costs and/or long-run marginal costs.

## **RESPONSE**

BCOAPO notes that for customers who do not qualify as low income, the relationship between usage and average bill/cost is largely that same with the BC Hydro proposal. However for those customer that qualify for the Essential Services Usage Block, the average bill/cost starts to increase after 400 kWh use (vs. the previous 675 kWh) thereby improving cost reflectivity.

The statement regarding “cost reflectivity” was based on the observation (noted in Mr. Colton’s Evidence at page 9) that low use customers tend to have higher load factors

than higher use customers. Thus in situations where costs are attributed on both \$/kWh and \$/kW (based on some measure of peak) customers with lower use will tend to have a lower overall cost/kWh. Since both BC Hydro's marginal costs (per Exhibit B-17, page 9 and BCOAPO 2.243.1) and its embedded cost allocation (per BCOAPO 1.27.1) have a demand-related cost component the statement applies whether the costs are marginal cost or embedded costs.

21.2.1 If BCOAPO is referring to embedded costs, does BCOAPO consider that some variation in revenue-to-cost ratios for individual customers within a customer group is acceptable? Please explain.

## **RESPONSE**

The Evidence was not specifically referring to embedded costs or marginal costs as the comment applies in both cases. Please see the response to BCUC 21.2. As noted in the preamble to the overall question BCOAPO considers some variation in the revenue to cost ratios for individual customers to be inevitable and there, by necessity, acceptable. However, where practical rate design should strive to reduce or eliminate such variation.

21.2.2 Does BCOAPO consider that the Commission would be in a better position to make a determination on whether cost reflectiveness within the residential rate group should focus on embedded costs or long-run marginal costs after the evaluation of the utility reports filed in the BCUC RIB rate report proceeding? If no, please explain.

## **RESPONSE**

The Commission does not have to make a determination on whether cost reflectiveness should focus on embedded or long-run marginal costs in order to determine that an Essential Services Usage Block will improve cost reflectiveness. See the response to BCUC 21.2.

21.3 Is it BCOAPO's position that the (i) revenue: embedded cost ratio and/or (ii) revenue: long-run marginal cost ratio for BC Hydro's low-use customers are higher than the residential class average? Please explain.

## **RESPONSE**

It is BCOAPO's understanding that, based on BC Hydro's proposal, the monthly average bill (i.e., per kWh) for a Residential customer with median usage (744 kWh) will be less than for low use customers (i.e. customers with monthly use of 400 kWh or less). If average cost (marginal or embedded) increases with use then the revenue to cost ratio for low use customer will be higher.

21.3.1 If yes, why is BCOAPO not proposing that the essential services usage block be offered to all low use customers to improve cost reflectiveness in rates?

## RESPONSE

Improving cost-reflectivity is one, but only one consideration. An additional consideration is the fact, documented by Mr. Colton in both his Direct Testimony and in multiple Information Request responses, that providing the Essential Services Usage Block rate will improve the efficiency of BC Hydro operations and will reduce costs. Moreover, one additional attribute of the Essential Services Usage Block rate is that it will improve affordability. Extending the Essential Services Usage Block to all low use customers will not serve each of these objectives in the way that extending it to low income customers will. Finally, one aspect of the Essential Services Usage Block discussed in Mr. Colton's Direct Testimony is to have no more than a reasonable cost impact on higher use customers. Substantially expanding the group of customers to whom the Essential Services Usage Block rate is extended will expand the cost impact on higher use customers.

**22.0 Reference: Exhibit C2-12, Colton's Evidence, Part 1, pp. 26, 27; Exhibit B-1, Section 5.2, p. 5-26; Exhibit B-23, BCUC 2.179.1  
Essential services rate: Alternative options**

BC Hydro states in BCUC 2.179.1 that a RIB rate design with a T1/T2 differential of 60% (Step 1 rate of 7.83¢/kWh and Step 2 rate of 13.07¢/kWh compared to the status quo option of 8.29¢/kWh and 12.43 ¢/kWh respectively) would result in 93% of low-income customers being better off. On page 5-26 of the Application, BC Hydro described three 'three step rate' options, two of which were modelled at the request of BCOAPO.

- 22.1 Please discuss the benefits/disbenefits of BCOAPO's Essential Services rate proposal compared to (i) the option of a 'T1/T2 differential of 60%' discussed in BCUC 2.179.1 and (ii) the three step rate options (A, B and C) described on page 5-26 of the Application.

## RESPONSE

The following Table has bill impacts of the Essential Services Usage Block proposal vs. the alternatives posed. The rates for Step Rate Options A, B and C can be found in Appendix C-3B, page 49 of 609. (Note – for median LI use I'm assuming 440 kWh/month per RDC-1. Median use overall is assumed to be 620 kWh also per RDC-1).

| Alternative   | Benefits (Relative to Colton Proposal)   | Disbenefits (Relative to Colton Proposal)   |
|---------------|--|---|
| BCUC 2.179.1  | - Lower bill for median use non-LI customer  | - Maximum bill impacts higher<br>- Higher bill for median use LI customer<br>- Less cost reflectivity at low use levels |
| Alternative A | -  | - Maximum bill impacts higher<br>- Higher bill for median use LI & non-LI customers                                     |
| Alternative B | - Improve cost reflectivity at low use levels  | - Maximum bill impacts higher<br>- Higher bill for median use LI & non-LI customers                                     |
| Alternative C | - Improved cost reflectivity at low use levels<br>- Lower bill for LI customers at very low use levels | - Maximum bill impacts higher<br>- Higher bill for median use LI & non-LI customers                                     |

22.2 Please update the tables on pages 26 and 27 of Exhibit C2-12 assuming a 100% low-income participation rate.

## RESPONSE

Mr. Colton’s Direct Testimony at page 31, line 20 through page 32, line 1 (Exhibit C2-12, PDF pages 36-37/341), states in relevant part: “While my program cost analysis presented above assumes a 100% take-up rate, I offer that only because I believe it reasonable to disclose the outer limits of costs to the Commission, the Company, and other stakeholders.”

### C. DIRECT TESTIMONY OF SETH KLEIN

#### 23.0 Reference: Exhibit C2-12, Klein Evidence, p. 5 Purpose of Klein’s direct testimony

Mr. Klein states that the purpose of his testimony is to demonstrate the extent and profile of poverty in BC and why many low-income British Columbians experience energy poverty. Also, Mr. Klein states that his testimony seeks to answer the question as to whether rising BC Hydro rates represent a hardship for low-income British Columbians.

23.1 Given the extent of poverty in BC as demonstrated and profiled by Mr. Klein, would it not be a more direct solution to address poverty directly at source through better social services and higher income assistance at the governmental level than through *ad hoc* solutions such as the low-income electricity program as advocated by BCOAPO?

## RESPONSE

It is the responsibility of all public institutions to do what they can to address poverty. BC is the only province in Canada without a comprehensive poverty reduction strategy.

BCOAPO's proposals are not being proposed as solutions to comprehensively address poverty. The proposals put forward in Mr. Colton's testimony recognize that electricity is an essential service, that there is significant income disparity among BC Hydro's residential customers, and that energy pricing should take into consideration the ability to pay. Mr. Colton's testimony also notes that bill affordability is one of several purposes of his proposals – he states that they “simultaneously address affordability concerns, improve cost reflectivity in rates, and improve the efficiency of [BC Hydro's] operations and reduce overall operating costs” (Direct Testimony of Roger Colton at page 13 (Exhibit C2-12, PDF page 18/341)).

BCOAPO disagrees with the Commission's characterization of Mr. Colton's proposals as *ad hoc* solutions. BCOAPO is advocating for (and Mr. Colton recommends) a comprehensive suite of measures to assist low income energy consumers, which have been recognized as important and implemented in Ontario and across the United States. In Ontario, for example, the Ontario Energy Board has implemented the Ontario Electricity Support Program, which provides low income consumers with a monthly on-bill credit to reduce their electricity bill, and the Low-income Energy Assistance Program (LEAP), which includes emergency financial assistance and special rules that utilities have to follow when dealing with customers with limited finances (see Ontario Energy Board, *Help for Low-Income Consumers*, online: Ontario Energy Board <http://www.ontarioenergyboard.ca/OEB/Consumers/Consumer+Protection/Help+for+Low-Income+Energy+Consumers>).

Manitoba Hydro has also recently been directed by the Public Utilities Board to lead a collaborative process with stakeholders “to develop a bill affordability program harmonized with Manitoba Hydro's other programs supporting low-income ratepayers” (see Manitoba Public Utilities Board, Final Order with Respect to Manitoba Hydro's 2014/15 and 2015/16 General Rate Application, page 27, available at: <http://www.pub.gov.mb.ca/pdf/15hydro/73-15.pdf>).

Both Ontario and Manitoba's approaches recognize the impact of higher electricity rates on lower income ratepayers, and the importance of a harmonized, multi-pronged approach to electricity bill affordability issues to ensure access to this essential service. Similarly, coordinated and comprehensive energy assistance programs exist throughout the United States under government-funded programs such as the Low-Income Home Energy Assistance Program (LIHEAP) and through ratepayer-funded programs that supplement LIHEAP.

### **24.0 Reference: Exhibit C2-12, Klein Evidence, pp. 9-12, 37-38 Measuring poverty**

Mr. Klein discusses the merits of various measures of poverty: Low-Income-Cut-

Off (LICO), Low Income Measure (LIM), and Market Basket Measure (MBM). Mr. Klein indicates that MBM is the best measure of poverty. He also identifies other proxy measures of the BC Government, e.g., MSP premium assistance, Rental Assistance Program, and the low-income carbon action tax credit.

24.1 Given the pros and cons among the LICO, LIM and MBM measures of poverty, does Mr. Klein have a strong preference among them for the purposes of establishing a low income threshold for a discounted block of electricity? Please provide reasons in your response.

## RESPONSE

As noted in Mr. Klein's testimony, he prefers the MBM poverty lines, as he thinks they pass a common sense test. The problem, however, as he notes in his testimony, is that the income compared to the MBM is not gross income, but rather the actual income available to purchase core MBM necessities. As such, deductions are made for items such as child care expenses, income taxes, and all mandatory payroll deductions before comparing the family income to the cost of the MBM basket. This makes the MBM a better measure of poverty, but presents challenges when using the MBM as an instrument for the determination of benefits (such as a discounted block of electricity). If BC Hydro is to survey its customers to determine if their income falls below the qualifying threshold for a low income rate or discounted block, people are much more likely to know their *gross* income than their after-tax income. As such, the LICO-before tax thresholds are likely the only practical measure to use for a customer survey. Also, the LICO-BT offers poverty lines for households up to 7 people, whereas the MBM is only calculated for households between 1 and 4 people. Mr. Klein would also note that, despite their methodological differences, in concrete dollar terms, the LICO-BT, the LIM and the MBM all cluster fairly closely.

As testified to by Mr. Colton, to the extent practicable, BCOAPO supports the use of the same (or similar) measures of poverty for determining income eligibility for the Essential Services Usage Block, low income DSM, and low income Terms and Conditions.

24.2 Please discuss the merits of using the other proxy measures of the BC Government programs to be used in preference to the MBM or the other measures of poverty.

## RESPONSE

Of the three government programs discussed (low income carbon tax credit, MSP premium assistance, and the Rental Assistance Program), the one that might work in practice is to grant a BC Hydro low income rate or discounted block to those customers who also qualify for the BC government's low income carbon tax credit. The benefit of the low income carbon tax credit is that people automatically qualify based on their tax returns (like the GST credit), as opposed to having to proactively apply for MSP premium assistance and the Rental Assistance Program. However, Mr. Colton's proposals are based on before-tax LICO, and financial eligibility for the low income

carbon tax credit, MSP Premium Assistance, and the Rental Assistance Program may have higher financial thresholds than before-tax LICO financial thresholds.

As testified to by Mr. Colton, to the extent practicable, BCOAPO supports the use of the same (or similar) measures of poverty for determining income eligibility for the Essential Services Usage Block, low income DSM, and low income Terms and Conditions.

**25.0 Reference: Exhibit C2-12, Klein Evidence, pp. 28-20**  
**Measuring poverty**

Mr. Klein discusses poverty and its correlation with age categories and family type.

25.1 Please describe how these data would inform the Commission in considering the proposals of BCOAPO.

**RESPONSE**

The data provides useful context for who make up BC's low income population.

The data further supports various recommendations, and the foundations for the recommendations, as testified to by Mr. Colton. For example, it supports Mr. Colton's recommendations that BC Hydro engage in a customer segmentation study, BC Hydro adopt new and more flexible policies regarding deferred payment arrangements, BC Hydro adopt new shutoff protections, and that BC Hydro modify its low income DSM program(s).

**26.0 Reference: Exhibit C2-12, Klein Evidence, pp. 31- 34**  
**Measuring poverty**

Mr. Klein states "A report for the Ministry of Energy, Mines and Resources estimated that around 292,000 BC households (18% of total households) were living in energy poverty in 2005 (meaning, a household that spent 10% or more of its after tax income on home energy)."

26.1 Please identify whether (and how) the Ministry has endorsed the report findings in the preamble that 18% of total households live in energy poverty and that 10% of after tax income spent on home energy is the test for energy poverty.

**RESPONSE**

Mr. Klein is unaware of any response from the government. The report in question, by Liz Kelly, is from 2007, and was commissioned by the then BC Ministry of Energy, Mines and Resources.

26.1.1 How does this reconcile with the statement on page 34 that the Minister responsible for BC Hydro has rejected the proposition that

BC Hydro rates pose an energy poverty challenge?

## RESPONSE

This question should be directed to the Minister responsible for BC Hydro.

26.2 On page 32, Mr. Klein asserts that the distribution of energy costs is highly regressive – meaning rising BC Hydro bills do not impact everyone equally. Isn't it true that all basic necessities, for example food, are highly regressive?

