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October 2, 2015

BCUC RIB RATE REPORT
EXHIBIT A2-1

Ms. Jessica McDonald
President and Chief Executive Officer
British Columbia Hydro and Power Authority
16th Floor – 333 Dunsmuir Street
Vancouver, BC V6B 5R3

Mr. Michael Mulcahy
President and Chief Executive Officer
FortisBC Inc.
16705 Fraser Highway
Surrey, BC V4N 0E8

Dear Ms. McDonald and Mr. Mulcahy:

Re: Residential Inclining Block Rate Report
to the Government of British Columbia

Commission staff would like to submit the following document for the record in this proceeding:

British Columbia Hydro and Power Authority
2015 Rate Design Application
Sections 5.5 and 5.6
September 24, 2015

Yours truly,

Erica Hamilton

/nd

1 designating a baseline quantity “which is necessary to supply a significant
2 portion of the reasonable energy needs of the average residential customer”;
3 the result is the ‘baseline allowance’.²¹⁹ The CPUC by statute is tasked with not
4 only ensuring utility rates are just and reasonable. The *California Public Utilities*
5 *Code* also states that “electricity is a basic necessity” and that “all residents of
6 the state should be able to afford essential electricity”, directs the CPUC to
7 ensure that low income ratepayers are not “[j]eopardized or overburdened by
8 monthly energy expenditures” and addresses the lifeline program²²⁰ established
9 by the *Miller-Warren Energy Act*;

- 10 • Quebec is an example of the latter. The legislature passed *An Act Respecting*
11 *the Régie de l'Énergie*,²²¹ section 49 allows the Régie de l'Énergie to consider
12 rates that are ‘fair and reasonable’, and ‘consider such economic, social and
13 environmental concerns as have been identified by order by the Government’.
14 To date Quebec has not introduced low income rates.

15 **5.5 Methodologies for Minister Residential Inclining Block** 16 **Rate Letter**

17 This section is organized to respond to the Commission RIB Report Methodology
18 Letter as follows. The Commission RIB Report Methodology Letter asks BC Hydro
19 for “a detailed outline of the methodologies for the report [BC Hydro] will submit to
20 the Commission on the five questions posed by the [Minister RIB Report Letter]
21 including”:

- 22 • How BC Hydro intends to define “low income customers” – refer to
23 section [5.5.1](#);

²¹⁹ The definition of baseline allowance under California statute and under CPUC orders has evolved over time. BC Hydro understands that electric utilities presently calculate the baseline using between 50 to 55 per cent of the average residential usage for a number of California climactic zones.

²²⁰ California Public Utilities Code, sections 382(b) and 739;
<http://www.leginfo.ca.gov/cgi-bin/calawquery?codesection=puc>.

²²¹ CQLR c. R-6.01.

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- 1 • How BC Hydro intends to define “factors” that lead to high energy use – refer to
2 section [5.5.2](#);
- 3 • For each of the five questions, the general approach BC Hydro intends to take
4 to answer the question – this is set out in section [5.5.3](#);
- 5 • Any other relevant method(s) BC Hydro will use to gather information or answer
6 the questions posed in the Minister RIB Report Letter – this consists of
7 providing a summary of BC Hydro’s existing Residential DSM programs and
8 detailed information concerning BC Hydro’s two low income DSM program
9 offers. Refer to section [5.6](#);
- 10 • Any other relevant issues with the RIB rate that BC Hydro has not previously
11 addressed but should be included in BC Hydro’s report to the Commission and
12 the Commission’s report to the B.C. Government. Given that BC Hydro is
13 reviewing the RIB rate as part of RDA Module 1, BC Hydro is of the view that
14 the RDA and in particular this Chapter address this issue; and
- 15 • Comments on the Commission’s proposed process and suggested timing.
16 BC Hydro urges the Commission to adhere to the Minister RIB Report Letter’s
17 statement that the Commission should use the RDA Module 1 review process
18 to collect information for its report to the B.C. Government. Accordingly,
19 BC Hydro is of the view that the Commission should use the RDA regulatory
20 timetable for the issuance of Round 1 IRs to ask any follow up questions
21 concerning BC Hydro’s proposals and the information provided in sections [5.5](#)
22 and [5.6](#) of this Chapter, and to use the proposed December 2015 procedural
23 conference described in section 1.6.1 of the Application to seek input on the
24 timing for BC Hydro’s report to the Commission after BC Hydro submits its
25 responses to any Commission follow up questions in accordance with the
26 timetable for BC Hydro to file its responses to Round 1 IRs.
- 27 BC Hydro shared the contents of sections [5.5](#) and [5.6](#) of the Application with
28 FortisBC on September 17, 2015. FortisBC advised BC Hydro on

