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BRITISH COLUMBIA UTILITIES COMMISSION

ORDER NUMBER G-124-08

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IN THE MATTER OF
the Utilities Commission Act, R.S.B.C. 1996, Chapter 473

and

Application by British Columbia Hydro and Power Authority ("BC Hydro")
2008 Residential Inclining Block Application ("RIB Application")

BEFORE: A.J. Pullman, Panel Chair
R.J. Milbourne, Commissioner
L.A. O'Hara, Commissioner

August 28, 2008

O R D E R

WHEREAS:

A. On February 26, 2008 BC Hydro filed an application with the Commission, pursuant to sections 58 to 61 of the *Utilities Commission Act* (the "Act"), for the review and approval of a new, two-step, inclining block rate structure for its residential customers (the "RIB Application"); and

B. The RIB Application contains a proposed restructuring of rates to BC Hydro's residential customers. The objective of the proposal is to encourage additional electricity conservation, a goal that was prescribed in certain Policy Actions to the 2007 Energy Plan released by the provincial government on February 27, 2008; and

C. Specifically, BC Hydro aims to start contributing to the 2007 Energy Plan's 2020 conservation goal, to accelerate customer awareness of the increasing cost of electricity, and to gain experience with residential customer demand response to rates in order to inform future rate design proposals; and

D. The RIB Application is revenue neutral on a forecast consumption basis at the residential class level. The proposed two-step rate has the Step-1 Threshold set at 1,600 kWh per bi-monthly billing period and under the threshold, customers pay a lower per unit rate for electricity consumption. The Step-2 Rate would be set annually and calculated residually, that is based on the amount that is necessary to allow the recovery of revenue requirement of the residential class, less the amount generated by the Step-1 Rate and the Basic Charge, which BC Hydro proposes to increase at its forecast of inflation. The Step-2 rate would be capped at the cost of new energy supply and incremental transmission and distribution delivery costs; and

E. BC Hydro seeks orders that approve (i) the design principles by which the current flat rate structure would be adjusted at first instance to the proposed RIB rate, and annually thereafter; (ii) amendments to Rate Schedules 1101 and 1121; (iii) creation of new Rate Schedules 1151 and 1161; and (iv) revised tariff sheets related to the Terms and Conditions of the General Service rates; and

F. Specifically BC Hydro seeks, on the assumptions that the RIB rate structure would be approved on or before August 30, 2008 for implementation on October 1, 2008 and that the April 1, 2008 interim approval of BC Hydro's F2009 revenue requirement rate increase is still in effect, an order that approves: (i) Rate Schedules 1101 and 1121 to show a Step-1 Rate of 6.28 cents/kWh; a Basic Charge of 12.38 cents/day; and Step-1 Threshold of 1,600 kWh per bi-monthly Billing Period, and a Step-2 Rate of 6.98 cents/kWh; and (ii) Rate Schedules 1151 and 1161 to show a flat rate of 6.55 cents/kWh and a Basic charge of 12.93 cents/day; and

G. By Commission Order G-28-08 dated February 28, 2008, the Commission established a Procedural Conference to be held on April 28, 2008 regarding the regulatory processes for the RIB Application, along with two other concurrent applications from BC Hydro: the F09/F10 Revenue Requirements Application and the Transmission Service Rate Re-pricing Application; and

H. By Commission Order G-76-08 dated April 28, 2008, the Commission ordered that an Oral Public Hearing be held to review the RIB Application. The regulatory timetable for the proceeding included two rounds of Information Requests to BC Hydro, and a timetable for the submissions of Intervenor Evidence and Information Requests to Intervenors; and

I. The only Intervenor to file Evidence was Energy Solutions for Vancouver Island; and

J. On May 22, 2008, the British Columbia Old Age Pensioners' Organization *et al.* ("BCOAPO") filed a copy of the May 16, 2008 Decision of the Ontario Divisional Court regarding the jurisdiction of the Ontario Energy Board to implement a low income affordability program (Exhibit C10-4). BCOAPO referred this Ontario court decision as a subject matter for legal argument; and

K. The Public Hearing commenced on June 16, 2008 in Vancouver and the evidentiary phase of the proceeding closed on June 19, 2008, subject to the delivery of responses to outstanding Undertakings; and

L. By Commission Letter L-31-08 dated June 26, 2008, the Commission made a determination on the submissions of the Parties on the issue of the right of reply by Intervenors to the Final Arguments of other Intervenors and the schedule for Final Arguments by the Parties. The schedule provided for the filing of Undertakings by BC Hydro on July 4, 2008, filing of BC Hydro's Final Argument on July 9, 2008, filing of Intervenors' Final Arguments on July 24, 2008, and filing of BC Hydro's Reply Argument, as well as Intervenors' Reply Argument to BCOAPO's Argument on jurisdiction, on August 7, 2008; and

M. On August 15, 2008 an Oral Phase of Argument was held; and

N. The Commission has considered the RIB Application and the evidence and submissions presented to it, including jurisdictional issues, and has determined that a RIB rate should be implemented provided that the conditions in this Order are met.

NOW THEREFORE pursuant to sections 58-61 of the Act, the Commission determines, with Reasons for Decision to follow, that it is in the public interest for BC Hydro to implement a RIB rate structure and orders that:

1. Provided BC Hydro files, no later than 14 days from the date of this Order, revised tariff sheets for Rate Schedules 1101 and 1121 that reflect a two-step RIB rate structure which incorporates the following design principles:

    (i) for the period commencing on April 1, 2009, establishes the Step-2 rate at BC Hydro's current estimate of the cost of new energy supply at the plant gate, grossed up for losses, of 8.27 cents per kWh (Exhibit B-3, BCOAPO 1.3.3) and caps it at that amount;

    (ii) for the period commencing October 1, 2008 through March 31, 2009 establishes the Step-2 rate as the above rate less one-half of the difference between that rate and 6.15 cents per kWh (being the rate for Rate Schedules 1101 and 1121 prior to the most recent interim rate increase);

    (iii) establishes the Step-1 to Step-2 threshold at 1,350 kWh per billing period (being more or less 90% of the median consumption of BC Hydro's customers (Exhibit B-3, BCUC 1.4.7) of 762 kWh per month);

    (iv) calculates residually the Step-1 rate and the Basic Charge for the period October 1, 2008 to March 31, 2009, and for April 1, 2009 for F2010 to achieve revenue neutrality for the residential rate class for those periods;

    a RIB rate structure incorporating the above design principles is approved, effective October 1, 2008; otherwise the RIB Application is dismissed.

2. Subject to paragraph 1, the Commission also orders that:

    (i) the proposed exempt residential Rate Schedule 1151 for farm accounts, residential service customers in Zone 1B, and those residential customers enrolled in the Conservation Research Initiative Pilot project is approved;

(ii) the proposed exempt Rate Schedule 1161 for Multiple Residential Service is approved;

(iii) the revised tariff sheets related to the Terms and Conditions of the General Service rates are approved;

(iv) the energy rate and the Basic Charge of Rate Schedules 1151 and 1161 are approved;

(v) on or before February 28, 2009 BC Hydro shall file the Rate Schedules 1101, 1121, 1151 and 1161 that are to be effective April 1, 2009, and which reflect the revenue requirements applicable to the fiscal year beginning April 1, 2009; and

(vi) should BC Hydro's current estimate of the cost of new energy supply at the plant gate, grossed up for losses be varied, BC Hydro is to apply to the Commission to amend and phase-in if necessary the Step-2 rate of Rate Schedules 1101 and 1121 accordingly.

DATED at the City of Vancouver, in the Province of British Columbia, this 28th day of August 2008.

BY ORDER

Original signed by:

A.J. Pullman
Panel Chair

IN THE MATTER OF

BRITISH COLUMBIA HYDRO AND POWER AUTHORITY

RESIDENTIAL INCLINING BLOCK RATE APPLICATION

REASONS FOR DECISION TO ORDER G-124-08

September 24, 2008

Before:

Anthony J. Pullman, Panel Chair & Commissioner
Robert J. Milbourne, Commissioner
Liisa A. O'Hara, Commissioner

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OVERVIEW

These Reasons for Decision are issued in respect to the Commission's Order G-124-08 issued on August 28, 2008. The Reasons are set out as follows:

Section 1 describes British Columbia Hydro and Power Authority's ("BC Hydro") Application and the regulatory and policy framework within which it was made. It also describes the conduct of the proceeding and summarizes Order G-124-08 and the filing BC Hydro made in response to the Order on September 5, 2008.

Section 2 deals with jurisdictional matters, specifically the Commission's jurisdiction to amend residential rates in light of Bill 15, and refers to the Commission's jurisdiction to set rates for low-income customers.

Section 3 examines innovative rate structures in place in North America, and reviews the stakeholder consultation and customer research into rate structures that encourage conservation and energy efficiency undertaken by BC Hydro. It examines in some detail BC Hydro's proposed inclining block rate structure as well as two additional rate structures – namely the Customer Baseline Load ("CBL") and the Flat Rate with Dividend ("FRWD"). The Commission Panel concludes that a residential inclining block rate structure is the most suitable for BC Hydro at this time, and is in the public interest.

Section 4 examines variations in inclining block rate structures, such as rates with two or more steps, structures which are seasonal in nature and structures which segment the residential customer class by region, dwelling type, heat source, or number of occupants. The Commission Panel concludes that a simple two step residential inclining block rate structure is the most suitable for BC Hydro at this time.

Section 5 examines BC Hydro's proposal in detail, reviewing BC Hydro's design principles, the additional tests it used as design criteria, and the proposal's impact on BC Hydro's customers. The Commission Panel determines that BC Hydro's proposed design principles are not in the public interest and approves a modified inclining block rate structure, conditional on BC Hydro filing revised tariff sheets which reflect the design principles found suitable by the Commission Panel.

Section 6 addresses Miscellaneous Matters, such as the concept of revenue neutrality, the customers BC Hydro proposes to be exempt from the RIB rate structure, the Basic Charge and Minimum Bill, and how the RIB rate structure will be administered by BC Hydro.

1.0 INTRODUCTION

This document contains the Commission's decision with respect to BC Hydro's 2008 Residential Inclining Block Application ("RIB Application"). The RIB Application was filed with the Commission on February 26, 2008 (Exhibit B-1) with errata on April 18, 2008 (Exhibit B-4) pursuant to the Commission's Decision and Order G-130-07 of October 26, 2007 in the matter of BC Hydro's 2007 Rate Design Application ("2007 RDA Decision") at page 110.

This Decision should be read in conjunction with the 2007 RDA Decision.

1.1 Procedural Background

In the 2007 RDA Decision the Commission directed BC Hydro to bring forward its RIB proposal no later than March 31, 2008, and to consider expediting the application in order that the new structure, if found to be appropriate, might come into effect during the rebalancing phase-in period and thus mitigate its effect. In addition, the Commission provided some guidance as to how the RIB rate structure contemplated by BC Hydro might be designed, as discussed at Section 1.4 below.

Immediately prior to filing its RIB Application, on February 22, 2008, BC Hydro filed an Application for Re-pricing its Transmission Service Rates ("TSRA") and on February 20, 2008 an Application for its Fiscal 2009/2010 Revenue Requirements ("F09/F10 RRA"). In light of the interactions between these three applications, BC Hydro requested that the Commission consider them as a "package" to minimize the fiscal and administrative burden on it and the Intervenor community.

By Order G-28-08 dated February 28, 2008, the Commission established a Procedural Conference to be held on April 28, 2008 regarding the regulatory processes for the three applications. Pursuant to that Procedural Conference, by Order G-76-08 dated April 28, 2008, the Commission ordered that an Oral Public Hearing be held to review the RIB Application. The regulatory timetable for the proceeding included two rounds of Information Requests ("IR") to BC Hydro, and a timetable for the submissions of Intervenor Evidence and IRs to Intervenors.

1.2 Regulatory and Policy Framework

1.2.1 Historical Background for Residential Rates

The relevant legislative and policy background to the date of filing of the Application are recited in substantial detail at Sections 1 and 2 of the 2007 RDA Decision and will not be repeated here. Key elements of that policy framework that bear on the 2007 RDA include:

(i) electricity generated by the Heritage Resources to continue to be available to BC Hydro ratepayers based on cost of service, not market prices (BC Hydro Public Power Legacy and Heritage Contract Act);

(ii) new rate structures to provide better signals to large electricity consumers for conservation and energy efficiency (Policy Action 21 – 2002 Energy Plan);

(iii) to build on a "culture of conservation" through exploration and development by utilities of rate designs to encourage efficiency and conservation (Policy Action 1 - 2007 Energy Plan);

(iv) utilities are to propose to the Commission innovative rate designs that encourage efficiency, conservation and the development of clean or renewable energy including stepped rates for other rate classes i.e. in addition to those for industrial customers (Policy Action 4 – 2007 Energy Plan);

(v) Order in Council 1123 dated November 27, 2003 being Heritage Special Direction No. HC2 to the Commission ("HC2"); and

(vi) Order in Council 508 dated June 25, 2007 being Special Direction No. 10 ("SD 10") to the Commission.