## RESPONSE

It is true that many basic necessities, including food, have costs with a regressive distributional impact. This is precisely why, where possible, public institutions should take steps to mitigate this reality. And for some basic necessities such as food, a low income person can purchase lower priced food at a lower cost shop, rather than purchasing food at a higher cost store like Whole Foods Market. Low income BC Hydro ratepayers, by contrast, cannot purchase less expensive electricity from another utility, however, as BC Hydro has a monopoly on residential electricity service in BC Hydro's service territory.

26.2.1 Please describe how this information would help the Commission in considering the proposals of BCOAPO?

## RESPONSE

The Commission does not have jurisdiction to address the regressive nature of all basic necessities, but it does have jurisdiction to address it in the context of BC Hydro's rate design. Electricity is an essential service that all British Columbians need. BC Hydro has a monopoly on electricity service in BC Hydro's service territory. There is no monopoly food provider, there are a range of places that people can purchase or receive food from.

Further, as testified to by Mr. Colton, the proposed Essential Services Usage Block is intended not only to address the regressive nature of energy costs, but intended also to improve cost reflectivity, to improve the efficiency of BC Hydro operations and to reduce BC Hydro costs.

**27.0 Reference: Exhibit C2-12, Klein Evidence, p. 35, footnote 40  
Living Wage declining in 2016**

Mr. Klein notes that:

Interestingly, in 2016, for the first time since developing the methodology for calculating the *Living Wage for Families*, the living wage in Metro Vancouver and other cities will be going down. That is because of the introduction of the new Canada Child Benefit by the federal Trudeau

government; the living wage calculation incorporates the impact of various taxes and tax credits, and because the new CCB will substantially boost the incomes of low and middle-income families with children, the living wage drops in 2016. The new federal government's boost to the Guaranteed Income Supplement for low-income single seniors will also result in a notable drop in the seniors' poverty rate. These positive new federal measures are not a reason for complacency. But they do drive home the value of good policy, showing that well-designed and targeted policies can make a real difference in the lives and affordability of low-income households.

- 27.1 Would it not be more appropriate to tackle low income issues through government policies and programs rather than low income electricity utility rates? Please discuss.

## RESPONSE

Please see BCOAPO's response to BCUC IR.23.1. See also, BCOAPO's responses to CEC IRs 1.2 and 1.4, and BCUC IR 18.2.

### **28.0 Reference: Exhibit C2-12, Klein Evidence, p. 39 Proposed BCUC action**

In his conclusion, Mr. Klein endorses Lee *et al.*'s recommendation that:

**The BC Utilities Commission should actively consider distributional impacts as part of its rate approval decisions.** While we find that BC Hydro's RIB rate has a limited but progressive distributional impact, the ongoing increase in electricity prices, as currently proposed, will adversely impact low-income households.

- 28.1 As an alternative to targeting low income programs, would it be desirable to keep BC Hydro residential Tier 1 rates low and increase the Tier 2 rates? Please discuss the merits of an even steeper inclining block rate structure versus targeting low income rates.

## RESPONSE

BCOAPO believes that keeping Tier 1 rates low and increasing Tier 2 rates can likely be justified on the basis of increasing energy efficiency. The question that should be posed, however, involves what objective (or set of objectives) the Commission and BC Hydro are seeking to accomplish through the rate design. The objective sought by BCOAPO is not simply to pursue low income affordability assistance, though that is clearly one desired objective, but also to increase rate reflectivity, improve the efficiency and effectiveness of utility billing and collection efforts, and to reduce utility costs associated with nonpayment. Increasing Tier 2 rates in order to keep Tier 1 rates lower would not necessarily take these objectives above and beyond low income rate assistance into account.

- 28.2 In Mr. Klein's opinion, does his endorsement of Lee *et al.*'s recommendation imply that the mandate of the BCUC should be expanded to protect low-income customers and implement social policy goals? Please address the jurisdiction of the BCUC in your response.

## RESPONSE

As this question relates to the Commission's jurisdiction, this question is more appropriately directed to Roger Colton and BCOAPO. The main purpose of Mr. Klein's evidence is to describe the extent and profile of poverty in BC, and to provide his opinion on whether low income BC Hydro customers experience energy poverty. The main purpose of Mr. Colton's evidence is to provide low income energy assistance proposals for the Commission to consider as part of BC Hydro's 2015 RDA. Mr. Klein has not reviewed BC Hydro's application, information responses, the Utilities Commission Act, or Mr. Colton's evidence in this proceeding prior to preparing his evidence, and is therefore not familiar with the jurisdiction of the Commission. BCOAPO did not ask Mr. Klein to review these materials as Mr. Colton was reviewing them and BCOAPO was concerned that asking Mr. Klein to do so could result in costs that risked being viewed by the Commission as duplicative and therefore non-recoverable. If the Commission disallows expert witness costs to BCOAPO, BCOAPO has no alternate means to pay our expert witnesses.

The Commission has jurisdiction to order BC Hydro to implement an assistance program for BC Hydro's approximately 170,000 customers who are at or below Statistics Canada's pre-tax LICO.

In BC Hydro's 2008 Residential Inclining Block (RIB) application, which resulted in the implementation of the current two-step inclining block structure, BCOAPO made submissions on establishing a "lifeline" rate for BC Hydro's residential ratepayers, arguing both that the Commission had the jurisdiction to consider a lifeline rate and that it should exercise its jurisdiction to do so. In its decision, the Commission Panel held that it did not need to decide whether it had the jurisdiction to implement a lifeline rate, because even if it had the jurisdiction to do so, it would not exercise that discretion at that time. The Commission's reason for this decision was that the vast majority of BC Hydro's low income customers would experience some rate relief from the two-block rate structure.

Since that time, electricity prices have continued to increase (51% over the last 11 years), but there has not been a corresponding increase in income for low income customers. Over the same period welfare rates have only gone up by \$100 (for a single person) to \$610 a month, and minimum wage has only increased by \$2.45 an hour (Expert Testimony of Seth Klein at A15, pages 24-28 (Exhibit C2-12, PDF pages 278-282/341))

Section 59 of the *Utilities Commission Act* (UCA) essentially states that a public utility such as BC Hydro must not make, demand or receive an unjust, unreasonable, unduly discriminatory or unduly preferential rate for a service provided by it in BC. A rate is

"unjust" or "unreasonable" if the rate is:

- (a) more than a fair and reasonable charge for service of the nature and quality provided by the utility,
- (b) insufficient to yield a fair and reasonable compensation for the service provided by the utility, or a fair and reasonable return on the appraised value of its property, or
- (c) unjust and unreasonable for any other reason.

Section 60 of the UCA states that in setting a rate, the BCUC must

- Must consider all matters that it considers proper and relevant affecting the rate,
- Must have due regard to the setting of a rate that:
  - (i) is not unjust or unreasonable within the meaning of section 59,
  - (ii) provides to the public utility for which the rate is set a fair and reasonable return on any expenditure made by it to reduce energy demands, and
  - (iii) encourages public utilities to increase efficiency, reduce costs and enhance performance,
- May use any mechanism, formula or other method of setting the rate that it considers advisable, and may order that the rate derived from such a mechanism, formula or other method is to remain in effect for a specified period, and
- If the public utility provides more than one class of service, the commission must
  - (i) segregate the various kinds of service into distinct classes of service,
  - (ii) in setting a rate to be charged for the particular service provided, consider each distinct class of service as a self contained unit, and
  - (iii) set a rate for each unit that it considers to be just and reasonable for that unit, without regard to the rates set for any other unit.

Section 38 of the UCA states that a public utility must provide a service to the public that the Commission considers is in all respects adequate, safe, efficient, just and reasonable.

The Commission therefore has jurisdiction to order BC Hydro rates are just and reasonable and not unduly discriminatory or preferential, and must consider all matters

that it considers proper and relevant affecting the rate.

BCOAPO is of the view that if its low income program proposals, whether it is the Essential Services Usage Block, DSM, Crisis Intervention Fund or low income Terms and Conditions, do discriminate and give preference to ratepayers who have incomes at or below LICO, this discrimination and preference is not undue. If the Commission is to order BC Hydro to implement BCOAPO's proposals, the relief that will accrue to low income BC Hydro ratepayers who are struggling to maintain an essential service is significant to those ratepayers but has a very limited cost to other ratepayers. Mr. Colton, in both his testimony and in repeated responses to Information Requests, has demonstrated and documented how a more affordable rate, particularly when combined with low income DSM, the Crisis Intervention Fund and low income Terms and Conditions, is a more cost-effective response to inability-to-pay and resulting nonpayment problems.

As noted above by BCOAPO in response to BCUC IR 1.4, in *Advocacy Centre for Tenants-Ontario v. Ontario Energy Board*, 2008 CanLII 23487 (ON SCDC), the majority of the court found that OEB did have jurisdiction to use "any method or technique it considers appropriate" in approving "just and reasonable rates" under Part III (Gas Regulation), section 36 of the *Ontario Energy Board Act*. The majority found that the OEB did have jurisdiction to consider customers' ability to pay when setting utility rates. The Court said the following in reaching its decision:

[52] We agree that the traditional approach of "cost of service" is the root principle underlying the determination of rates by the Board because that is necessary to meet the fundamental, core objective of balancing the interests of all consumers and the natural monopoly utility in rate/price setting.

[53] However, the Board is authorized to employ "any method or technique that it considers appropriate" to fix "just and reasonable rates." Although "cost of service" is necessarily an underlying fundamental factor and starting point to determining rates, the Board must determine what are "just and reasonable rates" within the context of the objectives set forth in s. 2 of the Act. Objective #2 therein speaks to protecting "the interests of consumers with respect to prices."

The provisions considered in *Advocacy Centre for Tenants-Ontario* were very similar to the wording in the BC Utilities Commission Act, which state that the Commission must consider all matters that it considers proper and relevant affecting the rate, and must have due regard to setting rates that are not unjust or unreasonable within the meaning of section 59, provides BC Hydro with a fair and reasonable return on any expenditure made by it to reduce energy demands, and encourages public utilities to increase efficiency, reduce costs and enhance performance.

On July 24, 2015, the Manitoba Public Utilities Board (PUB) found in Manitoba Hydro's 2014/15 and 2015/16 General Rate Application that it had the jurisdiction to order bill assistance for low income Manitoba Hydro residential ratepayers (see Manitoba Public Utilities Board, Final Order with Respect to Manitoba Hydro's 2014/15 and 2015/16

Rather than implementing a specific bill affordability program, the PUB ordered Manitoba Hydro to initiate a collaborative process to develop such a program. In making this order, the PUB recognized that “Manitoba Hydro is currently offering ratepayers some relief through its Demand-Side Management (DSM) program, including the Affordable Energy Program (AEP)...but it is prudent to recognize that bill affordability will become a more pressing issue in the years to come and that some additional measures may be required.” (page 25). The PUB’s key findings regarding the bill affordability program are set out below:

“The Board recognizes that higher electricity rates will have an impact on lower income ratepayers. This is a particular concern with respect to all-electric customers, many of whom live in areas in which natural gas is not available as an alternative heating source.” (page 27)

“The Board has been asked to consider establishing a bill assistance program before, notably in Order 116/08, in which the Board required Manitoba Hydro to propose such a program for approval. In Order 116/08, the Board concluded that it has jurisdiction to order the implementation of a bill affordability program. This remains the Board's view. However, the Board notes that at this time, it is not ordering such a program to be established and the collaborative process should not be limited to the consideration of special lower income rates. From a policy perspective, there may well be better solutions that have not been proposed to date. Furthermore, the optimal solution may well involve a portfolio of measures rather than a single measure. However, the idea of lower income rates should not be discarded upfront due to jurisdictional concerns.” (page 28)

“The Board interprets section 39(1) of The Manitoba Hydro Act to require the aggregate price of power realized by Manitoba Hydro to be such as to achieve full cost recovery, subject to the requirement that such rates must be just and reasonable. This is illustrated by several examples:

- The power from historical generating stations is currently being sold for significantly more than the actual cost to generate, while power from new generating stations is sold for significantly less than the cost to generate. Rates are set based on Manitoba Hydro's aggregate revenue requirement, not the cost attributable to individual stations.
- While Manitoba Hydro exports some power (primarily firm power) at prices higher than the average cost to generate, it also sells opportunity power for less than the average cost to generate, attributing no fixed costs to such power.
- Certain classes of customers, such as existing Curtailable Rate Program customers, achieve benefits not available to other customer classes or customers in the same class.

The Board does not read the legislative requirement for "postage stamp" rates to prohibit the creation of a lower income customer class, provided that no geographic limitations are imposed on such a class. Similarly, while subsection 43(3) prevents the commingling of government funds with Manitoba Hydro funds, it does not prohibit the creation of a rate class that pays less than the average cost to serve such customers.

The Board notes that while Manitoba Hydro is regulated on a cost of service basis, section 26(4) of The Crown Corporations Public Review and Accountability Act specifically authorizes the Board to consider "any compelling policy considerations that the Board considers relevant to the matter." In that respect, the Board's jurisdiction is similarly broad as that of the Ontario Energy Board pursuant to The Ontario Energy Board Act, 1998. Subsection 26(3) of The Crown Corporations Public Review and Accountability Act further stipulates that The Public Utilities Board Act applies with any necessary changes to the Board's rate-setting mandate. As such, rates are not only required to meet the requirements of subsection 39(1) of The Manitoba Hydro Act but must also be "just and reasonable." In the Board's view, affordability is a factor to consider when setting just and reasonable rates.

As such, it is the Board's intention to evaluate any future proposals for bill assistance programs from a comprehensive policy perspective rather than through the lens of jurisdictional constraints, provided that such proposals fall within the legislative framework set by The Manitoba Hydro Act, The Crown Corporations Public Review and Accountability Act, and The Public Utilities Board Act." (pages 28-30)

Manitoba's PUB has ordered the development of a bill affordability program despite that their residential electricity rates are lower than BC Hydro's.

As the results in other jurisdictions show, the concepts of low income energy assistance programs are not new. Given rising energy costs, the affordability crisis many currently face will only deepen.