1 September 18, 2015 that the two utilities are generally aligned with respect the
 2 methodological approach to address the Minister RIB Report Letter. There may be
 3 some differences in available data.

4 **5.5.1 Definition of Low Income Customers**

5 BC Hydro proposes to use Statistics Canada's LICO as the method for defining low
 6 income customers. LICO is an income threshold below which a family will likely
 7 devote a larger share of its income on the necessities of food, shelter and clothing
 8 than the average family. The approach is essentially to estimate an income
 9 threshold at which families are expected to spend 20 percentage points more than
 10 the average family on food, shelter and clothing. The reasons for using LICO are:

- 11 • Statistics Canada releases LICO updates annually using CPI;
- 12 • LICO includes required spending on a comprehensive set of basic necessities
 13 and not just on one specific component such as housing or energy costs;
- 14 • LICO is sensitive to family and community size as cut-offs vary by seven family
 15 sizes and five different populations of the area of residence.²²² Thus LICO
 16 reflects different regional costs of living between rural and urban areas and
 17 between urban areas of different sizes; and
- 18 • LICO is the basis for all 2015 RDA residential rate modelling, as elaborated
 19 upon below.

20 BC Hydro proposes to use pre-tax rather than after-tax income levels. Pre-tax levels
 21 are easier for customers and survey respondents to think about and report, and are
 22 therefore used in the REUS.

²²² The five different population groupings are: (1) Rural areas, which includes communities with a population of less than 1,000 or with a population density less than 400 persons per square kilometer that are located outside Census Metropolitan Areas (**CMAs**) or Census Agglomerations (**CAs**); (2) Population under 30,000: CAs below 30,000 and population centres below 10,000 persons; (3) Population 30,000 to 99,999: CAs between 30,000 and 99,999 persons; (4) Population 100,000 to 499,999: CMAs between 100,000 and 499,999; and (5) Population 500,000 and over: CMAs with 500,000 or more persons.

1 **5.5.1.1 Leveraging BC Hydro's Residential End-Use Study to Inform Low**
2 **Income Analytics**

3 BC Hydro has undertaken bi-annual quantitative end-use studies with its Residential
4 customers over the past thirteen years to help facilitate and inform the load forecast
5 and DSM program, rate design and codes and standards development. The most
6 recent REUS is the 2014 REUS, a copy of which is found at Appendix C-3F of the
7 Application.

8 The specific objectives of the REUS are to collect – and track over time – detailed
9 information about the characteristics and features of Residential customers' homes,
10 as well as the saturation of electrical end-uses. Areas of interest include:

- 11 • Customer household demographics;
- 12 • Home structure basics such as housing type, year home built, size of home,
13 etc.;
- 14 • Doors, windows and insulation;
- 15 • Space heating;
- 16 • Heating controls and home temperatures; and
- 17 • Water Heating.

18 In addition to collecting end-use information, the REUS solicits customer opinions,
19 attitudes and behaviours relating to electricity and conservation.

20 Aside from any 'proof of' documentation required by Residential customers when
21 participating in BC Hydro's low income DSM programs, BC Hydro estimates the
22 incidence of low income customer accounts in its service area and profiles them
23 using its REUS – first by the individual flagging of customer households in the
24 survey sample, followed by sample expansion to the overall population.