To the date of this Decision, the policy background is substantially unchanged, save and except for amendments to it by way of legislative change to the Utilities Commission Act ("UCA" or the "Act") made subsequent to the filing of the Application, as discussed in Section 2.1 below.

1.3 Bill 15 and Amendments to the UCA

Contemporaneously with its F09/F10 RRA filing, by letter dated February 20, 2008, BC Hydro requested Reconsideration of those Directives of the Commission's 2007 RDA Decision – Phase I that related to rebalancing its rates among its customer classes, on the basis of advice it had received from the Minister of Energy, Mines, and Petroleum Resources that legislative amendments to the Act were pending that would have, among other things, the effect of setting aside the Commission's determinations in those matters. The Commission allowed the Reconsideration and, pursuant to a Written Hearing, by Order G-34-08 dated March 7, 2008 granted BC Hydro the relief it requested – the relevant Directives were stayed pending the earlier of the coming into force of the legislative amendments or the end of the spring session of the legislature. Bill 15 became the statutory vehicle for the amendments.

The amendments to the Act brought about by Bill 15 became effective May 1, 2008, except for the new section 58.1, which was made effective as of March 31, 2008.

Bill 15 further amended the UCA by the introduction of section 64.04 which obliges BC Hydro to put in place "smart meters" for all of its residential customers by December 31, 2012. Among other conservation objectives, these meters could enable Time-of-Use ("TOU") metering and billing practices by BC Hydro.

The amendments to the Act became a material aspect of the proceeding, as will be described in Section 2 below.

The relevant sections of the Act, including the amendments, were appended as Attachment B to BC Hydro's Final Argument and for convenience they are repeated here:

Commission may order amendment of schedules

58 (1) The commission may,

(a) on its own motion, or

(b) on complaint by a public utility or other interested person that the existing rates in effect and collected or any rates charged or attempted to be charged for service by a public utility are unjust, unreasonable, insufficient, unduly discriminatory or in contravention of this Act, the regulations or any other law, after a hearing, determine the just, reasonable and sufficient rates to be observed and in force.

(2) If the commission makes a determination under subsection (1), it must, by order, set the rates.

(2.1) The commission must set rates for the authority in accordance with

(a) the prescribed requirements, if any, and

(b) the prescribed factors and guidelines, if any.

(2.2) A requirement prescribed for the purposes of subsection (2.1) (a) applies despite

(a) any other provision of

(i) this Act, including, for greater certainty, section 58.1, or

(ii) the regulations, except a regulation under section 3, or

(b) any previous decision of the commission.

(2.3) Subsections (2.1) (a) and (2.2) are repealed on March 31, 2010.

(2.4) Despite subsection (2.3), a requirement prescribed for the purposes of subsection (2.1) (a) that is in effect immediately before March 31, 2010, continues to apply after that date as though subsection (2.2) were still in force, unless the prescribed requirement is amended or repealed after that date.

(3) The public utility affected by an order under this section must

(a) amend its schedules in conformity with the order, and

(b) file amended schedules with the commission.

Rate rebalancing

58.1 1) In this section, **"revenue-cost ratio"** means the amount determined by dividing the authority's revenues from a class of customers during a period of time by the authority's costs to serve that class of customers during the same period of time.

(2) This section applies despite

(a) any other provision of (i) this Act, or

(ii) the regulations, except a regulation under section 3 or 125.1 (4) (f), or

(b) any previous decision of the commission.

(3) The following decision and orders of the commission are of no force or effect to the extent that they require the authority to do anything for the purpose of changing revenue-cost ratios:

(a) 2007 RDA Phase 1 Decision, issued October 26, 2007;

(b) order G-111-07, issued September 7, 2007;

(c) order G-130-07, issued October 26, 2007;

(d) order G-10-08, issued January 21, 2008,

and the rates of the authority that applied immediately before this section comes into force continue to apply and are deemed to be just, reasonable and not unduly discriminatory.

(4) Nothing in subsection (3) prevents the commission from setting rates for the authority, but the commission may not set rates for the authority for the purpose of changing the revenue-cost ratio for a class of customers.

(5) Subsection (4) is repealed on March 31, 2010.

(6) Nothing in subsection (3) prevents the commission from setting rates for the authority, but the commission, after March 31, 2010, may not set rates for the authority such that the revenue-cost ratio, expressed as a percentage, for any class of customers increases by more than 2 percentage points per year compared to the revenue-cost ratio for that class immediately before the increase.

Discrimination in rates

59 (1) A public utility must not make, demand or receive

(a) an unjust, unreasonable, unduly discriminatory or unduly preferential rate for a service provided by it in British Columbia, or

(b) a rate that otherwise contravenes this Act, the regulations, orders of the commission or any other law.

(2) A public utility must not

(a) as to rate or service, subject any person or locality, or a particular description of traffic, to an undue prejudice or disadvantage, or

(b) extend to any person a form of agreement, a rule or a facility or privilege, unless the agreement, rule, facility or privilege is regularly and uniformly extended to all persons under substantially similar circumstances and conditions for service of the same description.

(3) The commission may, by regulation, declare the circumstances and conditions that are substantially similar for the purpose of subsection (2) (b).

(4) It is a question of fact, of which the commission is the sole judge,

(a) whether a rate is unjust or unreasonable,

(b) whether, in any case, there is undue discrimination, preference, prejudice or disadvantage in respect of a rate or service, or

(c) whether a service is offered or provided under substantially similar circumstances and conditions.

(5) In this section, 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.

Setting of rates

60 (1) In setting a rate under this Act

(a) the commission must consider all matters that it considers proper and relevant affecting the rate,

(b) the commission 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,

(b.1) the commission 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

(c) 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 fixed for any other unit.

(2) In setting a rate under this Act, the commission may take into account a distinct or special area served by a public utility with a view to ensuring, so far as the commission considers it advisable, that the rate applicable in each area is adequate to yield a fair and reasonable return on the appraised value of the plant or system of the public utility used, or prudently and reasonably acquired, for the purpose of providing the service in that special area.

(3) If the commission takes a special area into account under subsection (2), it must have regard to the special considerations applicable to an area that is sparsely settled or has other distinctive characteristics.

(4) For this section, the commission must exclude from the appraised value of the property of the public utility any franchise, licence, permit or concession obtained or held by the utility from a municipal or other public authority beyond the money, if any, paid to the municipality or public authority as consideration for that franchise, licence, permit or concession, together with necessary and reasonable expenses in procuring the franchise, licence, permit or concession.

Rate schedules to be filed with commission

61 (1) A public utility must file with the commission, under rules the commission specifies and within the time and in the form required by the commission, schedules showing all rates established by it and collected, charged or enforced or to be collected or enforced.

(2) A schedule filed under subsection (1) must not be rescinded or amended without the commission's consent.

(3) The rates in schedules as filed and as amended in accordance with this Act and the regulations are the only lawful, enforceable and collectable rates of the public utility filing them, and no other rate may be collected, charged or enforced.

(4) A public utility may file with the commission a new schedule of rates that the utility considers to be made necessary by a rise in the price, over which the utility has no effective control, required to be paid by the public utility for its gas supplies, other energy supplied to it, or expenses and taxes, and the new schedule may be put into effect by the public utility on receiving the approval of the commission.

(5) Within 60 days after the date it approves a new schedule under subsection (4), the commission may,

(a) on complaint of a person whose interests are affected, or

(b) on its own motion, direct an inquiry into the new schedule of rates having regard to the fixing of a rate that is not unjust or unreasonable.

(6) After an inquiry under subsection (5), the commission may

(a) rescind or vary the increase and order a refund or customer credit by the utility of all or part of the money received by way of increase, or

(b) confirm the increase or part of it.

(UCA sections 58-61, cited by BC Hydro Final Argument, Attachment B).

1.4 "BCUC Proposal" in 2007 RDA Decision

In its Final Argument, at pages 6-7, BC Hydro quotes the following excerpt from the Commission's 2007 RDA Decision:

> "The Commission Panel notes BC Hydro's intention to introduce an inclining block residential rate structure in the immediate future (Exhibit B-73). The Commission Panel commends this decision and finds it to be in accordance with Policy Action 4 of the 2007 Energy Plan. The Commission Panel considers that the evidence before it in this proceeding indicates that the following parameters for an inclining block rate would be suitable:
>
> - the size of the first block should be determined on the basis of the Heritage entitlement and for each residential customer it should be set at about 800 kW.h per month;
>
> - all energy consumed in excess of 800 kWh per month would be priced at the marginal cost of supply, as established by BC Hydro from time to time as the cost of Tier 2 power under Rate Schedule 1823, plus an allowance for distribution losses;
>
> - the proposal be revenue neutral; and
>
> - the proposal is to be filed with the Commission on or before March 31, 2008.
>
> The Commission Panel considers that this rate structure will be in the public interest in that BC Hydro will be able to build on it and continue to develop innovative residential rate structures which encourage conservation and that send price signals not only to existing customers, but also to builders and developers of new residential units … BC Hydro may wish to consider expediting its consideration of its proposed inclining block residential rate in order that it comes into effect in the phase-in process [viz the first phase of a three-year equal percentage phase-in to achieve revenue-to-cost ratios of 1.0] directed above" (2007 RDA Decision, pp.109-10).

In its Application, BC Hydro states that

> "Finally, it is significant in BC Hydro's view that the BCUC directed BC Hydro to apply for a simple two step inclining block rate structure, before the end of March 2008" (Exhibit B-1, p. 2-7).

By letter to the Commission dated February 21, 2008 the BC Old Age Pensioners Organization *et al*. ("BCOAPO") sought clarification that all the issues related to the design parameters of the inclining block rate were open for active consideration in the regulatory process. The Commission confirmed by letter dated February 25, 2008 to BCOAPO that its statements in the 2007 RDA Decision were not intended to constitute a predetermination of the features of an inclining block rate structure for residential customers but were made in the context of BC Hydro's stated intent to introduce an inclining block residential rate structure in the immediate future.

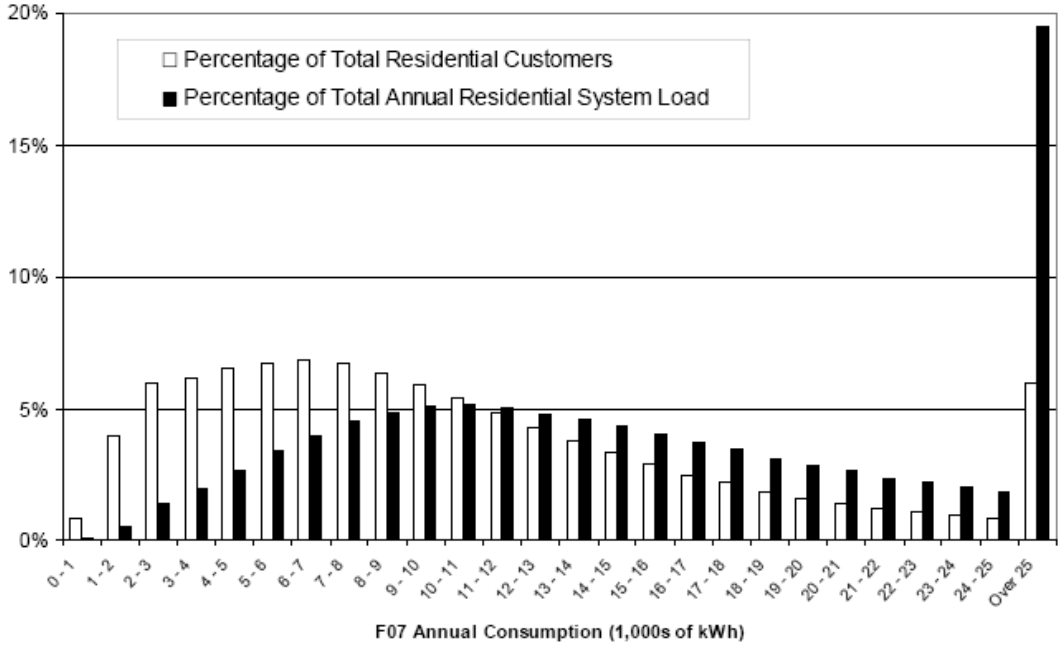
1.5 Application and Orders Requested

1.5.1 Residential Statistics

From its incorporation in 1962 until 1992, BC Hydro's residential rate was a declining block rate structure with the first 275 kWh consumed in a month priced at one rate and all remaining consumption priced at a lower rate. Following BC Hydro's 1992 Rate Design Application the Commission directed BC Hydro to move to a flat rate structure over a two-year period, which was accomplished by March 31, 1994, since which time BC Hydro's residential rate has been a flat rate structure. At March 31, 2008 Rate Schedule 1101 (BC Hydro's Zone I residential rate) comprised a Basic Charge of 12.38 cents per day and 6.15 cents/kWh for all electricity consumed.