# Business Case for Improving Low-Income Services: BC Hydro

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## Business Case for Low-Income Services: Cost-Benefit vs. Cost-Effectiveness

Cost-effectiveness analysis is used to identify the most cost-effective option for achieving a set of defined objectives. Cost-effectiveness analysis is used to ensure the efficient use of resources in instances where benefits are difficult to monetarily value; when the information required is difficult to determine; or in any other cases where an attempt to make a precise monetary measurement of benefits would be tricky or open to considerable dispute.

While cost-effectiveness is related to cost-benefit analysis in that it is one of the four mechanisms for economic appraisal, it differs from cost-benefit analysis in that cost-benefit analysis is used *only* to address those types of alternatives where the outcomes can be measured in monetary terms.

The purpose of cost-effectiveness analysis is to assess whether an intervention provides value for money. Cost-effectiveness analysis is used to determine which of a set of alternative activities achieves the greatest outcome for the costs expended. (See e.g., Laurent Dobuzinskis, et al. (ed.). Policy Analysis in Canada: The State of the Art, Institute of Public Administration of Canada, University of Toronto Press: Toronto (2007).)

## The two sides of cost-effectiveness

There are two flip-sides to cost-effectiveness analysis. On the one hand, cost-effectiveness is used to identify the alternative that, for a given output level, minimizes the cost of achieving the output. On the other hand, cost-effectiveness is used to identify the alternative that, for a given cost, maximizes the level of output. From each perspective, the purpose of cost-effectiveness analysis is to ascertain which intervention (or program or measure, etc.) can achieve particular objectives at the lowest cost. /1/ Both components of the analysis—the extent to which the objectives are achieved, on the one hand, and the cost of achieving on the other hand—are considered. The underlying assumption is that different alternative actions are associated with different costs as well as different results. By choosing those options with the least cost for a given outcome, society can use its resources most effectively. /2/

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/1/ Joseph Wholey, et al. (eds.) *Handbook of Practical Program Evaluation*, 3d ed. (New York: John Wiley & Sons, 2010); Henry Levin and Patrick McEwan (eds.), *Cost-Effectiveness Analysis: Methods and Applications*, 2d ed. (Thousand Oaks (CA): Sage Publications, 2001).

/2/ Cost-effectiveness analysis has always entailed a very practical application. Cost-effectiveness analysis was developed in the 1950s by the United States Department of Defense for assessing the demands of the various branches of the armed services for increasingly costly weapons systems with different levels of performance and overlapping missions. By the 1960s, it had become widely used for analyzing the efficiency of alternative programs outside of the military. Hitch and McKean, *Economic Choice in Military Planning*, at 217, in *Managerial Economics and Operations Research: A Non-Mathematical Introduction*, Edward Mansfield, ed. (New York: W.W. Norton, 1966).

## The Use of Cost-Effectiveness in Making Canadian Regulatory Decisions

Cost-effectiveness analysis is not only an “accepted” technique, it is the *preferred* technique in the circumstances presented by low-income inability-to-pay. As the Treasury Board of Canada stated in its “Canadian Cost-Benefit Analysis Guide: Regulatory Proposals” in 2007: “When benefits cannot be expressed in monetary values in a meaningful way, a cost-effectiveness analysis (“CEA”) should be carried out to assist in making effective decisions. A CEA calculates cost-effectiveness ratios so that the most efficient option is chosen. In a sense, a CEA ensures technical efficiency in the process of achieving a desired outcome.” (emphasis added)./1/

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/1/ “Cost effectiveness analysis evaluates the costs of different means of achieving a pre-determined goal.” Driesen (2005). A significant body of literature exists distinguishing a “cost-effectiveness” analysis from a cost-benefit analysis. See generally, Diana Fuguitt and Shanton Wilcox, Cost-Benefit Analysis for Public Sector Decision Makers, Quorum Books: Westport (CT) (1999).

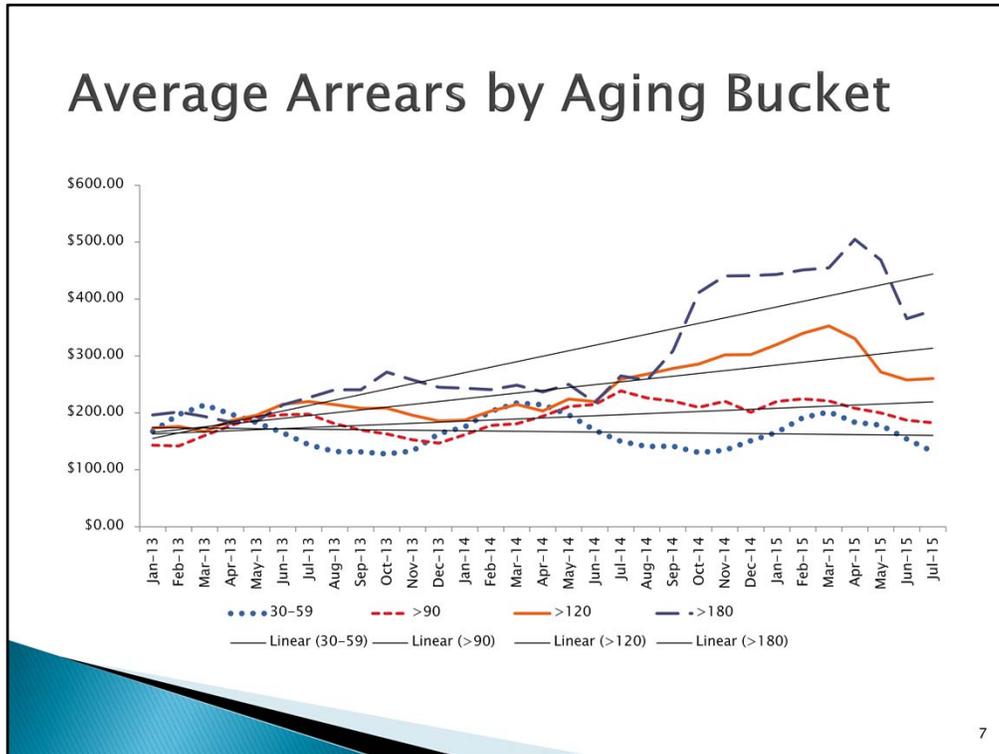
## Cost-effectiveness and utility regulation

All of these observations relate to utility regulation.

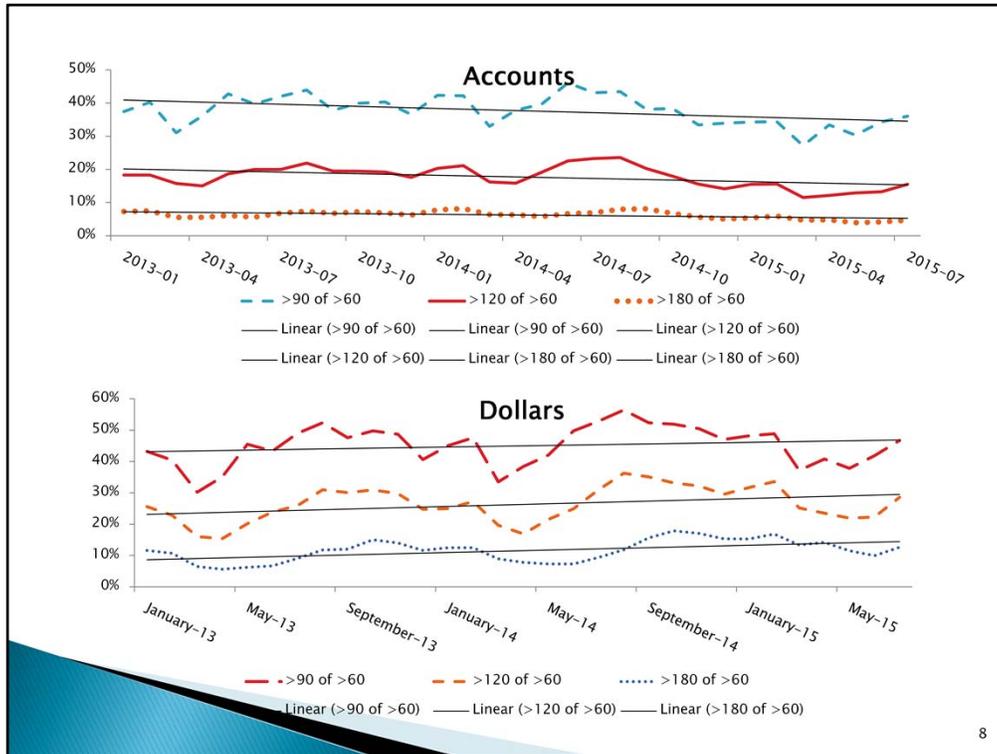
- ▶ One objective of utility regulation is to provide least-cost service, the precise objective which cost-effectiveness is designed to measure.
- ▶ One objective of utility regulation is to achieve the efficient delivery of utility service, the precise objective which cost-effectiveness is designed to measure.
- ▶ One objective of utility regulation is to operate in the most cost-efficient manner to accomplish the desired objectives, the precise objective which cost-effectiveness is designed to measure.

Spending less money to fall short of generating the desired outcome has never been a utility regulatory objective. Cost-effectiveness is explicitly designed to measure costs taking into account the extent to which desired outcomes are achieved.

BC Hydro Current Collections Performance



BC Hydro has a growing arrearage problem amongst its older (and larger) arrears. While arrears in the 30 – 59 day age bucket have been relatively stable in the past three years, arrears older than 90-days are up slightly. Both the “over-120” and “over-180” arrears have grown sharply. The linear trend lines show both the direction and magnitude of the growth in average arrears for each age range.



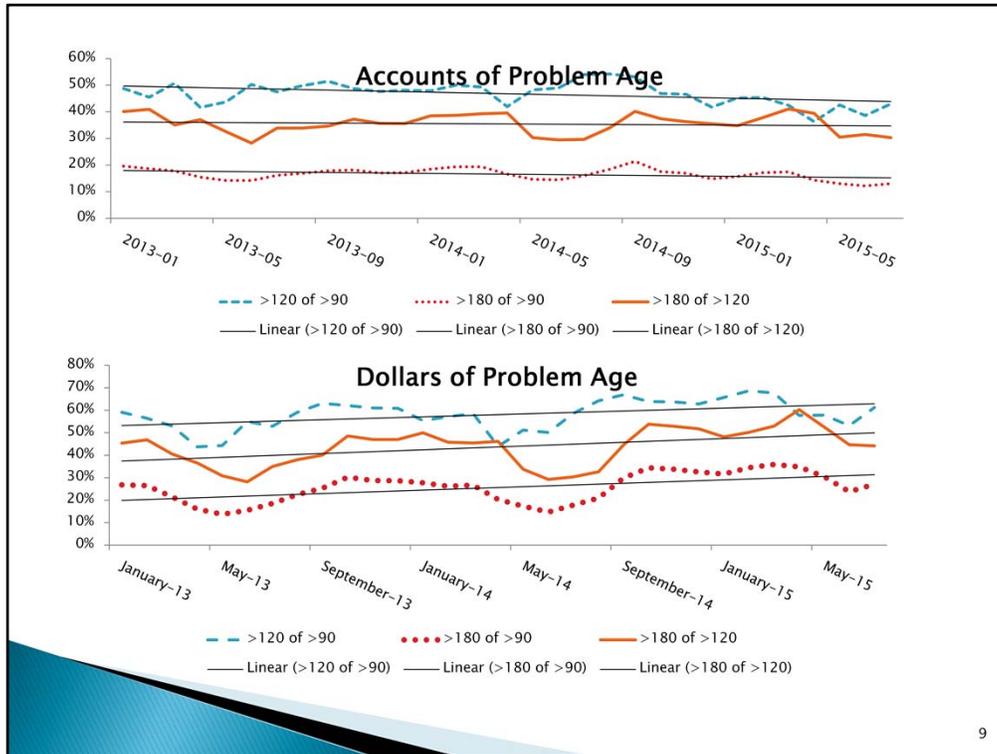
This slide presents the percent of accounts, as well as the percent of dollars, more than 60-days old that are, in fact, more than 90-days, more than 120, and more than 180 days old. The two graphs are important unto themselves, but a comparison of the two sets of data is important as well.

Looking at the percent of accounts over 60-days old in this slide, by whether they are of a problem age (>90, >120, >180), shows several things. Within its population of accounts at least 60-days old, BC Hydro is making modest progress in controlling its younger problem accounts (>90-days old), with a noticeably downward sloping trend line. The number of accounts with older arrears (>120, >180), however, is more irreducible. The relatively flat linear trend lines show that in the past three years, the proportion of arrears more than 60-days old that are, in fact, more than 120-days and more than 180-days old remains relatively constant. These flat trendlines on the number of accounts by age, combined with the sharply increasing average account balance shown on the immediately preceding slide, shows a growing problem.

This data also shows how BC Hydro collection activity is less effective when directed toward a particular population. Even if collection activity affects payment of accounts with arrears in the younger age ranges, there is a somewhat irreducible population for whom collection activity does not affect whether the account gets paid.

Finally, remember that the top graph reports only WHETHER someone is in arrears. An account \$1 in arrears and an account \$100 in arrears are counted the same. It does not

address how far in arrears an account is. That's why the second graph, which looks at dollars in arrears rather than accounts in arrears, by age, presents an important aspect of comparison. Even while the >90-day and >120-day number of accounts is remaining constant (or even somewhat declining), the dollars in those age ranges are increasing. The conclusion is that there are some accounts for whom BC Hydro's existing collection practices are not only not generating paid accounts, but that for this irreducible population (using existing processes), the payment outcomes are declining (as dollar balances increase). When a utility has a steady or declining percentage of accounts in older arrears with an increasing percentage of unpaid balance dollars, that means that there is a population of unpaid accounts that are not effectively being reached by existing processes.



This slide considers data for those accounts (and dollars) that are not only subject to collection (>60-days old), but that begin to show real problem characteristics (i.e., >90-days old means an account has missed three payments). These two graphs show, for problem accounts, the collections impact when a somewhat irreducible group of customers, for whom traditional activities do not “work,” exists on a utility system. Three things are evident from this data.