1 *Step 1: Flagging REUS Households as Low Income Customers*

2 The REUS provides two of the three parameters necessary to flag a given customer
3 household as low income using LICOs: 1) the household's total pre-tax annual
4 income; and 2) its total number of occupants. The household's service town and
5 postal code are then used to link in the third parameter – 3) the population of the
6 household's CMA via Statistics Canada census data. In addition to the community
7 size, parameters relating to the mean and median household income as well as the
8 incidence of low income for the household's postal code area are linked in as
9 reference parameters.

10 For every one of the 7,451 households (i.e., survey records) in the 2014 REUS
11 survey, the process was as follows:

- 12 • Match in the population of its CMA based on its postal code;
- 13 • To serve as a surrogate in the event of missing values, also match in the
14 neighborhood's mean and median household income levels;
- 15 • Flag the customer account as low income if reported total pre-tax income is
16 below the LICO cut-point corresponding to its household size and its CMA area;
- 17 • Consider neighborhood level information should the survey record be missing
18 income and/or household size; and
- 19 • Consider neighborhood level information should the LICO cut-point be within
20 the household's income bracket.

21 Note that every survey record must be flagged as LICO or not-LICO due to the fact
22 that missing values (i.e., missing flags) will bias the estimation of the overall
23 incidence of low income households.

24 For a given customer household, the accuracy of BC Hydro's low income
25 classification procedure is dependent and challenged by several factors: 1) the
26 disclosure or completeness of the survey respondent's total household income, 2)

1 the accuracy of the survey respondent's reporting of total household income, 3) the
2 use of bracketed household income levels in the end-use survey and 4) the
3 disclosure or completeness of the survey respondent's total number of household
4 occupants. These factors are discussed below.

5 *Disclosure of Total Household Income* - Total household income is the most
6 essential parameter needed to classify a customer household in the REUS as
7 possibly being low income. When a missing value occurs on this parameter, the
8 customer household has to be either left as unclassified in their low income status or
9 other secondary information has to be leveraged to make an informed classification.
10 In this case, the mean and median household income levels for the household's
11 postal code area together with the area's incidence of low income are taken into
12 account to inform the decision on the low income status. For example, if the mean
13 and median income levels for the postal code area are \$65,000, and the incidence of
14 low income in that neighbourhood is say 2 per cent, then the household in
15 question has a very low probability of actually being of low income status. Note that
16 in this case, \$65,000 is greater than even the largest of the LICO thresholds.

17 Not unlike most other market research studies, a total of 25 per cent of responding
18 customers in the 2014 REUS chose not to disclose their total household income.
19 Analysis of the survey data indicates that these missing values are more or less
20 evenly dispersed among other disclosed demographics such as region, dwelling
21 type, household size as well as respondents' gender, age and education. This
22 suggests that 'item' response bias is likely minimal. Instead of discarding these
23 households from any low income analysis, BC Hydro incorporated their
24 neighbourhood income information to serve as a proxy during classification.

25 *Accuracy of Reporting of Household Income* - Income levels in the REUS are at the
26 combined household level and as such, the accuracy of total reporting is dependent
27 on a survey respondent's estimation or solicitation of all other working members in
28 the home of their individual earnings. For a household with two working adults, as an
29 example, slightly inaccurate reporting of total income – say, off by just \$5,000 – can

1 potentially qualify or disqualify a household of low income status. The mitigating
 2 factor is that the study is self-administered, thereby giving the survey respondent
 3 essentially an unlimited amount of time to make a considered estimate of the total
 4 household pre-tax income level.

5 *Step 2: Sample Expansion (Data Weighting)*

6 As with most other analytics facilitated by the 2014 REUS, the sample of
 7 7,451 survey records is statistically weighted by four housing types within four
 8 regions to precisely reflect the known distributions among all Residential accounts in
 9 BC Hydro's billing system. This ensures that the sample, analytics and related
 10 findings – including those that pertain to low income households – are generalizable
 11 to the entire population of Residential customers in BC Hydro's service area.

12 **5.5.1.2 Estimated Incidence of Low Income BC Hydro Customer**
 13 **Households**

14 The estimated incidence of low income BC Hydro customer households based on
 15 Statistics Canada pre-tax LICO cut-off measures 10 per cent in regards to the
 16 2013 tax year. Regionally, this incidence measures highest at 11 per cent among
 17 customer households in the Lower Mainland. By housing type, the incidence
 18 measures highest at 17 per cent among customer households in
 19 apartments/condominiums and lowest at 6 per cent among customer households in
 20 single detached houses. Refer to [Table 5-14](#) and [Table 5-15](#).