BC Hydro states that it serves approximately 1.5 million residential customers and that on average in F2007 each residential customer consumed approximately 11,000 kWh (being 1,158 kWh in each of the four winter months and 796 kWh in each of the eight remaining months), and provides the following chart:

Figure 1-2 Residential Consumption Distribution



Source: Exhibit B-1, p. 1-7

BC Hydro notes that its residential load is not distributed evenly, with the average annual consumption of the bottom 20 percent of customers averaging some 2,800 kWh per year (about one-quarter of the overall average) and consuming approximately 5 percent of total residential load, and the top 20 percent of its customers accounting for approximately 44 percent of total residential load and on average consuming almost 25,000 kWh per year (about nine times the average for the smallest 20 percent of consumers, and over twice the overall average) (Exhibit B-1, p. 1-7).

BC Hydro stated that once the outliers (accounts with consumption between 0 and 100 kWh per month and with greater than 10,000 kWh per month) have been removed, the median consumption of the remaining accounts (99 percent of the total) was 762 kWh per month and the average consumption was 932 kWh per month (Exhibit B-3, BCUC 1.4.7).

1.5.2 Application

In its RIB Application BC Hydro seeks Commission approval of "a new, two step, inclining block rate structure (RIB rate) for its residential customers".

BC Hydro states that the essential design parameters of the proposed RIB rate structure are as follows:

- the Step-1 threshold is set at 1,600 kWh per bi-monthly billing period;
- the Step-1 rate and the Basic Charge are increased annually to reflect the portion of revenue requirement increases equal to the projected rate of inflation;
- the Step-2 rate is set annually by whatever further amount is necessary to allow the recovery of the residential class revenue requirement, less the amount of revenue generated by the Step-1 rate and the Basic Charge;
- additional rate rebalancing would be applied to each of the Basic Charge, Step-1 rate and Step-2 rate to the extent required; and
- the structure is revenue neutral on a class basis at forecast consumption levels.

  (Exhibit B-1, p.1-10)

BC Hydro estimates that at its threshold of 1,600 kWh per two-month billing period, 35 percent of its residential load will be billed at the Step-2 rate, and 62 percent of its customers will see the Step-2 rate at least once a year, while 74 percent of its customers, who consume less than 14,500 kWh in a year, will be better off under the RIB rate structure than they would have been under the existing flat rate structure. BC Hydro calculates that its proposal will result in conservation of between 303 and 316 GWh in F2010 (Exhibit B-22, Scenario 1).

BC Hydro proposes that, given Commission approval, the final RIB structure and rates would be implemented on a mandatory basis for all its residential customers effective October 1, 2008 except for certain residential customers, being those in Rate Zone II, those in the Bella Bella

Non-Integrated Area, the E-Plus account of E-Plus customers, those designated as farm accounts, and those involved in BC Hydro's Conservation Research Initiative pilot program. As well BC Hydro proposes that those customers under Rate Schedule ("RS") 1121 Multiple Residential Service rate be allocated a Step-1 threshold proportional to the number of single-family dwellings per account (Exhibit B-1, pp. 1-12, 1-13).

1.6 Orders Sought

In its Application, BC Hydro seeks the Commission's approval only of its design principles, inclusive of the proposed exemptions, by which the current flat rate structure would be adjusted at first instance to the proposed RIB rate structure and annually thereafter, and that the RIB rate structure be implemented on October 1, 2008 (Exhibit B-1, p. 1-14).

BC Hydro notes that the tariff sheets at Appendix D of its Application are for illustrative purposes only, and that if the interim F2009 rate increase is varied by the Commission in its F09/F10 RRA Decision then it will file revised tariff sheets reflecting the RIB pricing to come into effect for F2009, and seek an order approving those revised tariff sheets (BC Hydro Argument, p. 99).

In the course of the proceeding, BC Hydro also crystallized guidelines amending the criteria by which its Residential customers can access General Service Rates, which it describes as the "optionality of general service rates" for which it also seeks Commission approval (BC Hydro Argument, p. 99).

1.7 Conduct of the Hearing

1.7.1 Pre-Hearing Matters

The process that resulted in the RIB Application being dealt with by way of an Oral Public Hearing is described at Section 1.1 above and was implemented by way of letters dated April 30, 2008 and Order G-76-08 (Exhibits A-6 and A-6A).

1.7.2 Jurisdictional Issues

By letter of May 22, 2008 BCOAPO advised the Commission and all parties of record that it intended to refer to *Advocacy Centre for Tenants-Ontario v. Ontario (Energy Board) ("ACTO")*, a decision of the Ontario Divisional Court in the course of the Oral Public Hearing and argument in the proceeding. In *ACTO* the majority found that the Ontario Energy Board has the jurisdiction to establish a rate affordability program for low-income customers purchasing natural gas from a utility (Exhibit C10-4).

Further jurisdictional matters arose in the course of the Commission Panel's canvas of the parties as to the need for an Issues List; all were dealt with as described in Section 2 below.

1.7.3 Information Requests

In accordance with the Regulatory Timetable established by Orders G-31-08 and G-76-08, IRs were issued and responded to as follows:

Round 1

By the Commission on March 18 and by Intervenors on March 25 to which BC Hydro responded by April 18 (Exhibit B-3); and

Round 2

By the Commission and by Intervenors on May 6 to which BC Hydro responded by May 15 (Exhibit B-7).

BCOAPO issued a third round of IRs to BC Hydro on May 22, to which BC Hydro responded on June 13.

In addition the Commission Panel issued an IR to BC Hydro on June 5, to which BC Hydro responded in stages (Exhibits B 11, 13, 15, 16, 17 and 20).

1.7.4 Issues List

By letter dated May 29, 2008, the Commission invited submissions from the parties as to the need for, and if appropriate, the content of a Commission Panel issues list to better define the scope of the proceeding (Exhibit A-9).

BC Hydro and six Intervenors responded, with no consensus evident among the submissions.

BCOAPO submitted that the matters it saw as being in play in the Application raised significant concerns as to the mandate and jurisdiction of the Commission and the interpretation of the Act. It referred in particular to the jurisdiction of the Commission to establish a rate affordability program for low-income customers by reference to *ACTO* and submitted that the concerns it raised should be heard and argued and a determination made by the Commission Panel prior to evidence being heard in respect of the Application (Exhibit C-10-5).

None of the other parties supported this position.

Following its review and consideration of the submissions, the Commission Panel determined by letter dated June 4, 2008 that an Issues List was not required for the proceeding and that it would make its determinations on all matters relevant to the Application, including those jurisdictional matters raised BCOAPO, after hearing all evidence and argument in the proceeding (Exhibit A-12).

As well, the Commission Panel invited the parties to make opening statements at the commencement of the Oral Phase of the Proceedings.

1.7.5 Commencement of the Oral Phase of the Proceeding

The Oral Phase commenced on June 16, 2008. There were no preliminary matters to be dealt with. BC Hydro and certain Intervenors provided opening statements, which are summarized below:

(i) BCOAPO generally did not favour the proposed RIB rate structure and raised concerns with respect to its uncertain conservation potential, its being "overtaken" by the new legislation including the requirement for residential smart meters, and, if introduced, the lack of sufficient time to educate customers as to the nature and impact of such a RIB rate structure and the absence of measures to mitigate the impact, on low-income customers, particularly in light of the material increases in BC Hydro's revenue requirements as tabled in the F09/F10 RRA (T2:81-92);

(ii) Terasen Gas Inc., Terasen Gas (Vancouver Island) Inc., and Terasen Gas (Whistler) Inc. (collectively the "Terasen Utilities" or "Terasen") supported the proposed RIB rate structure on the basis that it would bring into view the price signals to the residential class that are currently masked under the present flat rate structure by its blending of new resources with a large proportion of low cost heritage resources, and in particular suggested that the proposed trailing block or Step-2 rate should reflect the long run marginal cost of new supply (T2:92-96);

(iii) The Joint Industry Electricity Steering Committee ("JIESC") stated that its participation in the proceeding was not out of concern with the particulars of residential rates, but out of concern for matters of principle, in particular that the proposed RIB rate structure was inherently unfair and ineffective and that if the Commission accepts unfair and ineffective rates for one rate class then those rates, or the arguments for them, will be given credibility and will work their way into the rates of others (T2:96-101);

(iv) The Commercial Energy Consumers Association of BC ("CEC") stated that its participation was also motivated by a concern that the manner by which the Commission deals with a rate design proceeding for residential customers potentially affects all classes of customers, and that while it had not formed a view as to whether it supported or endorsed the proposed structure it was sensitive to the concerns of the BCOAPO client group, and shared the fairness concerns of the JIESC (T2:101-105);

(v) The Rental Owners and Managers Society of BC ("ROMSBC"), while agreeing with the goals of the proposed RIB rate structure, expressed concern as to the "unintended consequences" of applying the structure to customers who could not influence the ultimate consumers, those rental tenants whose cost of electricity was included in their monthly rent i.e. not separately metered and billed, and the hardship that would impose on the rental unit owners' given their limited ability to recover their cost increases (T2:105-08);

(vi) The BC Sustainable Energy Association, and the Sierra Club of Canada BC Chapter ("BCSEA"), while strongly supporting cost effective conservation and efficiency measures, expressed no position on the Application, indicating it would await the evidence and the arguments before forming its views (T2:108-13); and

(vii) Energy Solutions for Vancouver Island Society ("ESVI") expressed its belief that rates as a mechanism for conservation are a good thing if done properly, but that given the unique circumstances on Vancouver island with its high use of electric heat for space and water that improvements in the proposed rate structure can and should be made, to the benefit of not only the Vancouver island customers but for the benefit of BC Hydro and the rest of the Province (T2:113-16).

BC Hydro called one Witness Panel which gave evidence and was cross examined by Intervenors and Commission Counsel. The Witness Panel comprised:

- Beverly Van Ruyven, Executive Vice President, Customer Care & Conservation- BC Hydro;
- Bridgette Zacharias, Director, Customer Care- BC Hydro;
- Kenneth Tiedemann, Manager, Power Smart Evaluation- BC Hydro; and
- Dr. Ren Orans, Managing Partner of Energy and Environmental Economics, Inc ("E3").

Ms. Van Ruyven was the Applicant's policy witness and provided an opening statement (Exhibit B-12). E3 had been retained by BC Hydro to advise it on rate design matters (T5:739) and developed a computer spreadsheet being a "rate calculation and bill impact estimation tool" (Exhibit B-3, BCUC 1.38.1).

The only Intervenor evidence tendered was a letter of May 27, 2008 from ESVI (Exhibit C-13-4). The Commission issued an IR to ESVI on May 30, to which ESVI responded on June 11. As no party required EVI for cross-examination, no one from ESVI was called to answer questions on the evidence.

1.7.6 Order and Scope of Argument and Reply

As well as the jurisdictional matters raised by BCOAPO, certain other matters arose during the course of the cross-examination of BC Hydro's Witness Panel, which that panel could not suitably address. At the suggestion of BC Hydro, and/or with the concurrence of Intervenors, these were dealt with in Argument. These matters included: (i) BCOAPO's submission that the Commission had the jurisdiction to establish an affordability program for low-income customers ("lifeline rates") (T2:80, and 129-30); (ii) BCOAPO's submission that the Act as amended raised more general jurisdictional issues (T2:81-82, T5:831); (iii) Commission Counsel's line of cross examination concerning the intersection of HC2 with the RIB proposal (T5:620-22).

There was agreement among the parties on the dates for the filing of outstanding Undertakings and for Final Argument. There was not, however, agreement among the parties as to whether Intervenors should, or would have the opportunity to make Reply to the Final Argument of other Intervenors on matters other than BCOAPO's submissions on jurisdictional matters. On June 19, 2008 the Commission Panel received oral submissions on this issue, with counsel for BCSEA and Mr. Bertsch on behalf of ESVI arguing in favour of a full right of reply to other Intervenors, and counsel for BCOPAO, Terasen, JIESC, Corix Multi-Utility Systems ("Corix") and BC Hydro arguing against such a right (T5: 815-39).

By letter dated June 26, 2008 (L-31-08) the Commission determined that Intervenors would not have the right of reply to other Intervenors beyond the agreed reply to the jurisdictional issues raised by BCOAPO, and that the order of argument and reply would be as follows:

- BC Hydro filing of undertakings by Friday July 4, 2008;
- BC Hydro Final Argument by Wednesday July 9, 2008;
- Intervenor Final Argument by Thursday July 24, 2008;
- BC Hydro Reply by Thursday August 7, 2008;
- Intervenor Reply to BCOAPO submissions on jurisdiction by Thursday August 7, 2008; and

- Oral Phase of Argument and Reply (if required) Friday August 15, 2008.

1.7.7 Closure of the Record of the Proceeding June 19, 2008

On motion from Commission Counsel, subject to BC Hydro's expectation of its outstanding undertakings being filed by Friday, June 27, 2008, the Commission Panel Chair declared the evidentiary record closed as of 12:09 p.m. on June 19, 2008.

1.7.8 Oral Phase Argument and Reply

By letter dated August 11, 2008 the Commission determined that the Oral Phase of Argument and Reply provisionally scheduled for August 15, 2008 was required, and provided the Commission Panel's agenda for discussion to the parties.