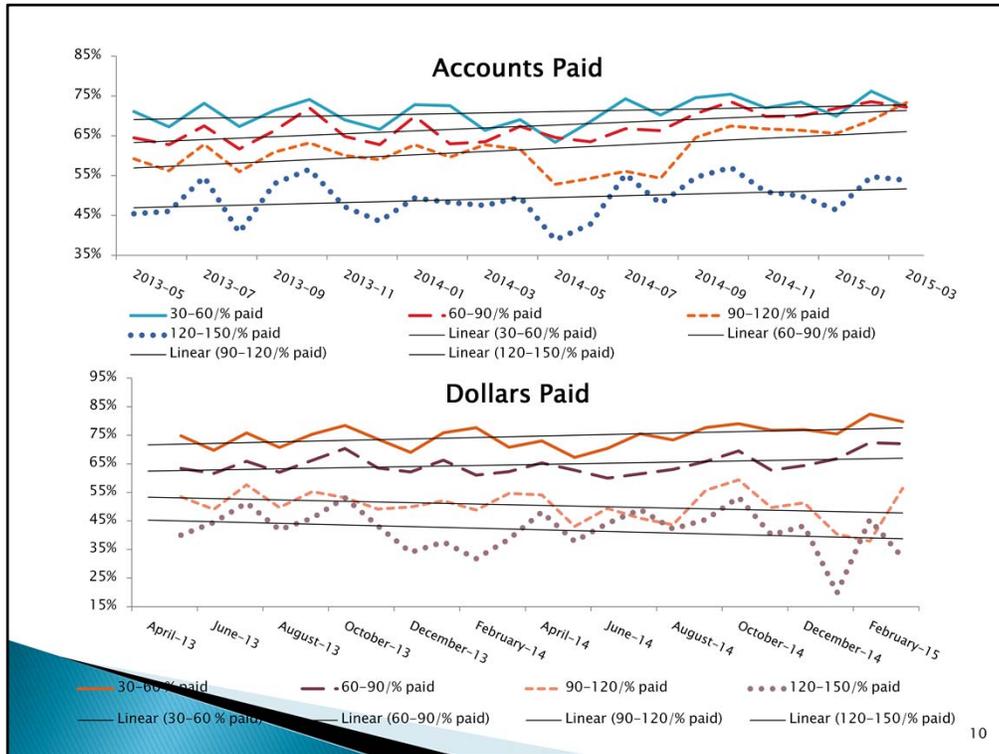
First, BC Hydro has a relatively higher proportion of worrisome dollars than it has of worrisome accounts. While the percentage of problem-age account that are >120-days ranges between 40% and 50%, the percentage of problem-age dollars ranges between 45% and 70%. Similarly, the percentage of problem-age dollars that are very old consistently runs higher than the percentage of problem-age accounts that are very old.

Second, as with the over-60-day arrears, while the trend lines in the number of accounts show a constant (or decreasing) number of accounts that comprise the “problem” arrears (over 90-days), the trend lines in the number of DOLLARS are increasing. What that means is that there exists a group of customers who not only REMAIN in arrears over time, but who are falling further and further behind (since the percent of the total >90-day arrears represented by the very old arrears is increasing).

Third, the fact that traditional collection activities do not “reach” a certain level of accounts is evident, too, in the variations over the percentage of problem account (>90 days). The ratio of the maximum percentage of problem accounts that are older to the minimum

## BCOAPO Response to BCUC IR 12.2 - Attachment 1

percentage ranges from 1.5 to 1.8. In contrast, the maximum-to-minimum ratio of problem dollars that are older ranges from 1.6 to 2.6. The actual ratios are not as important as the comparison of the accounts to the dollars. The substantively lower ratios for number of accounts shows the constancy of this level of problem accounts. While the dollar levels of problem arrears may have some seasonal basis to them, as can be seen, the levels of problem accounts do not.



While BC Hydro states in response to certain requests for information that it does not have “payment” data, certain payment data can be derived from the accounts receivable data the Company provided. It is possible to determine both the number of accounts, and the dollar levels, that are of a designated age in a particular month by examining the next older aging bucket in the subsequent month. An account (and a dollar) that is in the 30-day age bucket in Month 1, if not paid, will be in the 60-day age bucket in Month 2. If there are 200 accounts in the 30-day age bucket in Month 1, but only 150 in the 60-day age bucket in Month 2, that means that 50 accounts with 30-day arrears in Month 1 have paid their arrears in that month. Since BC Hydro states in its provision of data that accounts that no longer have active service are often maintained for some time (and reflected in the 180+ days old bucket), that age bucket has been excluded from this chart. For reasons previously discussed, it is important to consider not only the accounts by age bucket, but the dollars by age bucket as well. Both are presented above. Due to the nature of the inquiry, each age bucket is considered on a stand-alone basis.

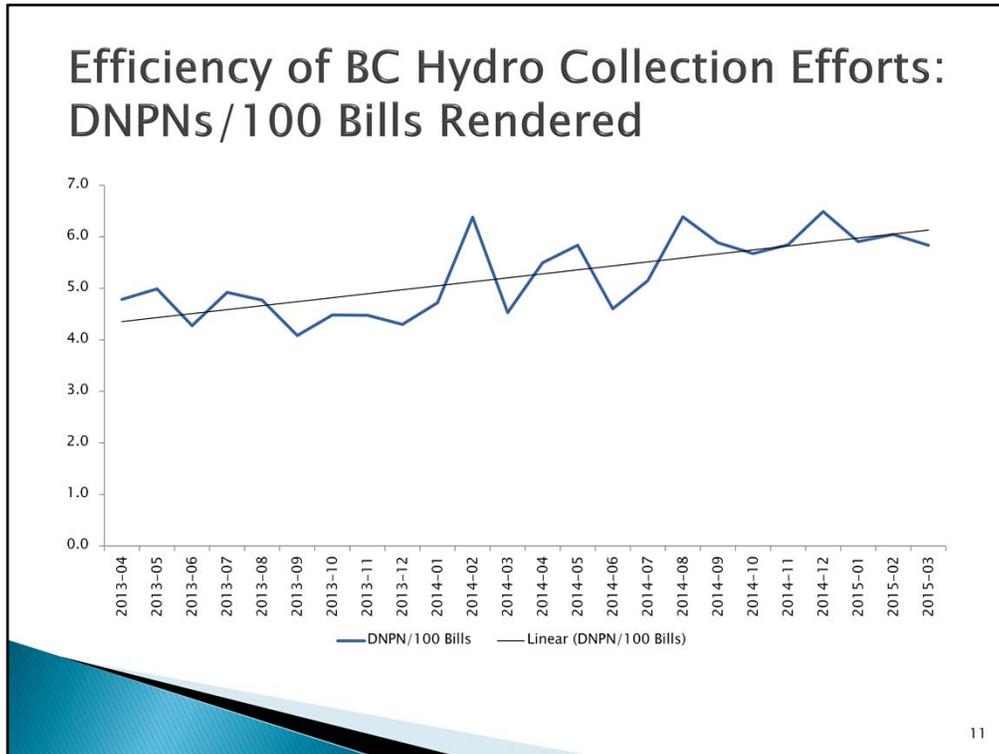
The charts above demonstrate the not unremarkable conclusion that as arrears (both accounts and dollars) age, they are less likely to be collected. A substantively lower percentage of accounts (and dollars) over 120 days older are collected than other aging buckets. Dollars show a distinctly different pattern than accounts. While the most evident change in collection regimes for accounts occurs for >120-day accounts, the change in regimes occurs at the >90-day dollars.

Moreover, consistent with the prior discussions, it is noticeable that while the percentage

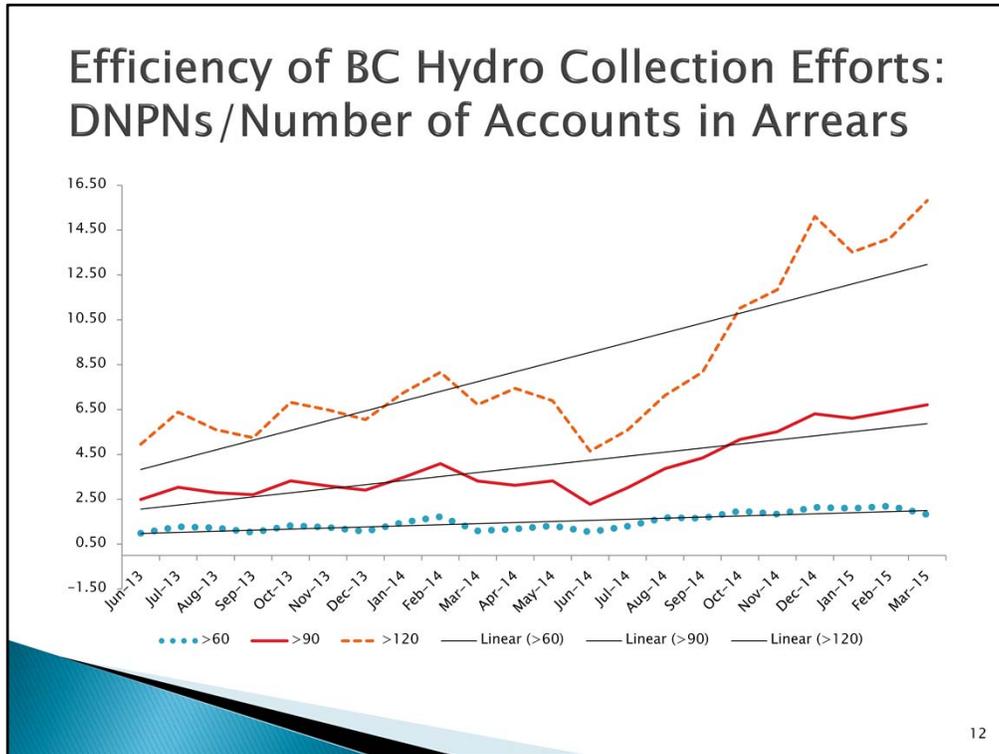
of aged accounts being paid from month to month is staying relatively constant (or slightly improving), the percentage of dollars older than 90-days that are collected shows a distinct, substantive decline in the past three years. This data is further support for the conclusions, drawn from prior charts as well, that a relatively constant nonpayment population is owing BC Hydro more and more money.

Finally, the data shows that those accounts that BC Hydro is successfully directing collection efforts toward (i.e., that result in arrearage payments) involve those accounts with smaller arrears. When the trend slopes of the percentage of accounts that are paid differ from the trend slopes for the accounts that are paid, with the accounts slope being flatter (or positive) while dollars are negative, the cause is that the accounts with lower arrears are being collected. If 60% of accounts are paid, but those accounts represent only 40% of the equivalent dollars, that necessarily means that the accounts being paid have, on average, made lesser payments. If the number of accounts with arrears is being reduced, that means that those lesser payments have fully paid the outstanding arrears (meaning that the outstanding arrears were lesser with which to begin).

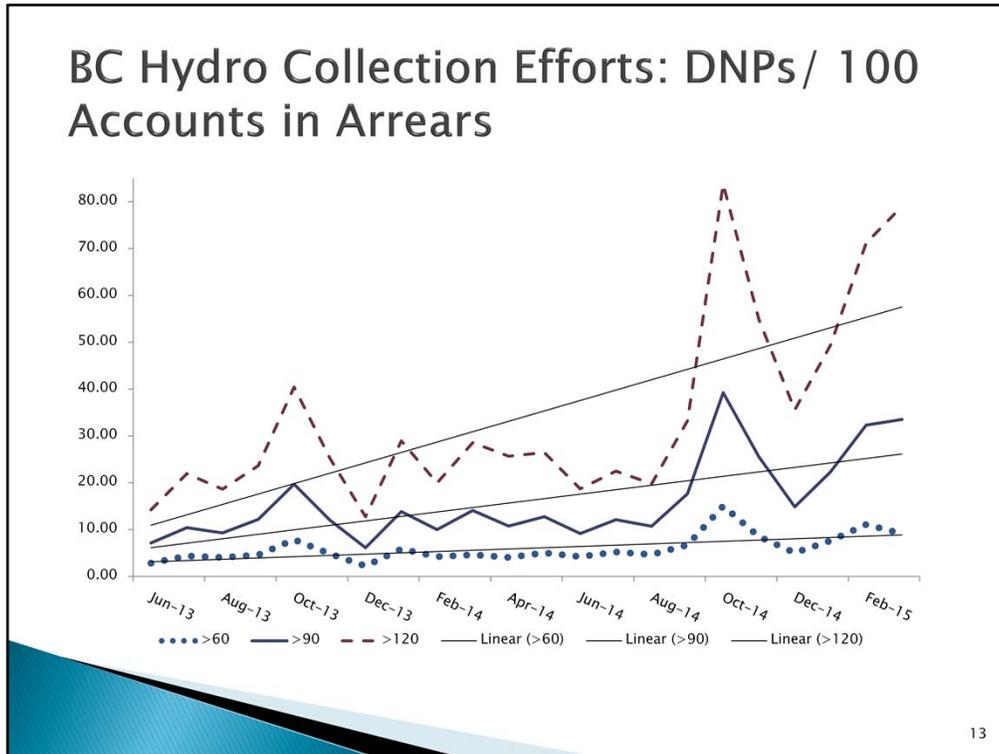
Given the constant trend in accounts paid (across-the-board), and the substantial downward trend in dollars paid, particularly for the older aged accounts receivable, it is reasonable to question the effectiveness of BC Hydro's current credit and collection strategies as directed toward those accounts with older, and larger arrears.