21 **Table 5-14 Low Income Status for the 2013 Tax Year**
 22 **by Region**

	Total (%)	Lower Mainland (%)	Vancouver Island (%)	Southern Interior (%)	North (%)
Yes – Low Income Household	10	11	8	7	9
No	90	89	92	93	91

**Table 5-15 Low Income Status for the 2013 Tax Year
by Housing Type**

	Total (%)	Single Detached House (%)	Duplex/Row/Townhouse (%)	Apartment/Condominium (%)	Mobile Home/Other (%)
Yes – Low Income Household	10	6	10	17	11
No	90	94	90	83	89

5.5.1.3 Other LICO Definitions considered

BC Hydro reviewed the possibility of using the LICO multiplied by 1.3 measure forming part of the definition of “low-income household” in section 1 of the Demand-Side Measures Regulation²²³ (**DSM Regulation**) but is concerned that this would have a distorting effect on analysis undertaken with respect to the RIB rate. Use of LICO results in the categorization of 10 per cent of BC Hydro’s Residential customers as low income customers, while use of the DSM Regulation’s LICO multiplied by 1.3 would more than double this to about 24 per cent of BC Hydro’s Residential customers.²²⁴ All of the RDA modelling for the RDA stakeholder engagement process and for the RDA itself (refer to sections [5.2.4](#) and [5.2.5](#) above) used LICO. Re-modelling and related analysis on the basis of the DSM Regulation’s LICO multiplied by 1.3 would take months. BC Hydro engaged with BCOAPO on this issue at a meeting on August 18, 2015 and understands that BCOAPO agrees with BC Hydro that Statistics Canada’s LICO should be used for purposes of responding to the Minister RIB Report Letter. BCOAPO supports the continued use of the DSM Regulation’s definition of low-income households as being LICO multiplied by 1.3 for low income DSM programs.

5.5.1.4 BC Hydro Residential Rate Modelling for Stakeholder Engagement

BC Hydro undertook extensive Residential rate design modelling for the RDA stakeholder engagement process which will be relied on for purposes of

²²³ B.C. Reg. 326/2008; <https://www.canlii.org/en/bc/laws/regu/bc-reg-326-2008/latest/bc-reg-326-2008.html>.

²²⁴ Based on the Vancouver CMA LICO.

1 questions 1, 2 and 3 in the Minister RIB Rate Report Letter. As noted in section 2.4.3
2 of the Application, for the residential sector, BC Hydro used a representative sample
3 of 10,000 to illustrate the overall population impact. This is followed by using the
4 representative sample from the REUS to assess impacts by customer segments,
5 such as low income, electrical heating and housing types. Refer to sections [5.2.4](#)
6 and [5.2.5](#) above.

7 **5.5.2 Defining Factors Leading to High Energy Use**

8 BC Hydro defines the phrase “high energy use” as including both energy
9 consumption and peak demand. Based on the 2014 REUS and the Residential
10 rate class segmentation analysis in section 4.2.1 of the Application, BC Hydro
11 identifies the following factors as driving higher than average annual electricity
12 consumption:

- 13 • Electricity consumption by heating fuel. The 2014 REUS found that single
14 detached houses which rely on electricity for their home heating emerge as
15 having had the highest annual consumption at 17,758 kWh (2014 REUS,
16 page 234); and
- 17 • Electricity consumption by housing type within region. Due primarily to the fact
18 that they rely on electricity for space heating, residential customers on
19 Vancouver Island lead all four regions in average annual consumption at
20 11,776 kWh. Average household consumption was higher in the Southern
21 Interior (10,211 kWh) and the North (9,894 kWh) than it was in the Lower
22 Mainland (8,634 kWh), most likely due to the relatively heavier electrical
23 demand for space heating and space cooling in those regions (2014 REUS,
24 page 233).