The agenda had two items: (i) (a) whether the assumption of the bulk of the bill impacts by larger electricity consumers under the proposed RIB rate structure results in unjust, unreasonable or unduly discriminatory and (b) whether a Commission Panel finding that a rate is punitive means that the rate should be considered unjust, unreasonable and unduly discriminatory; and (ii) the issues raised by the proposed RIB rate structure in light of subsection 5(d) of HC2, which obliges the Commission when setting BC Hydro's rates to ensure that electricity used by BC Hydro to meet its domestic service obligations is provided to customers on a cost-of-service basis (Exhibit A-17).

The Oral Phase of Argument took place on August 15. The Chair provided all parties with the full text of the section covering "Criteria of a Desirable Rate Structure" from James C. Bonbright, *Principles of Public Utility Rates*, Columbia University Press, March 1988 ("Bonbright"), in order to assist the parties in their Argument. BC Hydro confirmed that, with no material exceptions, the full text set out the Bonbright principles it had summarized in its Application (T6:848).

BC Hydro made submissions on item (i), followed by Intervenors in support of BC Hydro's proposed RIB rate structure (Terasen Utilities, CEC, BCSEA, and ESVI) and then Intervenors in opposition (BCOAPO and JIESC), followed by Commission Panel inquires and BC Hydro's Reply. A similar process was followed for item (ii), with Terasen Utilities in support, and BCOAPO in opposition.

Following the completion of the Intervenors' submissions on item (ii), BC Hydro undertook to provide a written reply to issues raised by counsel for BCOPAO and the Panel, by August 18, 2008, which it did.

The Oral Phase of Argument was closed by the Chair at 1:00 p.m., with the record of the proceeding to be closed upon receipt of BC Hydro's Reply to item (ii).

1.8 Order G-124-08

On August 28, 2008 the Commission issued Order G-124-08, in which the Commission, having considered the RIB Application and the evidence and submissions presented to it, including jurisdictional issues, determined that a RIB rate structure should be implemented provided that the conditions in the Order were met, and, pursuant to sections 58-61 of the Act, the Commission determined that it was in the public interest for BC Hydro to implement a RIB rate structure and ordered that:

1. Provided BC Hydro files, no later than 14 days from the date of this Order, revised tariff sheets for Rate Schedules 1101 and 1121 that reflect a two-step RIB rate structure which incorporates the following design principles:

   (i) for the period commencing on April 1, 2009, establishes the Step-2 rate at BC Hydro's current estimate of the cost of new energy supply at the plant gate, grossed up for losses, of 8.27 cents/kWh (Exhibit B-3, BCOAPO 1.3.3) and caps it at that amount;

   (ii) for the period commencing October 1, 2008 through March 31, 2009 establishes the Step-2 rate as the above rate less one-half of the difference between that rate and 6.15 cents/kWh (being the rate for Rate Schedules 1101 and 1121 prior to the most recent interim rate increase);

(iii) establishes the Step-1 to Step-2 threshold at 1,350 kWh per billing period (being more or less 90 percent of the median consumption of BC Hydro's customers (Exhibit B-3, BCUC 1.4.7) of 762 kWh per month); and

(iv) calculates residually the Step-1 rate and the Basic Charge for the period October 1, 2008 to March 31, 2009, and for April 1, 2009 for F2010 to achieve revenue neutrality for the residential rate class for those periods;

a RIB rate structure incorporating the above design principles is approved, effective October 1, 2008, otherwise the RIB Application is dismissed.

2. Subject to paragraph 1, the Commission also ordered that:

(i) the proposed exempt residential Rate Schedule 1151 for farm accounts, residential service customers in Zone 1B, and those residential customers enrolled in the Conservation Research Initiative Pilot project is approved;

(ii) the proposed exempt Rate Schedule 1161 for Multiple Residential Service is approved;

(iii) the revised tariff sheets related to the Terms and Conditions of the General Service rates are approved;

(iv) the energy rate and the Basic Charge of Rate Schedules 1151 and 1161 are approved;

(v) on or before February 28, 2009 BC Hydro shall file the Rate Schedules 1101, 1121, 1151 and 1161 that are to be effective April 1, 2009, and which reflect the revenue requirements applicable to the fiscal year beginning April 1, 2009; and

(vi) should BC Hydro's current estimate of the cost of new energy supply at the plant gate, grossed up for losses be varied, BC Hydro is to apply to the Commission to amend and phase-in if necessary the Step-2 rate of Rate Schedules 1101 and 1121 accordingly.

By letter dated September 5, 2008 BC Hydro filed its revised Electric Tariff pages effective October 1, 2008 in compliance with Order G-124-08. These were approved by the Commission by letter on September 17, 2008 and are attached as Appendix C of this Decision.

2.0 JURISDICTIONAL ISSUES

2.1 Section 58.1

As foreshadowed by comments made by counsel for BCOAPO at the hearing, BCOAPO's Final Argument included submissions that the Commission's jurisdiction to set residential rates has been limited in certain respects by Bill 15 and specifically by the new section 58.1 of the UCA (T4:718-21).

Since BC Hydro filed its Argument before the Intervenors, it made a number of submissions in anticipation of BCOAPO's Argument.

BC Hydro submits that each of the subsections of new section 58.1 need to be read "in their entire context, in their grammatical and ordinary sense harmoniously with the scheme of the Act, and the intention of the [legislature]", and further that the major thrust of the new section is clearly to unwind the Commission's orders in the 2007 RDA Decision regarding the rebalancing of rates over time to reflect the Commission's views of BC Hydro's cost-of-service and the range of reasonableness within which class rates were to move. BC Hydro also submits that the purpose of subsection 58.1(3) is to rescind the 2007 RDA Decision orders "to the extent that they require the authority to do anything for the purpose of changing revenue-cost ratios", and, by implication, only to that extent. According to BC Hydro, the concluding words of subsection 58.1(3) confirm that the rates in place immediately prior to the subsection coming into force are "just, reasonable and not unduly discriminatory" to ensure there is no doubt as to the legal status of rates which, at that point in time, would not have been determined and set by the Commission in the normal course. BC Hydro considers it "perverse to interpret words designed to ensure legal clarity in a way that stripped the Commission of its rate-making powers" and submits that "had that been the legislature's intention, much clearer language directly to that point would have been employed".

BC Hydro points to the foregoing being underscored by the opening words to subsections 58.1(4) and 58.1(6): “Nothing in subsection 58.1(3) prevents the Commission from setting rates for the authority …” Both subsections 58.1(4) and 58.1(6) then go on to describe specific, narrow exceptions to the general proposition that the Commission's rate-making authority is unaffected.

BC Hydro further notes that the exception in subsection 58.1(6) speaks to a period of time not commencing until April 1, 2010, and is not relevant to this issue. The exception in subsection 58.1(4) is specific to setting rates “for the *purpose* of changing the revenue-cost ratio for a class of customers” [emphasis added]. According to BC Hydro, in light of the major thrust of section 58.1 – undoing the Commission's rate rebalancing orders as described above – the exception in subsection 58.1(4) to the general proposition that the Commission's rate-setting jurisdiction is untouched ought properly be understood to limit the Commission's jurisdiction to issue the type of orders that are the subject of subsection 58.1(3). Thus, the Commission's rate-setting orders that incidentally result in changes to revenue-cost ratios will be lawful; only those that have such changes as their *purpose* will not [emphasis added] (BC Hydro Argument, pp. 93-95).

BCOAPO submits that the Commission does not have jurisdiction to approve an inclining block rate structure for BC Hydro’s residential customers at this time, as a result of the addition of section 58.1 to the UCA, the net result of which is that the legislature has enacted a determination of fact to the effect that all of BC Hydro’s rates were just, reasonable and not unduly discriminatory as of March 31, 2008.

BCOAPO further submits that a legislated finding of fact appears to be a rare event, but that its consequences in this instance are relatively clear and far-reaching, namely that the Commission has no jurisdiction to make findings of fact that are inconsistent with it, and that, since BC Hydro’s rates were fully compliant with the Act on March 31, 2008, the Commission can only approve amendments to those rates to the extent that there has been a change to the factual basis for the legislature’s conclusion that they were just, reasonable and not unduly discriminatory.

BCOAPO submits that the Commission is free to approve rate increases reflecting changed circumstances from March 31, 2008. For instance, to the extent that BC Hydro's cost structure may increase, the Commission retains the jurisdiction to approve general rate increases in order to reflect the utility's projected revenue requirements for the coming period.

BCOAPO submits that the conclusion it draws "flows logically from the wording of subsection 58.1(3), but just to be sure that there is no ambiguity, the statute spells it out explicitly in subsection (4), that "[n]othing in subsection (3) prevents the commission from setting rates for the authority …" and then makes certain that this is not construed in a manner that provides a way of obviating the reversal of the Commission's November 2007 rate rebalancing decision: "…but the commission may not set rates for the authority for the purpose of changing the revenue-cost ratio for a class of customers."

BCOAPO further observes that in subsection 58.1(6), "[n]othing in subsection (3) prevents the commission from setting rates for the authority" and notes that, according to BC Hydro, it may be argued that the closing phrases of subsections 58.1(4) and (6) are intended to provide that the Commission's rate-setting powers are in no way constrained by subsection (3) except with respect to rate rebalancing. However, that narrow reading of the totality of section 58.1 makes the breadth of the key wording at the close of subsection (3) completely pointless: if all the legislature were doing was to reverse and prohibit rebalancing, there was no point stipulating that the authority's rates are "just, reasonable and not unduly discriminatory."

BCOAPO submits that the specific restrictions on future rebalancing in no way detract from the scope of that legislated finding of fact, and that, above all, the specific provisions regarding constraints on rebalancing were required in order to produce a result where even a material change in the factual circumstances in place on March 31, 2008 could not be used to support a future rebalancing measure.

BCOAPO addresses BC Hydro's Final Argument that it would be "perverse" to interpret the concluding words of s. 58.1(3) "in a way that stripped the Commission of its rate-making powers" and submits that it is difficult to formulate any characterization of the intent of the amendments other than to strip the Commission of rate-making powers and to substitute the determination of the legislature that the March 31, 2008 rates were "just, reasonable and not unduly discriminatory", which was obviously the entire point of the statutory intervention.

BCOAPO submits that the Commission has no jurisdiction to approve the proposed RIB rate structure in the absence of evidence, reasonably accepted by the Commission, that the state of facts in place on March 31, 2008 has since changed to the extent that the foundation for the legislated conclusion that the rates were then just and reasonable has disappeared, and that even in that circumstance, by virtue of the specific provisions in subsections (4) and (6), the Commission has no jurisdiction to rebalance rates between classes until March 31 2010, and thereafter only to a limited extent (BCOAPO Argument, pp. 3-7).

BCSEA disagrees with BCOAPO's submission and submits that the fact that s.58.1 (3) states that "the rates of the authority that applied immediately before this section comes into force continue to apply and are deemed to be just, reasonable and not unduly discriminatory" does not mean that ONLY those rates are just, reasonable and not unduly discriminatory and that any variation of those rates, e.g., adoption of the RIB rate proposal, is legislatively determined to be NOT just, reasonable and not unduly discriminatory; and that the purpose of this portion of s.58.1 (3) was simply to remove any potential doubt about the legal validity of the rates that were retroactively reinstated by the Legislature's reversal of certain aspects of the Commission's 2007 rate rebalancing decisions [emphasis in original] (BCSEA Argument, p. 4).

CEC takes a different view of the legislation and submits that its purpose effectively prevents BC Hydro from shifting costs to or from other classes of customers and that the Commission has no jurisdiction to approve a RIB rate structure "absent protection against rate rebalancing", which would be achieved only if the Commission directed BC Hydro to keep any balances deferred as a result of the RIB for the account of the residential class only (CEC Argument, p. 37).

Terasen submits that "There is no legal basis to BCOAPO's argument that the Commission is without jurisdiction to implement a RIB," noting that BCOAPO's primary jurisdictional argument against the RIB is based on the wording in 58.1(3) that "the rates of the authority that applied immediately before this section comes into force continue to apply and are deemed to be just, reasonable and not unduly discriminatory." Terasen submits that BCOAPO's assertion that this requires new facts since the implementation of this section in order to change BC Hydro's rate design is expressly contradicted by the wording in subsection (4), which provides that nothing in subsection (3) prevents the Commission from setting rates for the authority. Moreover, according to Terasen, BCOAPO's argument represents a very significant leap of logic. The mere fact that a utility's rates are legally valid (just and reasonable) presently does not mean they cannot be changed and remain legally valid. This happens all the time with utility rate design applications. Section 58.1 was clearly intended to reverse a Commission decision relating to BC Hydro's revenue-cost ratios only, and to place restrictions on rate design or rebalancing changes that have as their purpose "changing the revenue - cost ratio for a class of customers [a defined term]." Since the RIB is revenue neutral relative to the existing flat rate structure there is nothing in the proposed RIB structure that can be construed as having the purpose of changing the revenue to cost ratios for a class of BC Hydro customers.