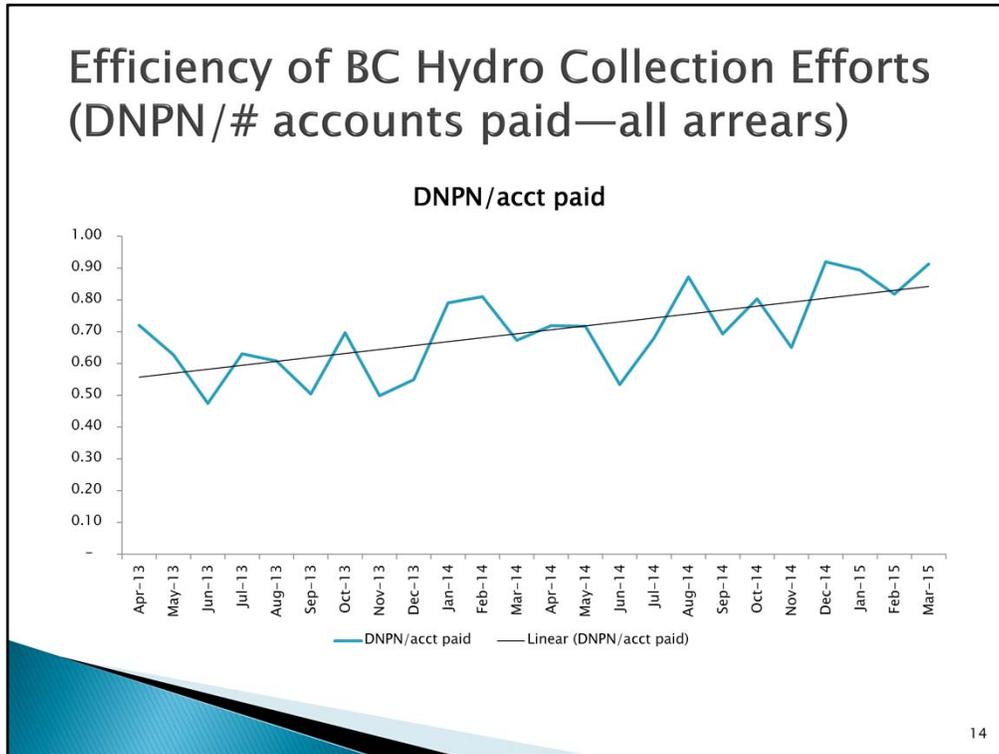
Despite the declining effectiveness of its credit and collection efforts, as documented in the previous charts, BC Hydro is working harder at its collection efforts. The data clearly shows a continuing increase in the number of disconnect notices (DNPBs) rendered (recognizing that BC Hydro said that the DNPB data includes all customers, not merely residential customers) for each 100 bills rendered on a monthly basis.



Even if one examines only the disconnect notices (DNPNS) per accounts in arrears, rather than the number of disconnect notices per 100 bills rendered, the increased effort that BC Hydro is expending is evident. In fact, the two charts taken together tell a disturbing story. While the number of DNPNS per 100 bills rendered is sharply increasing, the rate at which BC Hydro is issuing DNPNS is not being driven by shorter-term arrears, but rather by the older arrears. The rate at which BC Hydro is issuing DNPNS per accounts over 60-days in arrears has remained relatively constant. The increased rate of DNPNS has occurred when compared to the older arrears (>90 days, >120 days). However, it is precisely these older arrears where the effectiveness of BC Hydro’s collection efforts has been declining.

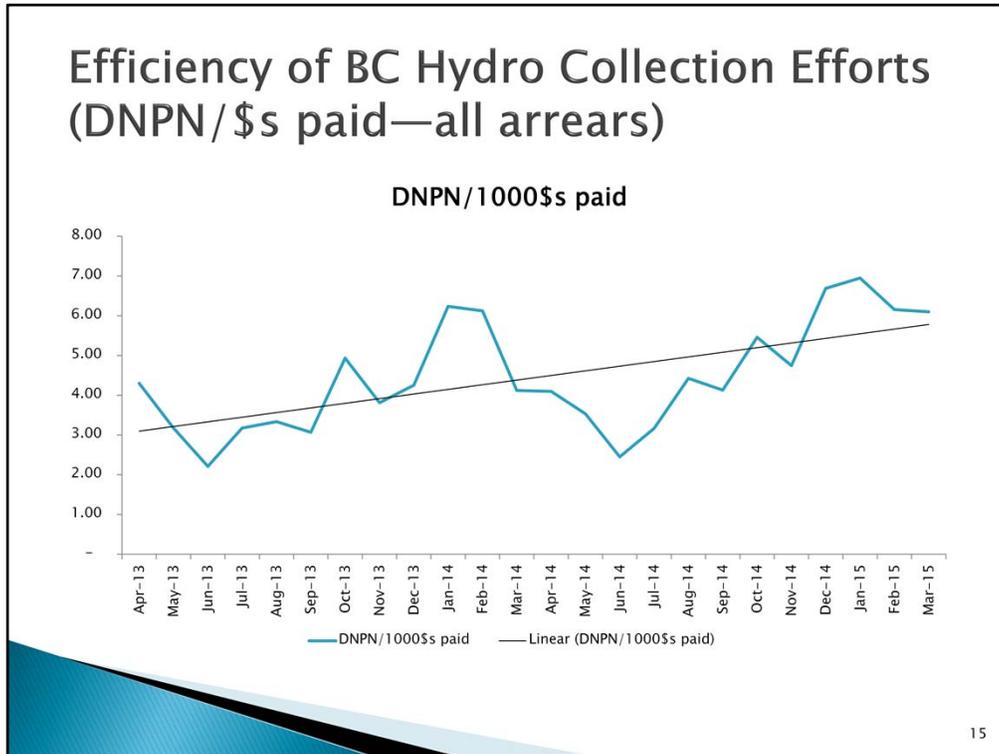


The story of increasing effort by BC Hydro does not change if one limits the examination to disconnections for nonpayment (DNPs). Unlike disconnect notices (DNPNS), the Company’s DNP data is limited exclusively to residential accounts. The increasing effort, measured by the number of DNPs per 100 accounts in arrears, shows an increasing level of effort for older accounts in arrears with a steady level of effort for the younger accounts.



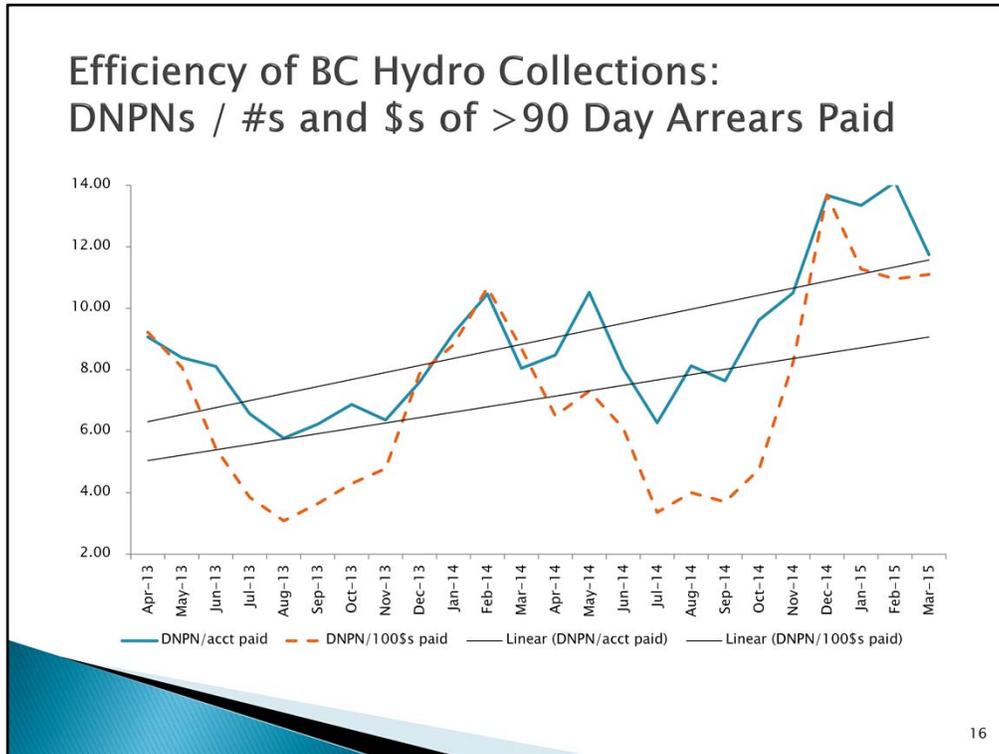
While BC Hydro is increasing the effort it is devoting to its collections, whether measured by the number of disconnect notices (DNPNs) it issues or measured by the actual number of disconnections for nonpayment (DNPs), its increased efforts generates less and less impact. This chart is limited to the disconnect notices. It distinctly shows the increased effort that BC Hydro is devoting for each paid account that the Company realizes.

BC Hydro would have demonstrated a declining slope with this data if one of two things had happened: either, (1) each of the increased number of disconnect notices (DNPN) had resulted in a greater number of accounts being paid; or (2) customers who had not otherwise paid were making increased payments without need of BC Hydro issuing a disconnect notice to them. The inclining slope (declining efficiency) indicating that each paid account requires a greater and greater number of DNPNs reveals that neither of these two results is occurring.

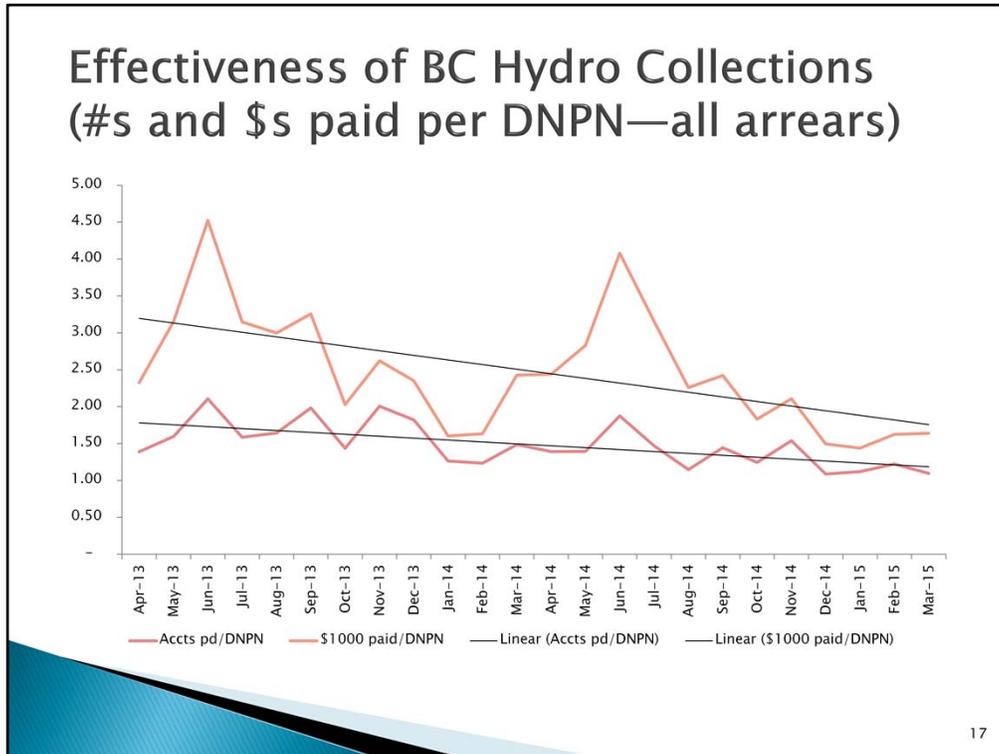


The same result appertains when one examines the level of effort to generate each \$1,000 in payments, rather than examining the number of accounts being paid. Looking at dollars paid (rather than at accounts paid) is important because one can see an improvement whether or not the increased payments yield a \$0 balance. Dollars paid, in other words, picks up partial payments as well as full payments.

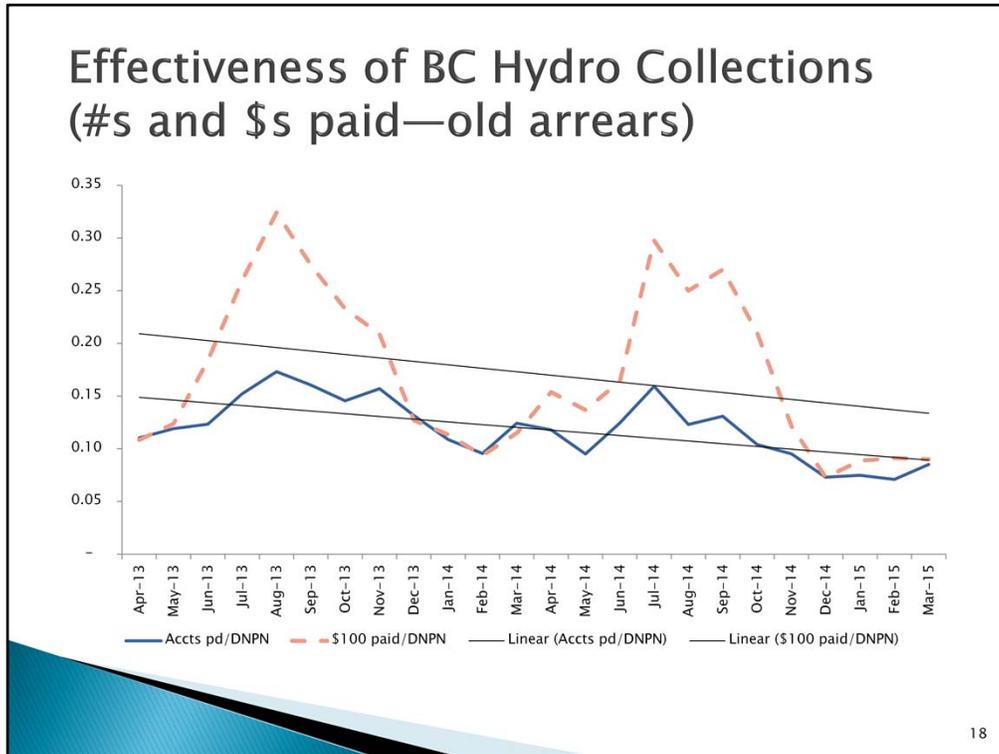
While BC Hydro is increasing its level of effort (as measured by the number of disconnect notices rendered for each \$1,000 billed), the increased effort does not bear corresponding output, since the effort per each \$1,000 paid is increasing sharply. By 2015, BC Hydro was rendering five or more disconnect notices per each \$1,000 of arrears paid, while as recently as 2013, BC Hydro needed fewer than three disconnect notices for each \$1,000 in arrears paid.