25 BC Hydro considered but rejected number of occupants as a factor. As noted in the
26 2014 REUS, while the average annual household consumption of electricity
27 generally steps up with the number of individuals in the home, the number of

1 household occupants is correlated with the physical size of the home in terms of
2 floor area.

3 **5.5.3 Approach to Address Minister Residential Inclining Block Rate** 4 **Letter**

5 *Minister RIB Report Letter Question 1*

6 BC Hydro will assess the possibility of the RIB rate causing a “cross-subsidy
7 between customers with and without access to natural gas service” posed by
8 Minister RIB Report Letter question 1 using cost of service information.

9 Responding to this question requires a practical definition of “access to natural gas”.
10 BC Hydro proposes adopting a community approach to define access to natural gas.
11 As noted in the Workshop 12 summary notes found at Appendix C-1B,²²⁵ pages D8
12 to D10 of Fortis Gas’ tariff²²⁶ list communities that have access to natural gas.
13 Examples of B.C. communities in BC Hydro’s service area without natural gas
14 include: Clearwater, Golden, Invermere, Port Hardy and Valemount. According to
15 the 2014 REUS about 50 per cent of households in these communities use
16 electricity for primary heating, which is higher than the provincial average. This is
17 supported by billing data that shows F2014 average residential consumption of
18 14,000 kWh per year in these areas, which is higher than median consumption for
19 electric or non-electric residential customers of about 10,000 kWh and 8,500 kWh
20 per year respectively as reported on slide 24 of the Workshop 3 slide deck
21 presentation at Appendix C-3A.

22 *Minister RIB Report Letter Question 2*

23 Question 2 asks “[w]hat evidence is available about high bill impacts [greater than
24 10 per cent as a result of the adoption of the [BC Hydro RIB rate] on low income
25 customers?”. As noted in section [5.2.2](#) above, the RIB rate was implemented on

²²⁵ BC Hydro response to question 7 in Part 2 of the summary notes.

²²⁶

http://www.fortisbc.com/About/RegulatoryAffairs/GasUtility/NatGasTariffs/Documents/FortisBC_GeneralTermsAndConditions.pdf.

1 October 1, 2008, almost seven years ago. Accordingly, to respond to question 2,
2 BC Hydro proposes:

- 3 • To highlight the Commission’s findings of the RIB rate impacts on low income
4 customers in the 2008 RIB Decision. As noted in section [5.2.4.3](#) above, the
5 Commission found “the vast majority of BC Hydro’s low-income customers will
6 be better off under a simple two-step inclining block structure that is revenue
7 neutral for the residential customer class than under the [then current] flat rate”;
- 8 • To assess the two F2017-F2019 pricing principle options for the RIB
9 rate discussed in section [5.2.5.1](#) above. BC Hydro’s preferred pricing principle
10 Option 1 results in bill impacts set out in [Table 5-8](#) above (F2017 – 4 per cent;
11 F2018 – 3.5 per cent; and F2019 – 3 per cent). No low income customer will
12 have a bill impact greater than 10 per cent under RIB rate pricing principle
13 Option 1;
- 14 • As the RIB rate has been in place for almost seven years, the only sound
15 method to gauge bill impacts to low income customers is to compare the RIB
16 rate to an alternative had the RIB rate not been in place. BC Hydro proposes
17 that the flat energy rate modelled for the 2015 stakeholder engagement process
18 and described in section [5.2.4.1](#) above serve as the counter-factual. As noted in
19 [Table 5-3](#) above, BC Hydro estimates that with a flat rate, in F2017 80 per cent
20 of low income accounts will experience bill impacts greater than 10 per cent,
21 and 47 per cent greater than 20 per cent.

22 *Minister RIB Report Letter Question 3*

23 As illustrated in section [5.2.4.1](#) above, BC Hydro modelled the bill impacts of moving
24 from the RIB rate to a flat rate by dwelling type (apartments) and for customers using
25 electric space heating. BC Hydro also proposes to model the bill impacts of moving
26 from the RIB rate to a flat rate for customers in communities that do not have access
27 to natural gas.