In reply to BCOAPO's arguments on this issue, BC Hydro submits that there is no difference in law or effect between a Commission determination that rates are fair, just and not unduly discriminatory (a pre-condition to setting such rates under subsections 58(1) and (2) of the UCA) and the legislature deeming rates to be fair, just and not unduly discriminatory at a particular time. In both cases the rates so set become the only basis upon which the utility may provide service. In both cases rates so determined, or deemed, are subject to subsequent orders establishing new rates on whatever lawful basis the Commission after a hearing, finds appropriate in the circumstances. In particular, nothing in the newly amended UCA distinguishes between circumstances such as revenue requirement evidence, and circumstances such as the evidence provided by BC Hydro in support of its RIB rate structure proposal. In both cases the evidence is - to quote the BCOAPO argument - the "change to the factual basis for the legislature's conclusion…" (BC Hydro Reply, pp. 26-27).

Commission Determination

The Commission Panel has considered the submissions of BCOAPO, BC Hydro and the Intervenors and agrees with BC Hydro that in interpreting any of the new subsections of the new section 58.1, the Panel must read each of the new subsections "in their entire context, in their grammatical and ordinary sense harmoniously with the scheme of the Act and the intention of the [legislature]" (BC Hydro Argument, p.93).

Accordingly, the Commission Panel agrees with and adopts BC Hydro's interpretation of section 58.1 (3) of the Act. The Panel finds that nothing in the newly amended Act prevents the Commission from hearing evidence of any kind concerning rate matters other than matters that have as their purpose the changing of the revenue-cost ratio for a class of customer. For the same reasons, the Commission Panel specifically agrees with BC Hydro that "the purpose of subsection 58.1(3) is to rescind the 2007 RDA Decision orders 'to the extent that they require the authority to do anything for the purpose of changing revenue-cost ratios.'" Similarly, the Commission Panel agrees with BC Hydro that both subsections 58.1(4) and (6) recognize the continuing rate setting authority of the Commission.

Further, in the present proceeding it is clear that BC Hydro's proposal is revenue neutral and does not affect the revenue-cost ratio of its residential class. Accordingly the Commission Panel is not persuaded by BCOAPO's submission that section 58.1 of the UCA removes, or in any way limits, its jurisdiction over BC Hydro's Application

2.2 The Commission's Jurisdiction to Approve a Differentiated Rate for Low-Income Customers

This Section addresses the jurisdiction of the Commission to approve differentiated or reduced rates for low-income residential customers ("lifeline rates") of BC Hydro, which was an issue initially raised by BCOAPO.

2.2.1 BC Hydro's Submissions

In the introduction to its submission on this matter, BC Hydro notes that its opposition to lifeline rates is founded on the current incarnation of the UCA. Accordingly, BC Hydro "…takes no position on the social values of lifeline rates, which is an issue within the authority of the provincial legislature" (BC Hydro Argument, p. 79).

In its submission, BC Hydro first provides an overview of rate-setting under the UCA, then proceeds to analyze UCA rate-making provisions in more detail and concludes by a review of the case law on jurisdiction for lifeline rates. The question of jurisdiction to set lifeline rates has been addressed recently in Nova Scotia and Ontario and was summarized by BC Hydro as follows:

In *Dalhousie Legal Aid Service v. Nova Scotia Power Inc. ("Dalhousie"),* the Nova Scotia Court of Appeal upheld the Nova Scotia Utility and Review Board's view that subsection 67(1) of Nova Scotia's *Public Utilities Act* did not allow the Board to reduce power rates based on the income level of the customers (BC Hydro Argument, pp. 87-89, and Book of Authorities Volume 2).

In *ACTO* a majority of the Ontario Divisional Court found that the *Ontario Energy Board Act, 1998* gave the Ontario Energy Board ("OEB") the "jurisdiction to establish a rate affordability assistance program for low income consumers purchasing the distribution of natural gas from the utility, EGD" (Exhibit C10-4, and BC Hydro Argument, Book of Authorities Volume 1). According to BC Hydro, *ACTO* was decided based on the wording of section 36 [viz of the OEB Act], which deals with rate-setting for natural gas but not for electricity (BC Hydro Argument, pp. 89-91).

BC Hydro submits that in British Columbia the rate-setting function of the Commission is governed by sections 58 through 61 of the UCA. BC Hydro further submits that in the context of the current UCA, lifeline rates may be seen as unduly preferential to low-income customers or unduly discriminatory to the remaining customers who subsidize those rates, because they would be based on the personal characteristics of the customer, divorced from the cost to deliver electricity

to the premises, or more generally from any characteristic of the service to which the rate relates. In considering this issue, BC Hydro submits it is necessary to keep in mind a number of "rules" of statutory interpretation, the principal rule being that "the words of an Act are to be read in their entire context, in their grammatical and ordinary sense harmoniously with the scheme of the Act, the object of the Act *and the intention of Parliament"* [emphasis added] (BC Hydro Argument, pp. 79-80).

In this context BC Hydro further refers to a proposed amendment to Bill 15 which would have allowed the Commission to set discounted lifeline rates in order to maintain the affordability of energy for eligible low-income households. The proposed amendment was defeated by a vote of the legislature. In speaking against this amendment, the Minister of Energy, Mines and Petroleum Resources mentioned changes to several social programs for low-income British Columbians, as well as to the low electricity rates in B.C. compared to other North American jurisdictions. BC Hydro submits that the debate in the legislature, which resulted in the decision not to include a lifeline rate in the amendments "makes the legislature's intention not to allow a lifeline rate very clear" (BC Hydro Argument, pp. 81-82).

In conclusion, BC Hydro submits that the Commission's rate setting powers come explicitly from sections 58-61 of the UCA, or implicitly via the doctrine of necessary implication, and that nothing in those sections explicitly confers on the Commission the power to set rates based on customer characteristics, including income level. Furthermore, it is BC Hydro's submission that the legislative intention with regard to lifeline rates is clear from the legislature's recent decision not to confer this power. Because the Commission must not allow a utility to charge rates that are unduly discriminatory or unduly preferential, any privilege extended by a utility must be regularly and uniformly extended to all persons under substantially similar circumstances and conditions for service of the same description; conversely any difference in the rates can not be based on personal characteristics. BC Hydro submits that this point is supported by the decision in *Dalhousie*. It distinguishes *ACTO (where* the OEB was found to have jurisdiction to consider a rate assistance program for low-income purchasers of natural gas) on the basis that *ACTO* turned on the interpretation of a statutory rate-making provision that is unconstrained by the traditional cost-of-

service considerations found in the UCA.

Finally, BC Hydro submits that in B.C. social policy rate-making is the task of the legislature, which is evidenced by the fact that the legislature has engaged in social-policy rate-making from time to time, and in the British Columbia Court of Appeal's decision in *British Columbia Hydro and Power Authority vs. British Columbia (Utilities Commission) (1996), 20 BCLR (3d) 106 ("IRP Decision"),* which confirms that the Commission has not been expressly conferred with policy-making powers. Accordingly, BC Hydro submits that absent clear direction from the legislature to create lifeline rates, the Commission does not have this jurisdiction (BC Hydro Argument, pp. 82-84).

In addition to the jurisdictional arguments, in the context of segmentation of rates by customer characteristics BC Hydro makes further submissions, which are of some practical relevance to this issue. BC Hydro submits that the Commission is simply not designed or equipped to make assessments which are socio-political in nature and that once the responsibility for making qualitative assessments of electricity use is exercised by the Commission there will be an increasing demand for those determinations. For instance, once the Commission decided that low-income customers should have a special rate, it is inevitable that the Commission will have to assess the social utility of heat pump rates, "gluttonous" use rates, "basic" needs rates, First Nation rates, seniors' rates, economic development rates, financial distress rates, etc. (BC Hydro Argument, p. 37).

2.2.2 BCOAPO's Submissions

BCOAPO submits that the Commission has the power to approve a differentiated rate for low-income customers of BC Hydro. To support this proposition it first reviews the basic restrictions on rates established in section 59(1) of the UCA, including unjust, unduly discriminatory and unduly preferential rates. BCOAPO notes that creation of rate classes as opposed to billing customers individually on the basis of the cost of providing them with service creates discrimination. If the rate classes are designed in a fair and reasonable way, the result is "due" discrimination. Similarly, the policy-based decision to provide postage stamp rates to all Zone I customers within a class is an

instance of “due” discrimination.

Following the above rationale, BCAOPO submits that a policy-based measure which takes account of the disparate circumstances of customers, and of their differing ability to afford essential household energy services, is an example of appropriate purposive discrimination and is not “undue” within the meaning of the UCA. Conversely, BCOAPO argues that a rate which bars access to sufficient household energy to provide comfort and safety, on the basis of household income, results in an “undue disadvantage” (BCOAPO Argument, pp. 8-11).

Regarding the remedial and discretionary rate setting authority, BCOAPO submits that section 59(5)(c) of the Act confers very broad discretion on the Commission in setting rates because it provides: “In this section, a rate is “unjust” or “unreasonable” if the rate is … unjust and unreasonable for any other reason (BCOAPO Argument, p. 11).

BCOAPO also highlights section 60(1)(a) of the Act which stipulates that “In setting a rate under this Act or the regulations the Commission must consider all matters that it considers proper and relevant affecting the rate…” and refers to the *TransCanada Pipelines Ltd. v. National Energy Board (“TransCanada”)* case (BCOAPO Argument, pp. 11-12).

Further, BCOAPO submits that contrary to BC Hydro’s submissions the Commission is under no obligation to base the rates for any class of customers on its cost-of-service and refers to section 60(1)(b.1) which stipulates:

> “In setting a rate under this Act or the regulations … the Commission 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…” (BCOAPO Argument, p. 13).

BCOAPO also submits that section 5, by referring to the above “spells out explicitly that cost-of-service based ratemaking is not obligatory” (BCOAPO Argument, p. 14).

To further support its jurisdictional proposition, BCOAPO also reviews the two legal cases addressed in Section 2.2.1 and refers to the *ATCO Gas & Pipelines Ltd. V. Alberta ("ATCO")* and the *IRP Decision* which are cases to emphasize that … "the protection of the interests of consumers is a fundamental underlying function of a utility regulator…" (BCOAPO Argument, pp. 15-19).

BCOAPO considers the issues of reliability and safety, and submits that "Electricity supply is not safe if it is insufficient to maintain health and safety". BCOAPO also submits that "Rate-setting that takes account of adverse economic impacts on customers is not novel" and concludes that the Commission has the option of establishing a residential rate which incorporates relief for low-income customers, or alternatively of establishing low-income residential customers as a discrete rate class (BCOAPO Argument, pp. 20-22).

BCOAPO's final submissions on this topic include more legal observations arising from BC Hydro's Arguments addressed above, which include references to Canadian Charter of Rights and Freedom, s. 7 and the International Covenant on Economic, Social and Cultural Rights (BCOAPO Argument, pp. 23-29).

2.2.3 Other Intervenors' Submissions

No other Intervenor made substantial submissions on the Commission's jurisdiction to establish lifeline rates. The CEC, however, made some related submissions concerning segmentation which will be addressed further in Section 4. By way of summary, the CEC submits that the Commission should avoid what it terms "social rates" because of the clear potential to create unfairness issues and undue discrimination when considering a broad range of social issues beyond those the Commission is specifically required to consider (CEC Argument, pp. 22-23).

2.2.4 BC Hydro's Reply

With regard to the implied open-ended discretion to assess whether rates are unjust or unreasonable granted in section 59(5)(c) of the UCA, BC Hydro submits that "The proposition that such open-ended words provide an empty vessel that can be filled by the tribunal as it desires was squarely rejected by the Supreme Court of Canada in the *ATCO* decision." BC Hydro submits that the words "unjust and unreasonable" are constrained by the scheme of the Act, its over-arching purpose and characteristics of the service in regard to which the rate is charged (BC Hydro Reply, p. 21).

Regarding subsection 60(1)(b.1) of the Act and paragraph 5(c) of HC2, BC Hydro submits that those provisions are intended to ensure the Commission has the legal authority to use Performance-Based Ratemaking ("PBR") mechanisms to set rates, which are a form of cost-of-service ratemaking, rather than to allow a departure from cost-based rates. BC Hydro further submits that *TransCanada* makes it clear that even if a utility regulator has the discretion to set rates on other than a cost-of-service basis, it must consistently employ whatever methodology it does choose. Finally, BC Hydro submits that its rates are currently established on a cost-of-service basis and, absent an express departure from that methodology, the Commission must continue to set rates in accordance with it (BC Hydro Reply, pp. 21-23).

BC Hydro also addresses the broader legal observations made by BCOAPO and referred to above (BC Hydro Reply, pp. 23-26).

Commission Determination

The Commission Panel has considered the submissions regarding its jurisdiction to set lifeline rates. 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.

3.0 INNOVATIVE RATE STRUCTURES

This Section addresses the various innovative rate structures BC Hydro examined, review the stakeholder and customer consultation that it conducted and considers its reasons for choosing an inclining block rate structure.

In the 2007 RDA BC Hydro had provided a survey of other jurisdictions' innovative rate structures intended to promote energy efficiency, which was introduced in the current proceedings as Exhibit A2-2. The survey reviewed some 15 rate structures, as follows:

Demand Side Management	Time of Use
	Interruptible/Curtailable
	Critical Peak Pricing
	Real Time Pricing
	Load Control Rates
	Residential Demand Rate
	Inverted Block Rate
	Conservation Credit
	Distributed Generation
Risk Management Rates	Flat Bill
	Green/Renewable Rates
	Net Billing
Special Needs Rates	Low Income Rates
	Prepaid Electric Service Rate
	Conjunctive Rates

BC Hydro testified that this list still represented the inventory of innovative rate structures in North America (T5:793).