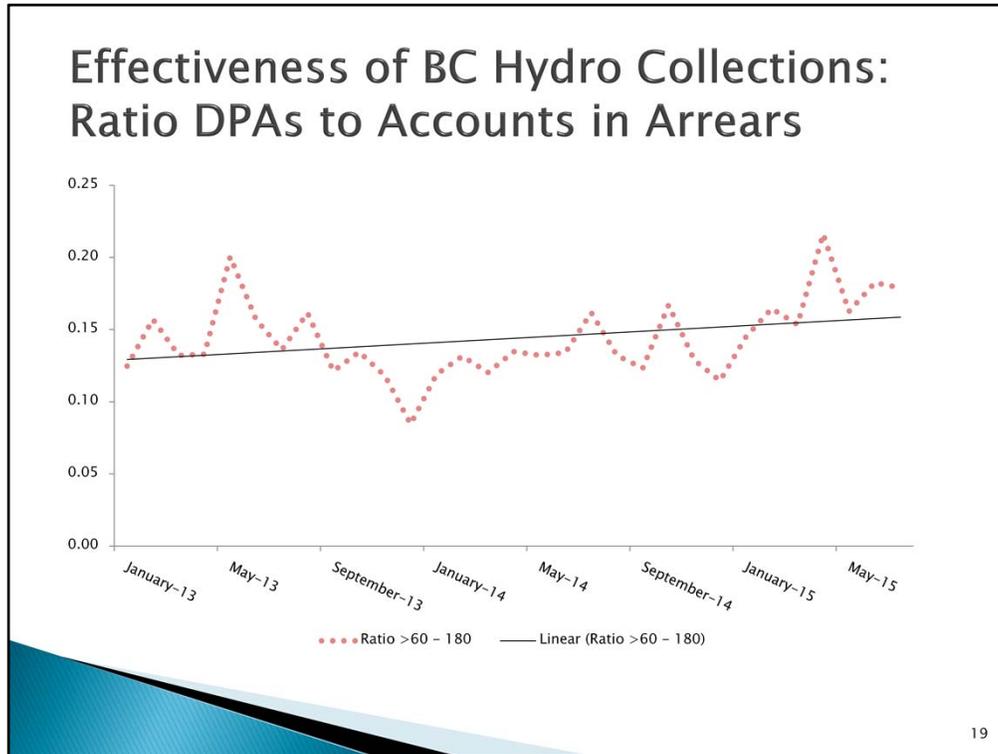
The declining efficiency of BC Hydro collections is evident within its oldest arrears as well. When looking at arrears older than 90 days, the increasing effort required both to generate each paid account and to generate each \$1,000 in payments is clearly evident.



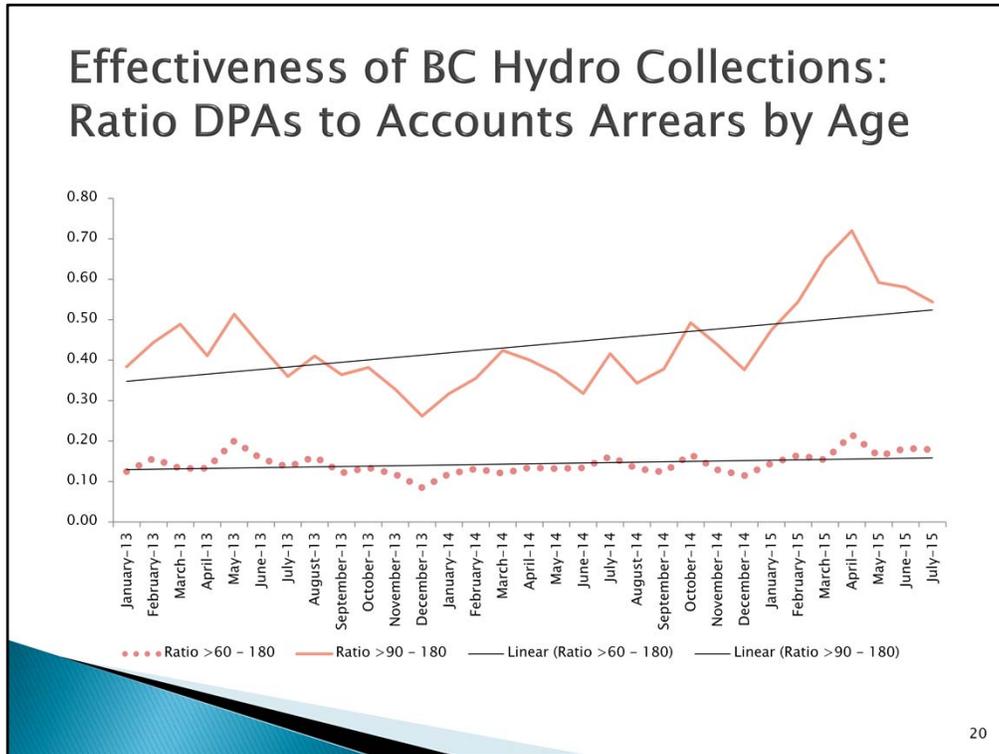
The efficiency of collection efforts can be examined not only in terms of the resources devoted per unit of output, but by the flipside as well, the output received per unit of resource devoted. This result necessarily follows from the data above. Since BC Hydro needs to engage in more collection activity for each paid account it generates, as well as each \$1,000 in payments received, it follows that the number of accounts paid, and the number of dollars paid, per each disconnect notice issued is declining. That, in fact, is the case.



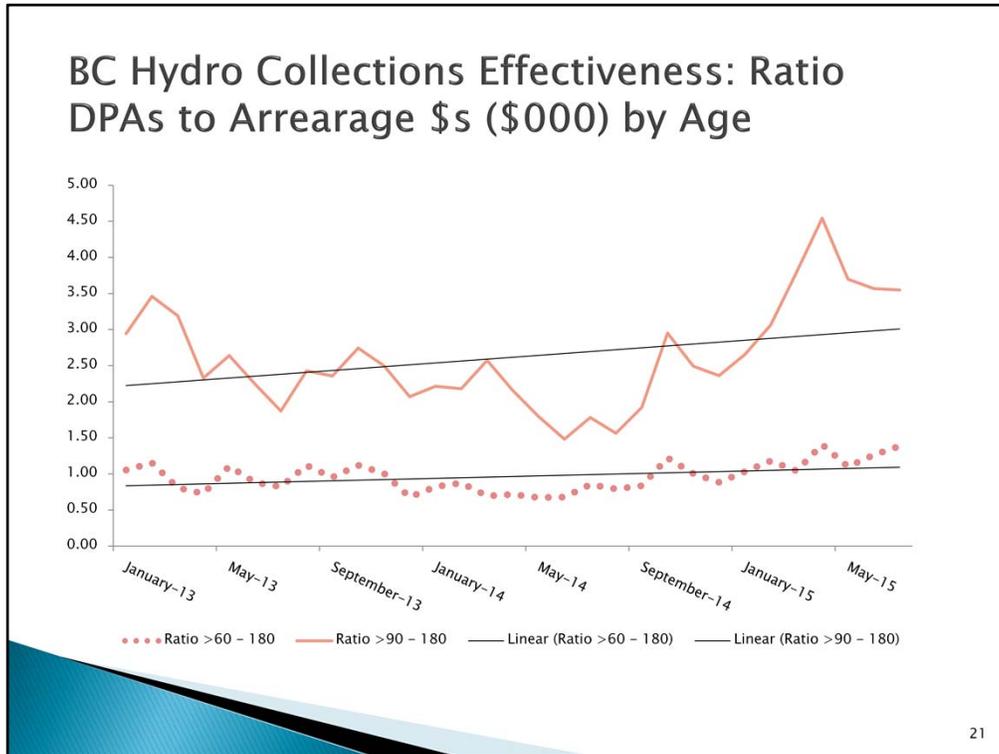
As with the above data, the results do not change if one limits the examination to older arrears. Even though BC Hydro is increasing its collection efforts, the results are declining. The Company is devoting more resources, and generating less and less impact per unit of resource expended.



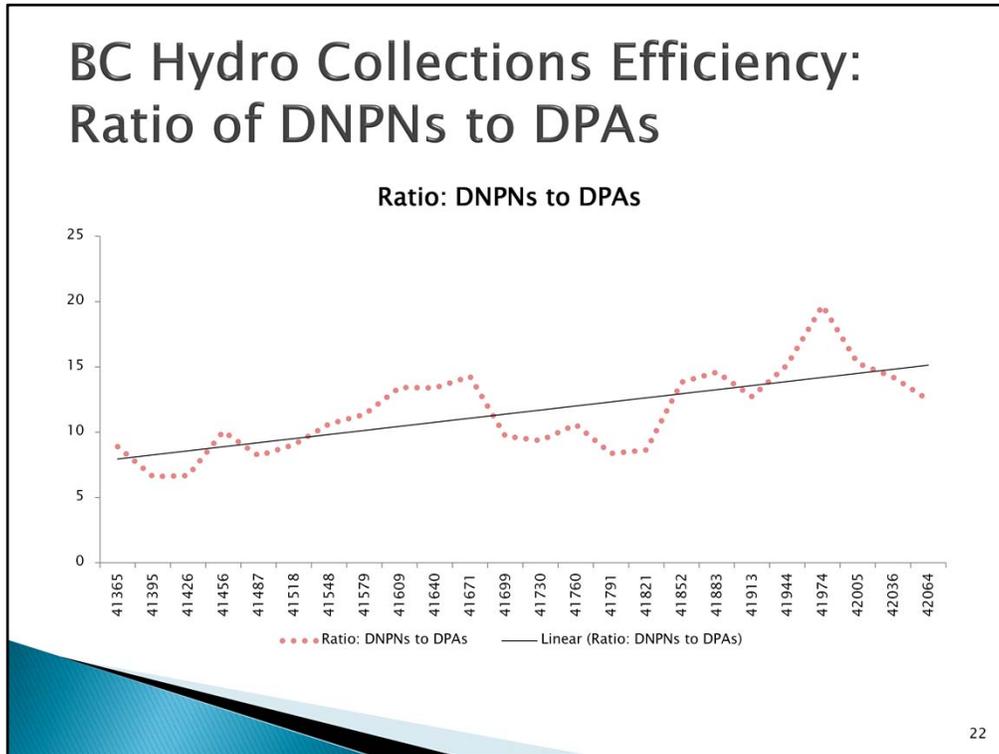
The effectiveness of collection devices can be measured not simply by the dollars (or number of accounts) paid, but by the extent to which customers in arrears take positive steps to retire their arrears. The alternative to completely paying an outstanding account balance, of course, is to contact the Company to enter into a deferred payment arrangement (DPA) (sometimes known as a deferred payment agreement). During the time that BC Hydro has engaged in noticeably more collection efforts (both per accounts and dollars of total arrears and per accounts and dollars of older arrears), the ratio of DPAs to accounts more than 60-days in arrears has remained virtually constant. The increased collection effort, in other words, has not had the impact of bringing more accounts in arrears, bringing accounts with higher levels of dollars of arrears, or bringing a higher aggregate level of arrears, into contact with the Company to enter into agreements to retire those arrears over time. This chart, in combination with the prior data, demonstrates that the Company's increased collection efforts have resulted neither in generating immediate payments, nor in generating agreements to make deferrred payments over an extended period of time.



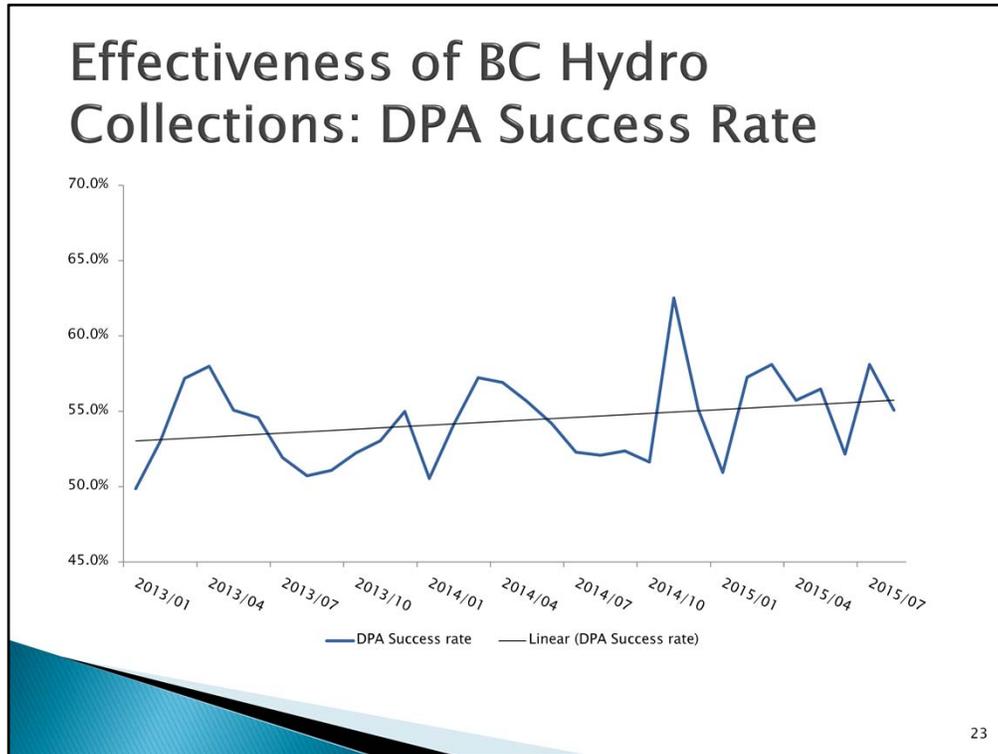
It does not change the result if one begins to disaggregate arrears by the age of arrears. This chart presents the number of DPAs that BC Hydro succeeds in entering into per accounts in arrears broken down by the age of the arrears. Despite the increased collection efforts, whether for arrears over 60-days, arrears over 90-days, or arrears over 120-days, the ratio of DPAs to accounts in arrears has remained virtually constant. For the reasons previously explained (i.e., the Company, itself, reports that inactive accounts are maintained as arrears >180-days thus skewing the data), arrears with an age of greater than 180 days are not included in this analysis.