1 *Minister RIB Report Letter Questions 4 and 5*

2 The Commission RIB Report Methodology Letter at page 3 asks BC Hydro to
3 provide:

4 d. Any other relevant method [BC Hydro] will use to gather
5 information or to answer the questions posed in the
6 [Minister RIB Letter].

7 The Minister RIB Report Letter question 4 asks what the potential is for existing
8 DSM programs to mitigate any RIB rate-related high bill impacts on low income
9 customers, if there are such impacts; and question 5 asks what options there are for
10 additional residential DSM programs, including low income programs, within the
11 current regulatory environment. Section [5.6.1](#) below provides a summary of
12 BC Hydro's existing Residential DSM programs, while section [5.6.2](#) contains
13 detailed information on BC Hydro's two existing low income DSM program offers. As
14 set out in section [5.2.4.3](#) above, BC Hydro's assessment is that in comparison to
15 the RIB rate, a move to a flat rate will result in high bill impacts to the majority of
16 BC Hydro's low income customers. In addition, no low income customer will have a
17 bill impact greater than 10 per cent under RIB rate pricing principle Option 1.
18 Nevertheless, BC Hydro provides information on its existing low income DSM
19 programs as part of responding to Minister RIB Report Letter questions 4 and 5, and
20 to fulfil the commitment made to BCOAPO and other stakeholders at Workshop 12
21 that BC Hydro would provide such information in the RDA Module 1 filing.

22 **5.6 BC Hydro Residential Demand Side Management**
23 **Programs**

24 Minister RIB Report Letter question 5 states “[w]ithin the current regulatory
25 environment, what options are there for additional [DSM] programs, including low
26 income programs”. The phrase “within the current regulatory environment” raises
27 two issues:

- 1 • At Workshop 12, BC Hydro set out its view that the Commission cannot accept
2 or reject expenditures associated with BC Hydro's existing low income or other
3 Residential DSM programs as part of the 2015 RDA decision because low
4 income DSM programs are not rates. The proper venue for such a Commission
5 decision would be a section 44.2 UCA DSM expenditure determination filing;²²⁷
6 and
- 7 • The F2017-F2019 rate caps set out in section 9 of Direction No. 7 (discussed in
8 section 2.2.1.3 of the Application) must inform any response to Minister RIB
9 Report Letter questions 4 and 5.

10 5.6.1 BC Hydro's Existing Residential Demand Side Management 11 Programs

12 BC Hydro's existing Residential DSM programs are summarized in [Table 5-16](#).

13 **Table 5-16 Existing BC Hydro Residential DSM**
14 **Programs**

Program Name	Description
Retail Rebate	Provides a rebate offer for lighting, appliances, consumer electronics and other energy efficient products.
Behaviour	Provides an incentive for Residential customers who are successful in reducing their electricity consumption by 10% over one year.
Refrigerator Buy Back	Provides an incentive for the removal of secondary, inefficient fridges.
New Home	Provides incentives to owners of qualified Energy Star new homes. Features of Energy Star new homes include efficient heating and cooling systems, Energy Star appliances, heat recovery ventilation systems, insulation and Energy Star windows and doors.
Home Energy Rebate Offer	Provides rebates to owners of existing homes for improving the energy efficiency of their home. Rebates are provided for insulation, draft proofing, ductless heat pumps, Energy Star water heater, Energy Star bathroom fans, Energy Star windows and doors, Energy Star high efficiency heating systems and Energy Star heat recovery ventilators.
Low Income	Provides energy savings kits and financing for deeper energy efficiency retrofits for low income customers. Refer to section 5.6.2 below.

²²⁷ Refer to Part 2, response to question 6 of the Workshop 12 summary notes at Appendix C-1B of the Application.