3.1 Stakeholder Consultation and Customer Research

3.1.1 Stakeholder Consultation

BC Hydro provides a three page summary of its stakeholder engagement and consultation activities in the course of developing its proposed RIB rate structure (Exhibit B-1, Appendix F, pp. 1-3).

BC Hydro states that it principally relied on interaction with its Rates Working Group ("RWG"), which is an advisory group, one of whose roles is to prepare information to be included in the Annual Consultative Report prepared by the Electricity Conservation and Efficiency Advisory Committee ("EC&E"), of which it is a sub-committee. The RWG had representation from many of the parties of record in this proceeding, including ESVI, BCSEA, Terasen, BCOAPO, and the JIESC; BC Hydro separately interacted with BCOAPO (Exhibit B-1, Appendix F, p. 1). As well, BC Hydro intersected with groups representing low-income customers, as extensively described during cross examination of its witness panel (T2:133-137).

The RWG first met on May 2, 2007, and BC Hydro's initial focus was to provide the group with relevant background and context including:

- the regulatory context within which rates are set;
- an overview of various rate structures that exist;
- updates on the work underway at BC Hydro, around the examination of different rate structures available for conservation and efficiency and the potential impacts and energy savings associated with each; and
- information regarding rate re-structuring in other jurisdictions.

The RWG then turned its attention to an examination of different rate structures that might drive conservation and drafted a Principles Worksheet and Rate Assessment Matrix as tools to assist with this task. As the group was commencing a detailed examination of different rate options, it was advised at its July 2007 meeting that BC Hydro wished to establish an initial conservation rate as an interim step, and was contemplating using an inclining block rate structure. The RWG was requested by BC Hydro to provide advice on the suitability of such a structure as an initial conservation rate, whether there were other rates the Committee believed would be more effective as initial conservation rates, and if an inclining block rate structure was in fact the one used by BC Hydro as its initial conservation rate, on design specifics of such a rate that would increase its effectiveness in terms of conservation (Exhibit C13-8, p. 1).

BC Hydro stated that, based on the work of the RWG, the EC&E was tending towards the following key conclusions:

- in principle, the EC&E supported BC Hydro moving quickly to establish an initial conservation/efficiency based rate for residential customers;
- an inclining block rate structure may not be the most effective conservation and efficiency rate available to BC Hydro to use as its initial conservation rate;
- a rate structure based on a FRWD may be more effective as an initial conservation rate. At its simplest, this rate structure would involve setting a price significantly higher than the current price for residential customers (e.g. at the marginal cost of supply) but then providing customers the ability to earn a 'dividend' or 'rebate' based on them taking any one of a number of defined conservation or efficiency measures;
- a FRWD may be more effective than an inclining block rate structure because, amongst other things, it will deliver a significant price signal to all customers right from the outset (vs. only those in the second block); and
- if BC Hydro decided to proceed with an inclining block rate structure, from a design perspective, it should have two steps: an initial step with a low threshold (with the objective of providing a price signal, albeit a small one, to a large number of customers) and a second step with a relatively high threshold (one that would impact a small number of very high residential users only). This second step should be carefully designed so that it provides an incentive to those impacted to become more efficient and should be accompanied by information and programs or mechanisms that permit those impacted to take steps to decrease the financial burden associated with it. Ideally, any such inclining block rate

> structure would be structured as a pilot that has a sunset provision so that it is not locked in as the primary rate structure to be used by BC Hydro to encourage conservation and efficiency (Exhibit C13-8, pp. 1-2).

The EC&E Advisory Committee was intending to finalize recommendations on an initial conservation rate at the Committee's November 23, 2007 meeting. However, before this could happen, the Commission released its decision on the 2007 RDA that included a determination for BC Hydro to initiate a RIB rate structure by March 31, 2008. While the EC&E Advisory Committee stated that it remained of the view that an inclining block rate structure may not be the most effective approach as BC Hydro's initial conservation rate, it decided the best course of action in the circumstances was to document its emerging conclusions on an initial conservation rate and its work in progress in relation to the FRWD to BC Hydro as a piece of information, to finalize its advice on design elements for an inclining block rate structure at its January meeting, and to direct the RWG to focus its future efforts on its core mandate of developing comprehensive recommendations on the best long term rate structure for the purpose of electricity conservation and efficiency (Exhibit C13-8, pp. 2-3).

Feedback from the RWG's meetings in December 2007 and January 2008 included:

- it would be better to set the block size so that "the most customers will be impacted";
- the Step-1 rate should be higher than the current flat rate;
- although BC Hydro needs to be sensitive to the low-income customers the role of providing financial assistance, if any, lies with government rather than the utility; and,
- it would be a difficult education process regarding rates and that communication and messaging will be important (Exhibit B-1, Appendix F, p.2).

3.1.2 Customer Research

BC Hydro also undertook third-party qualitative research regarding rates in May 2007 and November 2007, which is summarized in two Harris/Decima reports (Exhibit B-1, Appendix F, Attachments 2 and 3).

The May 2007 consultation involved a total of 18 discussion groups drawn from small/medium businesses ("SMB") and residents of BC. The residential groups were recruited according to psychographic criteria, as described by BC Hydro, which segmented them by their attitudes towards energy consumption and conservation. In each of Vancouver, Kamloops, Parksville, and Prince George three discussion groups of 4 to 6 participants each were held, with the groups segregated by SMB and psychographic orientation. Also in Vancouver, two large discussion groups of 25 to 30 persons each were convened, with participants segregated as to psychographic profile (Exhibit B-1, Appendix F, Attachment 3, p. 8).

Participants were presented with four examples of how BC Hydro could change the way it prices electricity in the future to help meet its mandate. The pricing alternatives presented were as follows:

Flat Rate	A single price for every kWh of energy consumed.
Step Rate	One price for the first X kWh, and then a higher price for additional electricity use.
Time of Use Rate	A higher price is charged for electricity use during the times when demand is highest.
Peak Buy Back Rate	Customers that agree to reduce energy use during peak demand periods are rewarded.

(Exhibit B-1, Appendix F, Attachment 3, p. 13)

Residential groups' reactions to these alternatives were summarized as:

Flat Rate	Neutral to negative, no incentive to change behaviour; possible regressive impact on those in a lower economic situation
Step Rate	Most feel this would get their attention and could trigger a behavioural change. Participants felt the fairest way to set the step would be based on individual household usage, rather than averaging across a segment. The notion of the step threshold at 80 percent of current/prior consumption met with some opposition, some felt that a 10 percent reduction was more reasonable and plausible.
Time of Use Rate	Reaction was mixed to negative; people had difficulty making the connection between shifting time of use and reducing the overall demand, or the concept of conservation.
Peak Buy Back Rate	Most positive response, concept of rewarding rather than penalizing was attractive and would encourage behavioural change.

In summary, residential consumers found most palatable a blend of the step rate and the peak buy back rate (Exhibit B-1, Appendix F, Attachment 3, p. 15).

Additional commentary concerning the step rate option included:

> "The idea of having a base price for a "normal" level of consumption and a higher rate beyond that level makes intuitive sense to many respondents. In fact it is the alternative that most closely resembles the approach participants would outline spontaneously" (Exhibit B-1, Appendix F, Attachment 3, p. 5).

The November 2007 consultation involved a total of four focus groups of 25 to 30 persons each held in Victoria and Vancouver. One group in each city was a mix of old age pensioners and low-income respondents, the other was conducted with a mix of BC Hydro's key target segments selected according to their psychographic profile drawn from segmentation work conducted as part of BC Hydro's Residential End Use Study ("REUS") (Exhibit B-1, Appendix F, Attachment 2, p. 3).

Conclusions from this consultation included that:

> "The idea of using price increases as a way to help promote electricity conservation is somewhat challenging. While people accept that penalties should be in place for wasteful consumption, they would much prefer that rewards be used. In an ideal world, they would have those who are highly wasteful pay a lot more, those who consume normal amounts see no price increase, and those who are actively conserving receive a financial benefit."
>
> "The idea of using step based pricing has the potential to be accepted; however, it would present several important communications challenges. The challenge of setting the allocation in a fair way is far from trivial and every idea tested was found lacking in some respect. The central issue is that there are a vast number of variables that people believe should be taken into account in setting an individuals "goal" for energy consumption, and that to take all of these variables into account would render the idea unworkable, while to leave any of them aside would be to accept that there will be unfairness" (Exhibit B-1, Appendix F, Attachment 2, p. 17).

Examples of these challenges include the fact that consumers instinctively do not want to be held accountable for the energy consumption behaviour of other people, such as prior residents of their dwelling. Furthermore, there was a concern that this approach would essentially reward energy "hogs" with a high allocation and thus penalize energy savers with a low allowance (Exhibit B-1, Appendix F, Attachment 2, p. 12).

The discussion guide for step based pricing given to the November 2007 participants as context prior to their deliberations included, among various matters related to segmentation by dwelling type and heating type, the following topics relating to the conceptual structure of a stepped rate:

> *"1. Given that newer blocks of energy supply have higher costs, is it fair that customers be charged a higher price for the higher cost energy they consume?";* and,
>
> *"2. Assuming people pay the current price for 80% of the electricity they use and a higher price for the last 20% how fair are each of the following approaches – very fair, not very fair, or not fair at all.*

a) *Equal amount allocation – everyone gets the same volume allocation*; and,

b) An allocation based on a % of the customer's historical use at that location."

c) An allocation that is different by dwelling type – (a house would get a different allocation than an apartment).

(Exhibit B-1, Appendix F, Attachment 2, p. 22)

By letter dated March 14, 2008, BC Hydro filed its Presentation and Rate Model from the Workshop it held March 14, 2008 (Exhibit B-2).

3.1.3 Residential End Use Survey ("REUS")

BC Hydro described its REUS as one of a number of quantitative end-use studies it has undertaken with its residential customers over the past five years, in order to help inform its demand side management strategy, its residential program planning, and its modeling and load forecasting, with the specific objective of the REUS being to collect – and track over time – detailed information about the characteristics and features of customers' homes, as well as the different ways in which electricity is used in them.

BC Hydro stated that its 2006 REUS also set-out to solicit customer opinions, attitudes and behaviours relating to electricity and conservation, which it expected to use for "further informing program development and communications strategies" (Exhibit B-3, BCUC 1.34.1, Attachment 2).

BC Hydro testified that "the sample for the survey was quite large, we had 4500 completions. Those who completed the survey were asked for their permission to link their information from their survey to their billing data, and that whittled the sample down to 3500. So, we're looking at a sample of 3500 out of a population of 1.5 million plus residential customers, and so there's some small disparities because of that" (T4:542-3).

Views of the Commission Panel

The Commission Panel notes that BC Hydro's consultations in respect of stepped rate structures provided it with input as to the perceived fairness and efficiency of both the "equal amount allocation" (i.e. BC Hydro's RIB rate structure proposal) and "percentage of locational historic use allocation" (i.e. a Customer Baseline Load ("CBL") rate structure) models for the first step but that it did not canvas the materially different bill impacts and efficiency signals the two models give rise to. In particular, the disproportionate annual bill impact of a RIB structure embodying the equal amount allocation principle would have on the minority of its residential customers (the higher consumption cohort) or the inefficiency aspect of not providing any pricing signal to the majority of its residential customers (the lower consumption cohort) was not canvassed.

While the Commission Panel is aware of the relatively short interval between the Commission's direction in its 2007 RDA decision of October 27, 2007, and BC Hydro's filing deadline of March 31, 2008 for the RIB application, it notes that BC Hydro had been canvassing both models for the determination of the first step with its residential customers since May 2007. To the degree that BC Hydro conducted that canvas as an exercise in asking its customers to evaluate the fairness and efficiency on the basis of conceptual principles only, without providing the participants some sense of what the bill impacts might look like on an all-else-equal basis, for customers at different consumption levels, the Commission Panel believes that BC Hydro's consultation processes were less than adequate.

In that vein, the Commission Panel notes in particular the explicitness of the descriptions of the two models in the discussion guide for the November 2007 consultations, as quoted above, and believes the value of the responses obtained would have been greatly enhanced by providing the participants with such illustrative bill impact information and then soliciting their views as to the fairness and efficiency of the respective models.

Lastly, the Commission Panel notes that in its RIB Application BC Hydro does not refer to its consultation activities with its residential customers to inform or otherwise justify its selection of the equal amount allocation model for the first step of its proposed RIB rate structure, nor does it provide any reasoning or justification for setting aside the percentage of historic locational use allocation (CBL) model that it had canvassed to an equivalent degree.

3.2 Customer Baseline Load

As discussed above, one method of designing an inclining block rate structure is to establish individual Step-1 thresholds for customers based on some fixed percentage of their historical usage. Such a rate structure is the basis of the RS 1823, Transmission Service Stepped Rate, approved for BC Hydro's approximately 130 large industrial customers, where the Step-1 threshold is set at 90 percent of each customer's historical usage, referred to as its CBL.