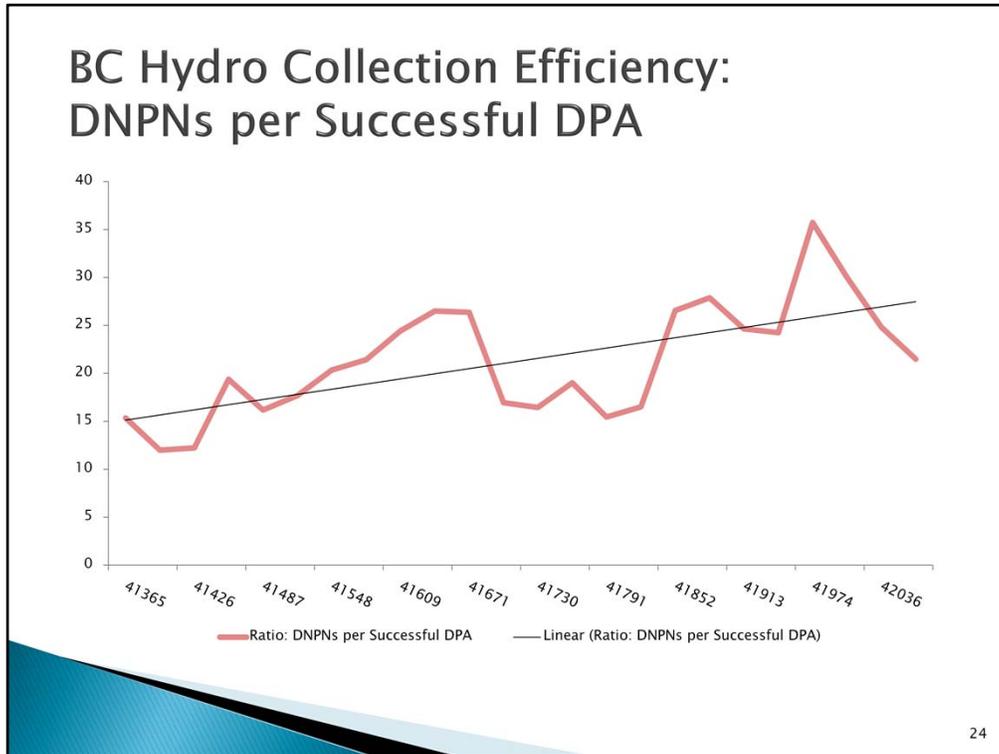
Nearly identical results appertain if one examines the ratio of DPAs to arrearages in terms of \$1,000 dollars of arrears rather than in terms of accounts in arrears. The ratio of DPAs to dollars of arrears older than 60-days has remained virtually constant over time, while the ratio of DPAs to dollars of arrears older than 90-days has slightly increased. This means that the Company is slightly increasing the rate at which it is committing older arrears to DPAs. The fact that the slope of the increase for older accounts is greater than the slope of accounts for younger dollars means that the older accounts being committed to DPAs are accounts with smaller arrears balances.



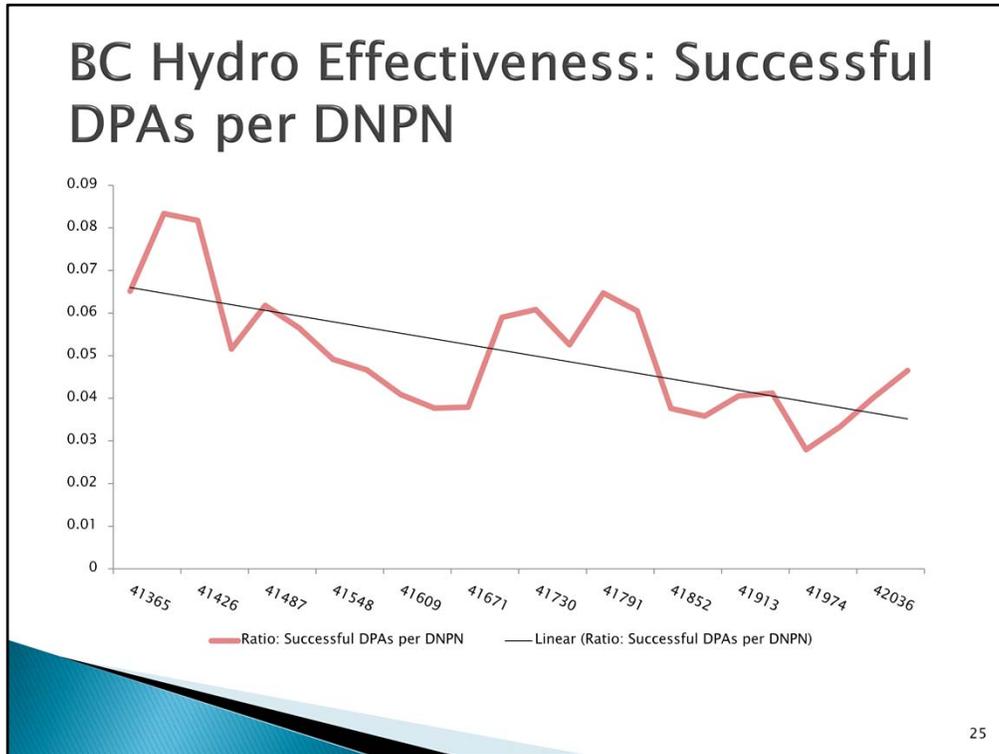
Just as BC Hydro is working harder to generate immediate payments, it has had to work harder to generate Deferred Payment Arrangements (DPAs) as well. Again, the issuance of disconnect notices (DNPNS) is used as the surrogate for collection activity. As the chart above shows, BC Hydro had had to issue more and more DNPNS to generate agreement with each DPA from its customers in arrears. As discussed above, however, even of the additional DPAs the Company generates, these DPAs each address increasingly smaller arrears balances. Even the additional outcomes generated, in terms of number of accounts is not matched by a corresponding proportionate increase in dollars subject to agreement.



The fact that BC Hydro increased the number of payment agreements does not mean that it significantly increased the success rate of those DPAs. The Company's increased collection effort resulted in a very slight increase in the success rate of the DPAs at the rate at which DPAs have been entered into. While there is somewhat of an increase in the success rate of BC Hydro DPAs, the Company's success rate is still noticeably below 60%. Even of those DPAs that the Company succeeds in generating, in other words, more than four of every ten fail.



In addition, the success rate that BC Hydro has generated has required a significant increase in the corresponding collection effort. The number of disconnect notices required for each successful DPA has increased by more than 60 percent in the past two years.



As discussed above, the measure of efficiency in terms of resources per outcome (DNP/Successful DPA) is simply the flipside of the measure examining the extent of outcomes for each unit of resources expended. The number of successful DPAs generated per each disconnect notice has sharply decreased in recent years.

The ultimate conclusion is that BC Hydro is spending more and more collection resources to obtain fewer and fewer accounts being paid, involving even fewer dollars, and to enter into payments plans that remain unsuccessful despite noticeably more collection activity being expended. The process is not only ineffective, but inefficient as well.

The efforts are both least effective and least efficient for long-term arrears, and becoming even less so over time.

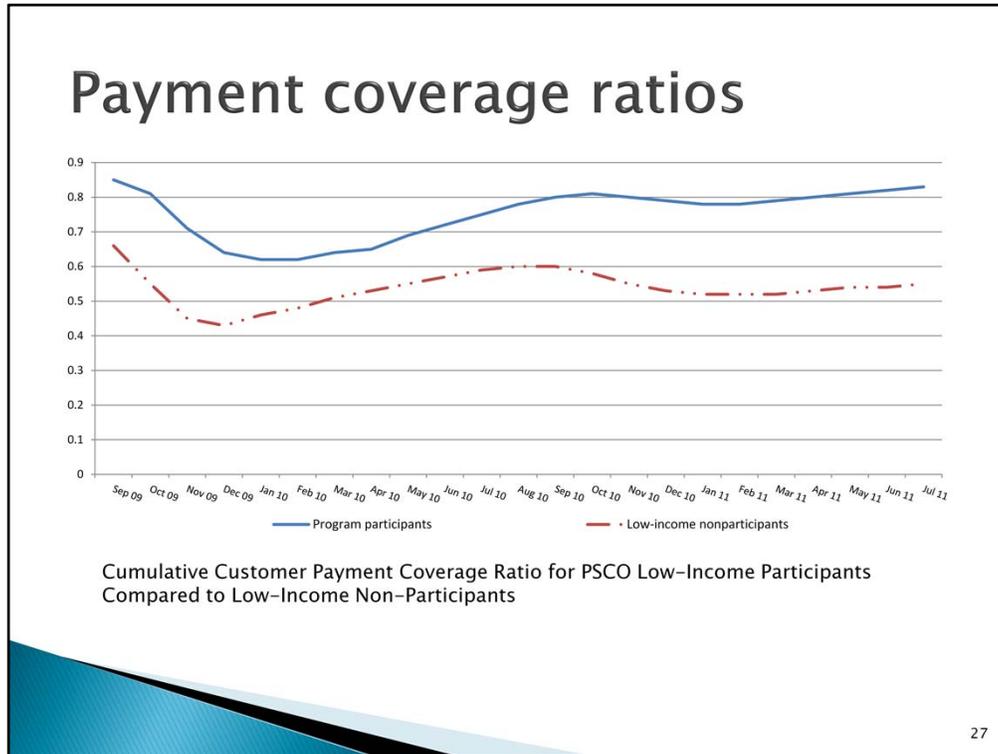
## The “cost-effectiveness plane”

|                                   |                                   |
|-----------------------------------|-----------------------------------|
| Less effective and more expensive | More effective and more expensive |
| Less effective and less expensive | More effective and less expensive |

26

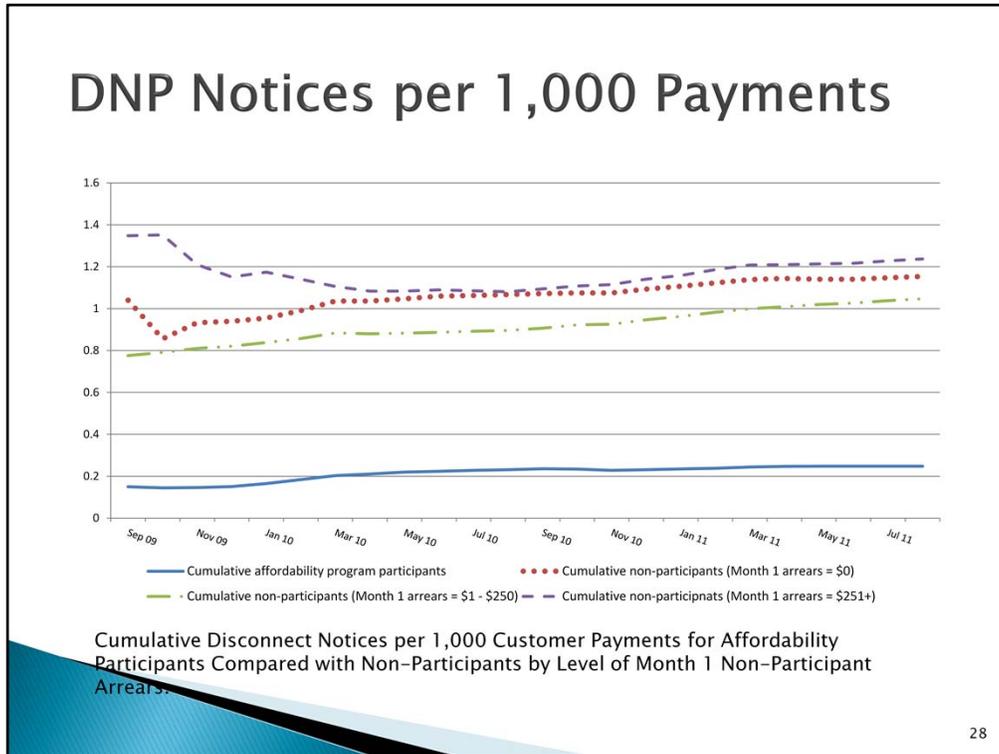
Improving low-income services can be expected to increase the productivity of utility collection efforts directed toward low-income customers. Improvements in the productivity of collection activities can occur in either of two ways:

- Reduce the effort. The need for collection interventions can be reduced thus allowing an increased payment per each collection intervention performed; or
- Increase the result. The customer response to the collection activity can improve thus allowing an increased payment per each collection intervention performed.