1 **5.6.2 BC Hydro's Existing Residential Low Income Demand Side** 2 **Management Programs**

3 BC Hydro has two existing low income DSM program offers:

- 4 • **Energy Savings Kits (ESKs)**: The ESK is a package of basic energy saving
5 measures provided at no charge that can be installed by most homeowners or
6 tenants with limited or basic tools. ESKs contain lighting-related products (such
7 as CFLs, light switch stickers and a nightlight), water saving products (such as
8 faucet aerators and a low flow showerhead), heat-loss products (such as water
9 heater pipe wrap, draft proofing material, and window film) and general energy
10 savings tips and brochures. As of August 31, 2015, almost 85,000 low-income
11 houses have received energy savings kits from BC Hydro since the ESK
12 program launched in April 2008; and
- 13 • **Energy Conservation Assistance Program (ECAP)**: ECAP provides eligible
14 BC Hydro low income Residential customers at no charge with a home
15 evaluation, installation of energy saving products and education on what
16 customers can do around their homes to save energy. Some of the energy
17 saving products that may be installed include energy saving light bulbs
18 (compact fluorescent lamps), low-flow showerheads and faucet aerators, a
19 water heater blanket and pipe wrap, advanced draft proofing (such as caulking
20 and door sweepers), an Energy Star refrigerator, a high-efficiency gas furnace,
21 and insulation for attics, walls and crawlspaces. As part of the December 2012
22 DSM Milestone Evaluation Summary, BC Hydro estimated eligible low income
23 households, about 47 per cent own and inhabit electrically heated SFDs eligible
24 for further retrofits under the basic or advanced stream of ECAP. The advanced
25 stream includes basic offerings but adds a comprehensive home insulation
26 offer. Both electric and natural gas heated SFDs are eligible for the insulation
27 upgrades offer due to BC Hydro's partnership with FortisBC. ECAP
28 commenced in May 2009. As of August 31, 2015, over 11,400 of BC Hydro's
29 Residential customers have participated in the program (with over 2,500

1 receiving Energy Star fridges). The energy savings kits referred to above can
2 help recipients save up to \$100/year on utility bills, while a low income
3 customer receiving basic measures and a fridge could save up to \$150/year
4 and a low income customer receiving insulation upgrades up to \$300/year
5 (approximately 25 per cent of the annual bill for a typical electrically-heated
6 single-family home for a low-income customer in BC Hydro's service area).

7 These two DSM program offers have delivered nearly half a million dollars in
8 electricity cost savings to participants to date. Similarly defined programs are
9 available in many other North American jurisdictions; refer to the low income rate/low
10 income DSM program jurisdictional review at Appendix C-3D.

11 Low income customers face barriers to participation in BC Hydro's conventional
12 Residential DSM programs. Factors affecting participation include low disposable
13 income and sub-optimal access to program information and financing. Program
14 activities to reach qualified low income participants include marketing bill inserts,
15 direct mail campaigns, advertising through non-profits, print materials, as well as
16 contractor training, quality assurance services and technical consulting services.
17 BC Hydro strives to reach customers by partnering with existing agencies that are
18 already working within this community. Partnerships to date include FortisBC, the
19 B.C. Ministry of Social Development and Social Innovation (**MSDSI**), BC Housing,
20 food banks and Better At Home (managed by the United Way, one of the largest
21 social service agencies in B.C.). BC Hydro also provides capacity funding to
22 non-profit housing providers and aboriginal units to assist them to hire someone
23 locally to help promote the ESK and ECAP programs and collect application forms
24 from tenants and/or members of the community on behalf to the two programs.

25 These two DSM program offers identified above were originally designed for
26 Residential low-income customer identified under Statistics Canada's before-tax
27 LICO. On July 10, 2014 amendments to the DSM Regulation came into effect. The
28 following is relevant to BC Hydro's low income DSM programs:

- 1 • The low income program eligibility LICO threshold is raised to 1.3 times the
- 2 LICO; and
- 3 • There is a list of pre-qualified recipients of various government income and
- 4 housing assistance programs.

5 [Table 5-17](#) sets out the low income household income levels for ESK and ECAP

6 eligibility.