As described above, BC Hydro consulted extensively with its residential customers on such a rate structure, albeit on a conceptual basis but, despite it's apparent understandability and appeal to those customers, did not address it among the alternatives to its proposed RIB rate structure discussed at pages 2-6 and 2-7 of its Application.

A limited evidentiary record was developed for this approach by way of IRs regarding generic CBL approaches to a RIB rate structure, and subsequent Commission Panel enquiries into a specific CBL approach. It should be noted that what is now defined as the "CBL approach" for the remainder of the Decision, represents an evolution of terminology during the RIB proceeding, which started at the consultation stage in the connection with discussion of the fairest way to set the first step usage as individualized Step-1 thresholds.

The evidentiary record includes an assessment by BC Hydro of the compliance of such a rate structure with the Bonbright principles (discussed in Section 3.4) BC Hydro used for evaluating alternative rate structures, which indicated that such a rate structure was fully compliant with seven of the eight accepted rate design criteria, and that the only problem BC Hydro had with such

a rate structure was its view of the administrative complexity of its implementation (Exhibit B-28, Undertaking No. 20).

BC Hydro submits that consideration of RIB rate structures inevitably raises questions about the appropriate "allocation" of the benefits of the Heritage Resources to customers, because the first block of any RIB rate structure can be perceived as an allocation of low-cost resources while the second and subsequent blocks can be perceived as an allocation of the more expensive resources on the higher end of a resource supply curve. BC Hydro submits that viewed from this perspective, BC Hydro's RIB proposal is an "allocation" of equal shares within the rate class, while a CBL approach is an "allocation" of equal shares by percentage of historical usage (BC Hydro Argument, p. 68).

Regarding the allocation of Heritage Resources specifically and the CBL approach in general; BC Hydro submits that an inclining block rate structure is no more than a notional allocation of existing low cost resources unless the components of the rate are expressly linked to the quantity or cost of those resources. In BC Hydro's RIB proposal neither the Step-1 Rate nor the Step-1 threshold is explicitly linked to the volume or cost of Heritage Resources. Conversely, under the CBL approach considered, the Step-1 threshold is calculated as the product of historical consumption and the ratio of Heritage Resources to total resources. While there is no reason why an express allocation of Heritage Resources should not be the basis of setting the components of an inclining block rate, there is no compelling reason for it to be the basis either.

BC Hydro submits that a RIB rate structure proposal providing for an express allocation of Heritage Resources would have taken far more time to develop, given the anticipated government interest in this issue. With regard to the relative fairness of an allocation of Heritage Resources on an equal amount vs. equal percentage (CBL) basis, BC Hydro submits that there are fairness arguments that justify either approach, but that a CBL approach for a mandatory, default residential rate is simply not possible at this time and, therefore, the issue is moot.

BC Hydro submits that a CBL approach to the RIB rate structure raises the following practical problems:

- about 25 percent of residential customers either have no consumption history (new accounts) or have a change in occupancy in a year. There is no practical way to put these customers on a CBL-type rate structure, assuming the CBL is based on the previous year's consumption;
- if the CBLs were fixed on the basis of previous consumption without regard for changing personal circumstances, BC Hydro expects that customer satisfaction would significantly decrease. Conversely, providing flexibility on CBL adjustments would significantly increase administration and customer care costs;
- assuming new customers established their CBL while on some non-CBL rate, there would be a strong incentive for customers to increase their consumption in one year to maximize their CBL for the following year; and
- regardless of how the above challenges were managed, there would be significant changes to billing and other internal business systems that would cost more than $10 million per year.

In summary, BC Hydro submits that it understands the advantages of a CBL approach and it is not saying that "a CBL approach is fundamentally more or less unfair than the "allocation" approach implicit in its RIB proposal" but it has implementation challenges. BC Hydro submits that the application of a CBL approach to BC Hydro's 1.5 million customers on a mandatory basis would raise far more concerns than the RIB rate structure it has proposed (BC Hydro Argument, pp. 68-72).

The CEC submits that BC Hydro implicitly made a design decision prior to "the processes it describes", to adopt a rate design that would be revenue neutral for the class as opposed to one which would be revenue neutral for the customer. The CEC further submits that by doing so BC Hydro adopted into its design a situation whereby some customers would bear the price increases and others would in fact receive relative price decreases (CEC Argument, p. 13).

In Reply, BC Hydro submits that the CEC statement is incorrect because a CBL approach would allow for customer revenue neutrality but was rejected for the reasons described in its Argument (see above). Further, BC Hydro notes that a CBL approach would, if the transmission stepped rate is any guide, likely result in more cost-shifting to other customer classes than the RIB rate structure proposal (BC Hydro Reply, p. 19).

Although the JIESC made no specific submissions on this matter in its Argument, BC Hydro submits that on the basis of the record only a CBL-type structure might address the JIESC's concern that larger users will be relatively disadvantaged to smaller users. To elucidate the JIESC's role, BC Hydro notes that most of the JIESC members are on RS 1823, a CBL-type structure, which has resulted in lower average rates for the class as a whole and lower energy rates for all RS 1823 customers consuming less than their CBL, all at the expense of other customer classes (BC Hydro Reply, p.18).

During the Oral Phase of Argument, counsel for BC Hydro addressed the fairness issue that arises from the differential bill impact, and submitted that "on the record of this proceeding, there's only one rate structure that theoretically has the ability to alleviate this issue to mitigate this issue, and that rate structure is the CBL….an allotment of Tier 1 energy based on historic consumption and a higher rate for the marginal consumption, similar to the 1823 rate structure" (T6:857).

Counsel for BCOAPO submitted that the Heritage Contract requires residential rates either to be set on a flat rate structure or on a CBL basis (T6: 946-47). BC Hydro submits in its written Reply that the Heritage Contract scheme requires BC Hydro's rates to be cost-based (i.e. established to recover BC Hydro's revenue requirement, subject to PBR orders of the Commission) and, excepting industrial-class customers, provides no other limitation in law or practice on the Commission's rate-design jurisdiction under the Act from time to time. It follows that the BCOAPO's submission has no merit. It also follows that the effect of RIB rate structures that was the subject of the Oral Phase of Argument is not inconsistent with the Heritage Contract scheme.

3.3 Flat Rate with Dividend

As described earlier in this Section the FRWD concept was raised by members of the RWG as a possible alternative to the RIB rate structure proposal (Exhibit B-1, Appendix F, p. 2). The concept was raised again during the IR process and was further pursued in cross-examination by counsel for the CEC and ESVI (T3:481-486, T4:605-606, 609).

BC Hydro enunciated the following reservations regarding the FRWD concept:

- the rate could have a significant bill impact on a large number of customers. For example, if the marginal cost of supply were 9 cents and the existing rate were 6 cents, the rate would increase all customers' bills by 50 percent prior to their undertaking conservation or receiving a rebate. This would impose a substantial financial burden on many residential customers;

- the rate has the potential to be discriminatory. Consider two customers with identical historical consumption levels. The first customer qualifies for the rate dividend because of his/her installation of a pre-defined conservation measure. However, the second customer does not qualify for the rate dividend. There is no cost justification to charge these two customers differently, since they have identical consumption;

- conservation measures do not necessarily translate into energy savings. For example, purchasing efficient light bulbs does not necessarily translate into energy savings unless these bulbs replace otherwise heavily used incandescent bulbs;

- conservation measures have different kWh impacts when they are installed on different houses. For example, incremental improvements on houses that are already relatively efficient may only have marginal benefits, while the same improvements on houses that are not efficient may result in substantial reductions in consumption;

- the rate would be complicated, and both difficult and costly to implement for a large number of customers. BC Hydro currently bills customers based on their metered usage under their applicable rate schedule. A rate structure that involves customer-specific discounts based on individual residential customer purchase decisions would require a process to monitor and verify the information, requiring substantial modifications to BC Hydro's existing billing system, financial controls and operational processes; and

- it would be challenging to structure the rate to be revenue neutral.

  (Exhibit B-3, BCUC 1.44.2)

BC Hydro submits that the proponents of this proposal have not provided more than a high-level conceptual explanation of it in the RWG or during the RIB proceeding. Furthermore, BC Hydro submits that despite its conceptual appeal, the rate's unsuitability as a mandatory, default tariff structure meant that it was unable to infer how the concept would work practically or legally, or how to commit resources to developing it and notes that the FRWD concept implies that customers pay the actual marginal cost of new supply, and subsequently receive a rebate or a "dividend," thereby bringing their effective actual rate back to a level that enables BC Hydro to recover only its revenue requirement. Specifically, BC Hydro submits:

> "The rate would be more accurately described as a 'flat rate with (illegal)' surcharge since there would be no basis in law for BC Hydro to keep any revenues in excess of its revenue requirement, and the difference between what customers paid at first instance and what they paid after getting their own money back would amount to no more than a surcharge that would, were it not paid back, be illegal. BC Hydro submits that for this reason this rate proposal would be bound to offend customers and utterly fail the customer understanding and acceptance rate design criterion."

Finally, BC Hydro submits that the rate would cause cash flow issues for many customers, regardless of the consumption level, and that an integrated DSM plan that does not try to achieve everything with rates is a preferable alternative to one that will increase customer confusion and that the Commission should reject the FRWD concept (BC Hydro Argument, pp. 66-67).

CEC submits that the Commission should avoid making determinations to implement any proposal which has not been tested through adequate development of a record and that any concepts proposed with inadequate information should be rejected. CEC further submits that it supports BC Hydro's positions on various approaches and does not have any compelling preference for any of

the RIB rate structure alternatives examined (CEC Argument, pp. 32-35).

3.4 Review of Rate Design Principles

BC Hydro states that in its 2007 RDA, it specified eight rate design criteria, paraphrased from Bonbright, which it believes are well-recognized and accepted rate design criteria that are consistent with the statutory test of being fair, just, and not unduly discriminatory. BC Hydro states that the Commission reviewed and considered these criteria in the 2007 RDA Decision and determined the criteria to be appropriate. The criteria are:

- recovery of the revenue requirement;
- fair apportionment of costs among customers;
- price signals that encourage efficient use and discourage inefficient use;
- customer understanding and acceptance;
- practical and cost effective to implement;
- rate and bill stability;
- provision of revenue stability; and
- avoidance of undue discrimination.

In Tables 2-1 and 2-2, BC Hydro evaluates a generic flat rate structure and a generic two-step inclining block rate structure against its rate design criteria and finds that the generic flat rate structure performs well against all criteria except “price signals that encourage efficient use and discourage inefficient use”, where it performs poorly. BC Hydro concludes that a flat rate structure sends neither an efficient short-run price signal based on market prices, nor a long-run price signal based on longer run incremental costs. From an efficiency perspective the flat rate structure performs poorly as the incremental costs of new supply continue to rise above the historical embedded cost of supply.

BC Hydro finds that the generic two-step inclining block rate structure performs well against all eight criteria but with certain issues, one being "customer understanding and acceptance". BC Hydro notes that although the design is more complex than a flat rate structure, a simple two-step structure with a Step-2 rate that is higher than a Step-1 rate is still relatively simple and sends a clear price signal to consumers, but could result in customer dissatisfaction for large users if Step-2 rates become very high; and "rate and bill stability" where high Step-2 rate increases could cause bill instability for large users. BC Hydro considers that higher bill impacts could be mitigated under this structure via rate design choices: by keeping Step-2 rates at reasonably low levels; by increasing Step-1 rates to collect a portion of the class increase in revenue requirements; or by decreasing the size of the Step-1 to Step-2 threshold so that more customers see the higher Step-2 rate (Exhibit B-1, Tables 2-1 and 2-2).

In summary, BC Hydro states that the above comparison of performance against the eight rate design criteria supports further examination of the use of a two-step rate, and that, while the existing flat rate structure performs well on seven of the eight design criteria, it has a poor rating for sending a price signal that encourages efficient use and discourages inefficient use. Since the two-step rate structure performs well on this criterion of encouraging efficient use, within the boundaries of what BC Hydro considers are acceptable trade-offs, and given that its primary focus for redesigning the residential rate is to achieve conservation by encouraging customers to make economically efficient choices, BC Hydro concludes that the two-step rate design is a better alternative than the flat rate structure to meet this objective (Exhibit B-1, p. 2-6).

CEC agrees with BC Hydro that the eight criteria must be "looked to in designing any rate and this one, the RIB, in particular," and that BC Hydro's current residential flat rate structure does not provide an effective price signal, particularly regarding the future costs of new supply (CEC Argument, p.10).

Commission Determination

In its 2007 RDA Decision the Commission found Bonbright's eight rate design criteria to be appropriate and consistent with the statutory test of "fair, just and not unduly discriminatory." The Commission Panel has now reconsidered the same criteria in the context of development of a conservation rate for residential customers, finds that they continue to form an appropriate foundation for more innovative rate designs as well, and accordingly accepts them.