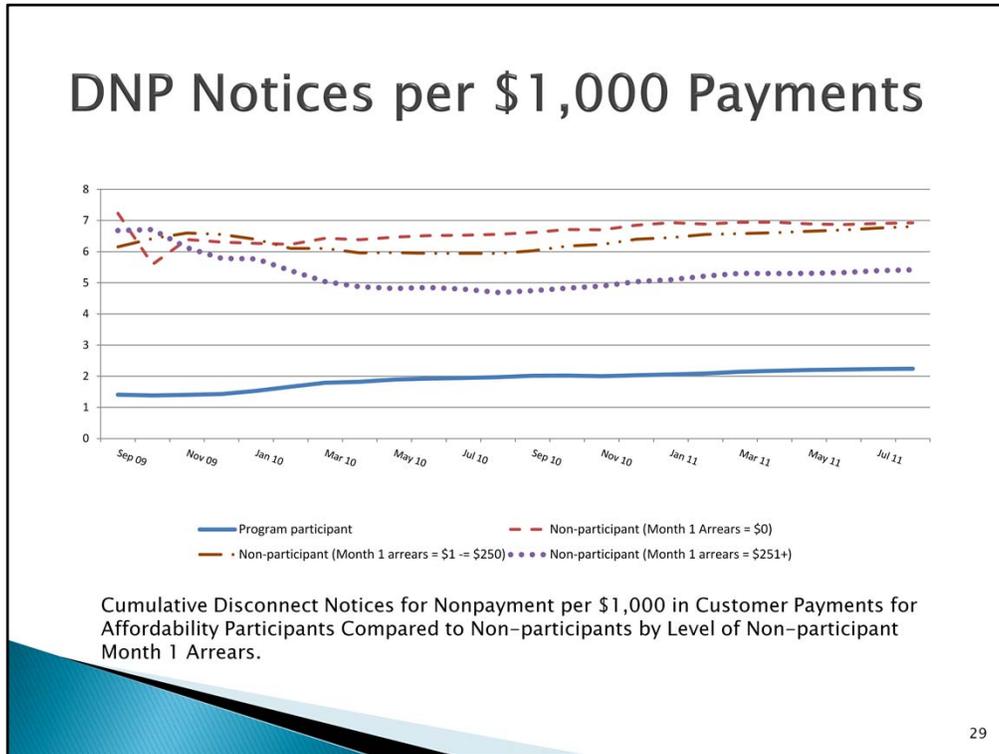
The first impact of a bill affordability program would be an increase in the bill payment coverage ratio by participating low-income consumers. The bill payment coverage ratio is the percentage of billed revenue actually paid by the customer. A customer who pays \$90 of a \$100 bill, for example, has a bill payment coverage ratio of 90%. Having a bill payment coverage ratio of more than 100% means the customer is not only paying his/her current bill, but is also retiring pre-existing arrears. Having a bill payment coverage ratio of less than 100% means that the customer is incurring additional arrears.

PSCO's bill affordability program participants substantially out-performed those PSCO low-income customers who received LIHEAP –called "LEAP" in Colorado-- but who did not participate in the bill affordability program. By the end of the program pilot, the payment coverage ratio of participants in PSCO's low-income bill affordability program (83%) was nearly 30% higher than the payment coverage ratio of low-income customers *not* participating in the program (55%). Moreover, the cumulative payment coverage ratio of program participants was increasing throughout the term of the pilot. PSCO has since expanded its program to a full-blown low-income bill affordability program.

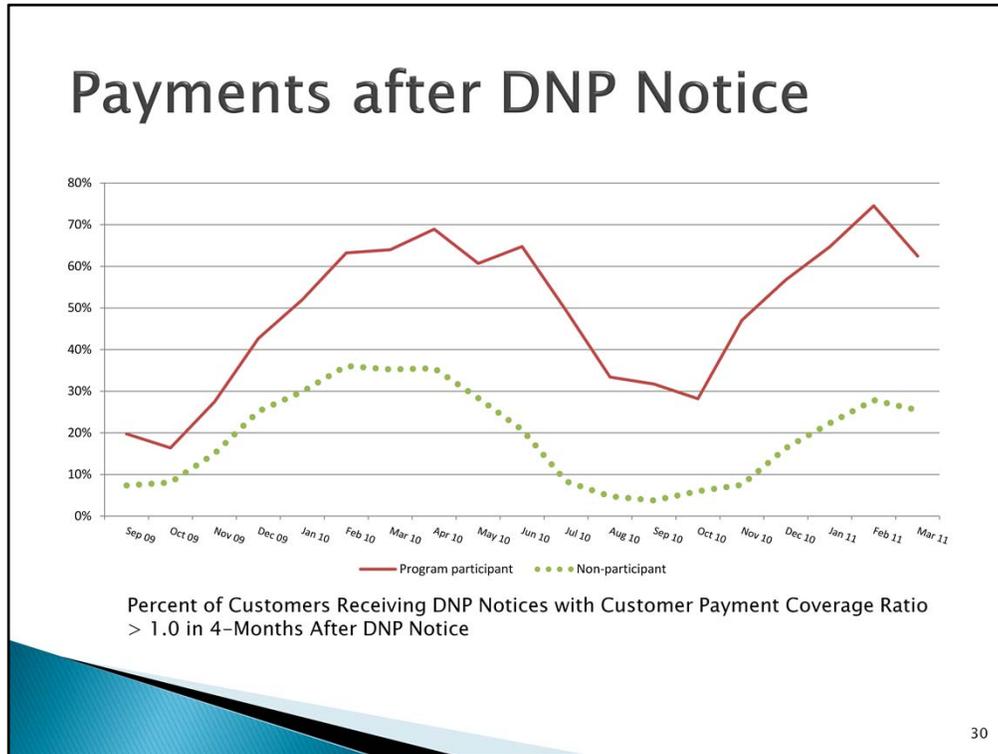


The PSCO affordable bill program found that the collection activities that PSCO directed toward program participants were more productive at generating payments than the collection activities directed toward program non-participants. PSCO needed to engage in from three to five times more collection activities for each 1,000 customer payments it received from non-participants. The Colorado evaluation found that low-income customers who were not program participants, on a cumulative basis over the 24-month study period, received more disconnect notices per 1,000 customer payments than did affordability program participants.

This result might occur for one of two reasons. On the one hand, more program participants might make payments without need of any disconnect notices being issued. On the other hand, more participants might respond to the receipt of a disconnect notice by making payments.



The results were the same when collection productivity was viewed in terms of dollars of payments rather than in terms of numbers of payments. In Colorado, participation in the affordable program reduced the reliance on disconnect notices as a collection activity. While program participants required between one (1) and two (2) disconnect notices for each \$1,000 in customer payments, non-participants required between five (5) and seven (7).

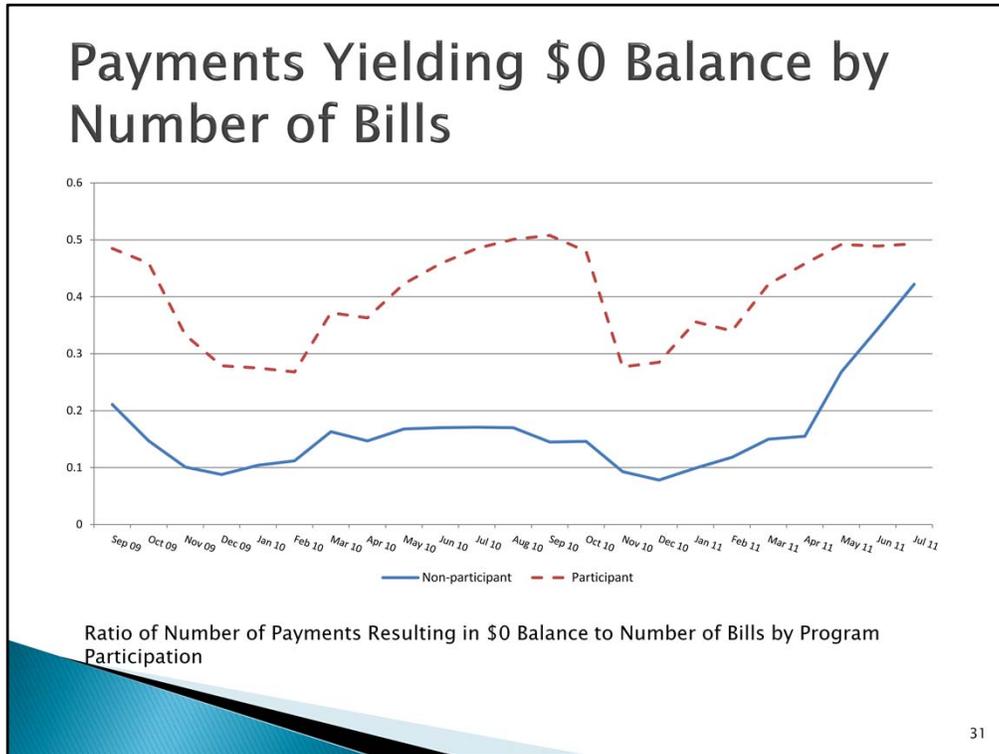


Cost-effectiveness needs to look not only at the resources expended, but also at the results achieved. A “successful” (or “effective”) collection activity is measured not merely by the extent to which customers make payments in the month in which the collection activity occurs, but also over a period of time immediately subsequent to that collection activity. A collection activity that generates a payment in the month of the activity, only to see the customer fall back into a pattern of nonpayment in the immediate subsequent months, in other words, is less “effective” (or “successful”) than a collection activity that generates a series of more timely (or more complete) payments over a period of months.

The PSCO program evaluation measured the success of collection efforts for low-income customers participating in that company’s affordable bill program as compared to the success of collection efforts directed toward low-income customers *not* participating in the bill affordability program. The data examined the percentage of accounts receiving disconnect notices that have a customer payment coverage ratio of more than 1.0 in the ensuing four months. In this inquiry, a higher number is “more effective” while a lower number is “less effective.” A higher number indicates that more accounts having received a disconnect notice made payments equal to a higher proportion of their bill for current usage in the four months immediately following receipt of a disconnect notice.

The data examines the proportion of customers having received a DNP notice who made payments equal to or more than 100% of their current bill. The percentage of program participants with a payment coverage ratio of more than 1.0 is consistently higher than the proportion of non-participants doing so. A payment coverage ratio of greater than 1.0 means that the customer is paying more than his/her bill for current usage. That customer, in other words, is completely paying his/her bill for current usage and making some payment toward the arrears that was the reason for issuing the disconnect notice in the first instance.

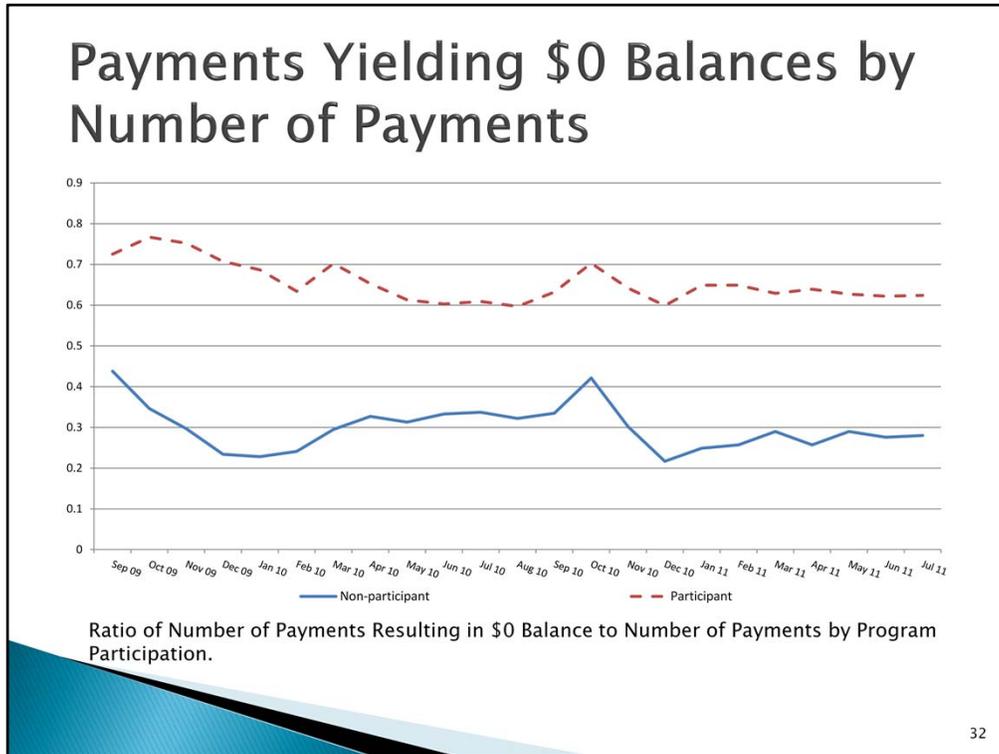
As can be seen, the payment performance for participants in the low-income program improved over time, while the payment performance of low-income customers not participating in the low-income program did not.



The outcome that a utility seeks from its customers is a payment that results in a \$0 balance. One expected impact of an affordable bill program involves the regularity with which complete bill payment occurs. The regularity of complete bill payment can be examined from two perspectives: (1) the extent to which complete bill payments are made as a proportion of the number of bills rendered; and (2) the extent to which complete bill payments are made as a proportion of the number of payments that are made.

While a utility would prefer to have customers make bill payments that result in a \$0 balance in response to each bill (i.e., a ratio of 1.0), a customer that exhibits a higher proportion of payments resulting in \$0 balances of the payments that are made nonetheless is still less risky than a customer that makes a lower proportion of payments that result in a \$0 balance.

PSCO’s program participants out-performed non-participants in the proportion of bills that are met with payments that result in a \$0 balance. While 50% or more of warm-weather bills resulted in a \$0 balance for the participant population, fewer than 20% of the warm-weather bills resulted in a complete retirement of outstanding balances for the non-participant population. Even with an influx of “crisis” assistance in the spring of 2011, the proportion of non-participants making complete bill payments falls well short of program participants.



Finally, when PSCO program participants *did* make payments, they tended to make payments sufficient to retire their entire balances. While program participants tended to make payments retiring their entire balance in response to 50% of the bills that are rendered, they also tended to make payments retiring their entire outstanding balance in between 60% and 70% of all the payments that they make. In contrast, while the program non-participants tended to make payments retiring all outstanding balances in response to between 10% and 20% of bills they receive, they also tended to make payments retiring their entire outstanding balance in only 20% to 30% of the payments that they made.

## Conclusions

- ▶ To the extent that nonpayment is associated with inability to pay, low-income services can be a cost-effective response to nonpayment.
- ▶ A continuing, let alone an increased, reliance on traditional credit and collection activities directed toward inability-to-pay customers is not the most effective, let alone the most cost-effective, nonpayment response.
- ▶ The discussion above neither proposes, nor recommends, a specific low-income service.
- ▶ A suite of nonpayment responses (to be determined) is likely to be the most effective and cost-effective BC Hydro response to inability-to-pay nonpayment.