7 **Table 5-17 ESK and ECAP Eligibility Household**

8 **Incomes**

Household Size (Number of Persons)	Household Income (\$)
1	31,700
2	39,400
3	48,500
4	58,800
5	66,700
6	75,200
7 or more	83,700

9 At Workshop 9a, BC Hydro stated that it anticipates that these DSM Regulation

10 changes will increase eligibility for its two low income DSM programs from

11 11 per cent to 21 per cent of BC Hydro residential customers. [Figure 5-30](#) below

12 sets out ECAP applications for F2015. The dashed line shows the applications that

13 would have been approved prior to the changes to the DSM Regulation, while the

14 solid line shows the applications under the DSM Regulation changes. As a result of

15 the DSM Regulation amendments relating to the definition of “low income

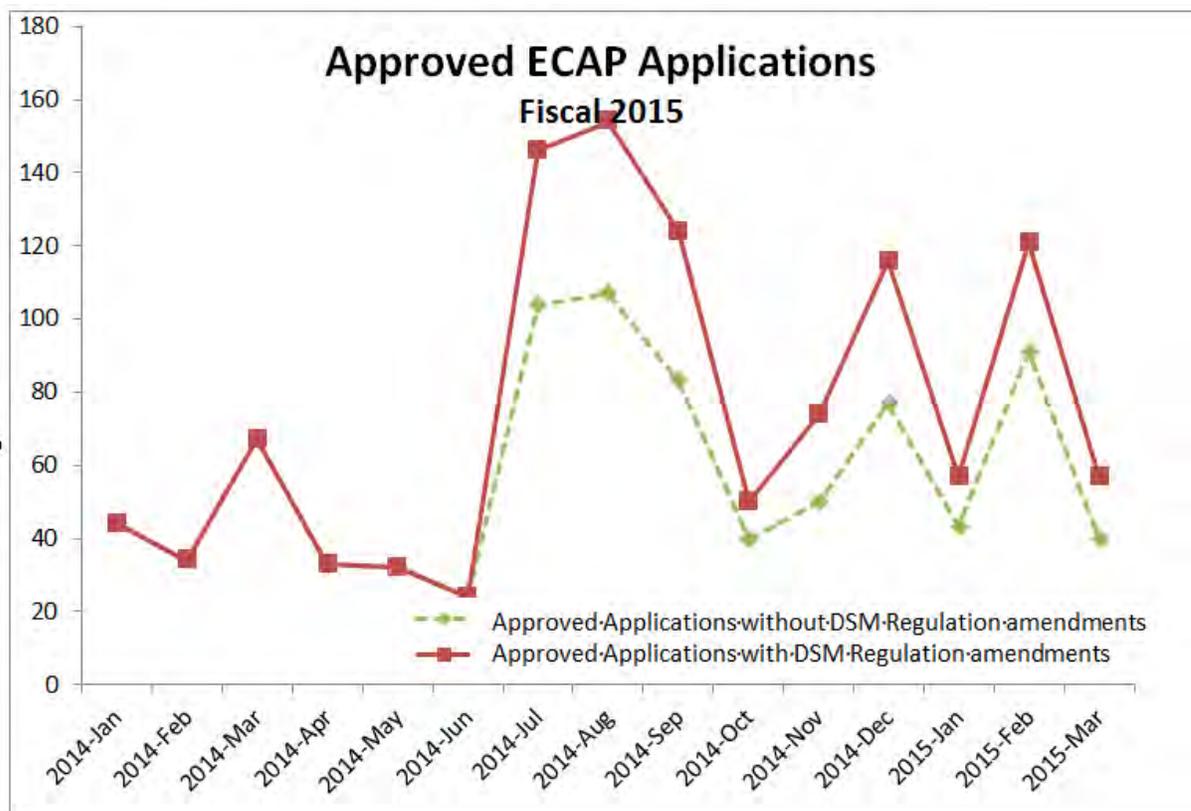
16 household”, 260 additional households were approved for ECAP, representing a

17 42 per cent increase in individual applications.²²⁸

²²⁸ Based on individual applicants; excludes bulk applications from non-profit housing providers and aboriginal communities where individual income levels are not collected.

1
2

Figure 5-30 DSM Regulation Amendments and ECAP Participants



3 In F2015, the DSM Regulation amendments resulted in 1,500 additional
 4 households²²⁹ receiving ESKs, representing a 23 per cent increase in participation.
 5 Refer to [Figure 5-31](#).

²²⁹ Refers to households who would not have qualified under the previous DSM Regulation low income rules.

1
2

Figure 5-31 DSM Regulation Amendments and ECAP Participants