With regard to the choice of a rate structure, the Commission Panel has considered the advantages and disadvantages of the CBL approach and the FRWD recommendation of the RWG and compared them to BC Hydro's proposal. While there is no ideal solution at this time, on balance, the Commission Panel notes BC Hydro's counsel's submission that the CBL approach is the only rate structure that would alleviate the bill impact issue. In addition, the Commission Panel notes the implementation challenges (which were not thoroughly tested in the proceeding) that BC Hydro claims it would be facing with the CBL approach. **Therefore, the Commission Panel accepts an inclining block rate structure with a specified standard threshold as a suitable design approach to a residential conservation rate and finds it to be in the public interest.**

3.5 Timing of Implementation

A number of Intervenors addressed the timing of the introduction of the residential inclining block rate structure during the proceeding because they perceived BC Hydro's proposed implementation schedule as "aggressive" and premature in light of the Smart Meter Initiative BC Hydro is required by legislation to implement by 2012.

BC Hydro proposes that its residential inclining block rate structure would become effective on October 1, 2008 (Exhibit B-1, pp. 1-16). BC Hydro submits that the 2007 Energy Plan and the 2007 RDA make it clear that it was necessary for BC Hydro to proceed expeditiously with the development and implementation of a conservation rate for its residential customers and that the current flat rate structure is deficient on the key rate design criteria of efficiency

(BC Hydro Argument, p. 5).

BC Hydro submits that any argument for delay is founded on the premise, in part, that the recent amendments to the Act now make smart meters and TOU rates mandatory, and notes that waiting until all residential customers are able to be on TOU rates before implementing RIB rate structures would delay the introduction of conservation rates by about four years - until 2013, when smart meters are fully deployed and TOU rates could then become the mandatory default residential rate.

BC Hydro submits that the government's 50 percent conservation goal is to be achieved within the next 12 years and that a four-year delay will self-evidently undermine the likelihood of achieving the conservation objective. BC Hydro further submits that the implementation of the RIB rate structure in 2008 will facilitate the introduction of TOU rates in 2013 by providing BC Hydro both with valuable customer information, and opportunities for it to engage with its customers (BC Hydro Argument, p. 10).

A number of Intervenors commented on BC Hydro's proposal:

CEC submits that there are many areas where BC Hydro could better prepare its customers before implementing a RIB rate structure, if approved, and that future rate initiatives by BC Hydro must include improved customer communication (CEC Argument, p. 28).

Terasen submits that backing away from the RIB rate structures in anticipation of TOU rates being implemented over four years from now would represent a forgone opportunity for energy efficiency and conservation (Terasen Utilities, Argument, para. 36). This sentiment is echoed by BCSEA (BCSEA Argument, para. 31)

BCOAPO submits that any rate restructuring approved by the Commission should not be implemented effective October 1, 2008 as proposed by BC Hydro. BCOAPO characterizes BC Hydro as unready for the tasks of designing the RIB, preparing for its launch, and of preparing the public

for the onset of the RIB. BCOAPO points out that the regulatory timetable contemplates a Commission decision at the end of August, which leaves BC Hydro with a month to "prepare the ground" (BCOAPO Argument, p. 68). BCOAPO submits that the earliest conceivable start date is October 1 2009, and "In our respectful submission, proceeding as proposed by BC Hydro would be an act of folly" (BCOAPO Argument, p. 69).

BCOAPO's notes that the enactment of Bill 15 obliges BC Hydro to have installed Smart Meters at each of its residential customer's premises by the end of 2012 and submits that "common sense dictates that BC Hydro should not implement the RIB in the run-up to spending a billion-odd dollars installing smart meters and implementing TOU". BCOAPO submits that the act of the legislature makes TOU rates mandatory, absent a reversal of government policy and that "the sensible course is to proceed with the mandatory business, and design TOU rates and put them in place, and *then* consider whether residential rates can be usefully improved by superimposing some other strategy such as RIB If there is to be a RIB, it should be designed around the TOU. The process should plainly not proceed in the reverse order" (BCOAPO Argument, pp. 49-50).

In Reply BC Hydro observes that BCOAPO's submission that such a plan will prove more difficult to implement and administer than a rate structure based on TOU first, is without any evidentiary basis,

BC Hydro addresses BCOAPO's submission that its communication plan suffered as a result of "hopelessly unrealistic time-lines", and BCOAPO's dismissal of the plan as an "on-the-fly effort" as being at odds with BC Hydro's testimony and with the evidence it filed as Exhibit B-23 Undertaking No. 5.

Commission Determination

The Commission Panel agrees with BC Hydro that it would be inappropriate for it to wait until the Smart Meters have been installed before it introduces a residential conservation rate.

While the Commission Panel is cognizant of the concerns raised by certain Intervenors regarding BC Hydro's "aggressive" implementation plan, the Commission Panel concludes that energy conservation plays a fundamental role in meeting the strategic objectives of both the province, as enunciated in the 2007 Energy Plan, and of BC Hydro and finds October 1, 2008 to be a suitable time for the introduction of a residential conservation rate.

4.0 INCLINING BLOCK STRUCTURES

This Section reviews the various inclining block structures identified during the proceeding including the two-step and the three-step inclining block rate structures, seasonal rate structures whereby the threshold or the rates vary by season, as well as and the issue of segmentation, which refers to the creation of sub-classes of residential customers defined by their characteristics such as location, heating type, income number of occupants, and dwelling type.

4.1 Non-Segmented Variations of the RIB Rate Proposal

4.1.1 General Background

In the proceedings, a number of other variations of BC Hydro's RIB rate structure proposal were canvassed by way of IRs and cross-examination, including seasonal rate structures, three-step rate structures. Many were modeled by BC Hydro and summarized for the evidentiary record in a document entitled "RIB Rate Variations", being a comparison of various impacts of 27 RIB rate structure variations, which BC Hydro refers to as Scenarios, grouped as follows:

Table 4.1 - RIB Rate Variations

Scenario#	Variation type	Comment
1-3	2- Step Variations	Bill impact no greater than RRA+10%
4-6	2- Step Variations	Bill impact no greater than 10% (including RRA)
7-9	2- Step Variations	Bill impact no greater than twice the average RRA increase
10-13	2- Step Variations	Bill Impact has no limit
14-18	2-Step Seasonal Variations	6 month winter period (Oct-Mar)
19-24	2-Step Seasonal Variations	4 month winter period (Nov-Feb)
25	3-Step Seasonal Variations	6 month winter period (Oct-Mar)
26	3-Step Seasonal Variations	4 month winter period (Nov-Feb)
27	3-Step Variation	

The following impacts were compared:

(i) Prices (cents/kWh) for Steps 1, 2 and 3;

(ii) Bi-monthly threshold (kWh);

(iii) Worse-off Break point (F2010) kWh per year;

(iv) Customers better/worse off (F2010) (%);

(v) Percentage of Load billed at Step-2 rates;

(vi) Customers seeing Step-2 at least once a year (%);

(vii) Bill impact;

(viii) Maximum bill impact;

(ix) Customers having a bill impact >20% (in Year 2);

(x) Customers having a bill impact >30% (in Year 2);

(xi) Estimated conservation Uniform RIB Elasticity (F2010 GWh);and

(xii) Estimated conservation Non-uniform RIB Elasticity (F2010 GWh).

(Exhibit B-22)

Some of the scenarios modeled by BC Hydro will be discussed in this Section.

BC Hydro states that a simple, easy to understand two-step inclining block rate structure is an appropriate first step toward the development of different residential rate options (Exhibit B-1, p. 2-6). In the words of its expert witness it is a "no regrets" first step in residential rate design for BC Hydro (T4:697). All other variations are weighed against the advantages of this simple approach. BC Hydro also confirms that the Application truly "is anticipated to be a first step toward the development of differential residential rate options" such as seasonal rates or TOU rates (Exhibit B-1, p. 2-7).

BC Hydro stated that it has conducted research into the default residential rate designs offered by 88 different utilities throughout North America, Europe and Asia, and that its research results indicate that the majority of these utilities offer relatively simple rate structures that are easy to understand. Of the 19 utilities that use an inclining block rate structure, 10 (or 53 percent) offer a simple two-step inclining block structure (including all three Canadian utilities in the survey), which led BC Hydro to assert that "the designs chosen by other utilities and regulators show the importance of simplicity in rate design as a contributing factor in building understanding and acceptance of a rate structure (Exhibit B-1, p. 1-10, Appendix C, pp. 2-3 revised).

Tariff sheets were entered in evidence from California, where the regulator has approved more complex rate structures including multiple thresholds, seasonal, regional and lifeline rates and where San Diego Gas & Electric Company has summer and winter season rates, for four different climatic zones as well as an "All Electric" baseline allowance available upon application to those customers who have permanently installed electric space heating, or who have electric water heating and receive no energy from another source (Exhibit C13-9).

BC Hydro submits that, in general, it did not see a significant advantage to variations from the simple two-step RIB rate structure proposed in the Application and refers to the testimony of Dr. Orans at T5:739-40 (BC Hydro Argument, pp. 74-75). BC Hydro also submits there is a trade-off between the degree of conservation that can be achieved from a rate structure and the adverse bill impacts that can result: the more a rate structure is adjusted to achieve conservation, the more likely it is to cause adverse bill impacts (BC Hydro Argument, p. 25; Exhibit B-12). In this regard, Dr. Orans testified that "the ranges of conservation between these options are, for all practical purposes, very similar given the uncertainty in the estimates…" and therefore "…I'd be looking most closely at the bill impact estimates and seeing if that seemed reasonable." (T5:742-43)

Different RIB rate structure variations are reviewed in more detail below.

4.1.2 Seasonal Rates

BC Hydro states that seasonal rate structures are potential alternatives to the simple RIB rate structure designs assessed in the Application. However, BC Hydro states that a seasonal rate structure would be impractical to implement in the immediate future due to its current bi-monthly meter reading schedules. Because seasonal rates by definition begin and end on specific calendar dates, their implementation would require significant billing pro-ration to estimate seasonal consumption and possibly more frequent meter reading with resultant increased costs. BC Hydro states that seasonal rates are more complicated and difficult to understand than a simple two-step structure, but that it would reconsider their use in the future, once it gains experience with a simpler structure and the advanced metering and billing software modifications which would facilitate cost-effective consumption tracking during designated seasonal months (Exhibit B-1, pp. 2-7).

In addition, BC Hydro stated that it considered the use of a seasonal rate design as a way to mitigate bill impacts for space heating customers, as opposed to a way to send a stronger signal to these customers, but that it rejected this design because of its lack of a strong cost basis and its ineffectiveness at mitigating billing impacts for the very largest consumers. BC Hydro stated that

without the constraint that the rates must be designed to be revenue neutral for the residential class, it could design a seasonal RIB rate structure to encourage more conservation than a simple non-seasonal inclining block rate. However, assuming that the rates are designed to collect the class revenue requirement, the Step-1 threshold and the Step-1 and Step-2 rates become inter-dependent. As a result, BC Hydro stated, it is unclear whether a seasonal rate design in BC would yield more conservation than the proposed RIB design (Exhibit B-3, 1.23.3.2).

BC Hydro confirmed that Ontario's seasonal two-step rate structure comprising 600 kWh per month for May 1 to October 31 and 1,000 kWh per month from November 1 to April 30, has been in effect since November 1, 2005 (Exhibit B-7, BCUC 2.78.1).

Terasen highlighted the importance of seasonal fluctuations in the cost of acquisition of energy, and BC Hydro confirmed that under its current Standing Offer Program the price to be paid for energy delivered under an Energy Purchase Agreement will be adjusted based on the time of delivery, whereby the adjustment factor for energy delivered during June-July light load hours was 0.72 while the adjustment factors were 1.25 and 1.26 for energy delivered during heavy load hours in January and February respectively (Exhibit B-3, Terasen 1.4.1, T3:423).

In response to Commission Staff and Panel IRs, BC Hydro modeled four seasonal two-step rate structures, two being for six month winter seasons (Scenario # 14&15) and two being for four month long winter seasons (Scenario # 19&20), as follows:

Table 4.2 - Seasonal Thresholds

	Scenario # 14&19	**Scenario # 15&20**
Season	**Bi-Monthly Threshold**	**Bi-Monthly Threshold**
Winter	1,600 kWh	2,200 kWh
Summer	1,000 kWh	1,600 kWh

Source: Exhibit B-22

The following table sets out a comparison of certain metrics of the seasonal two-step variations with BC Hydro's proposed RIB rate (Scenario #1):

Table 4.3 – Seasonal Two-Step Rate Variations

Scenario #	Threshold (kWh)	Worse-Off Break Point (kWh/yr)	% Load Better/ Worse Off	% Billed @ Step-2	% Seeing Step-2 at least once	Range of Estimated Conservation GWh/yr
1	1,600	14,500	74/26	35	62	303-316
14	1,000(S) 1,600(W)	13,300	71/29	43	71	284-285
15	1,600(S) 2,200(W)	15,500	78/22	28	51	365-365
19	1,000(S) 1,600(W)	12,900	70/30	46	73	257-270
20	1,600(S) 2,200(W)	15,100	76/24	30	53	342-355

Source: Exhibit B-22

BC Hydro submits that it is apparent that some of the alternative designs do mitigate bill impacts better than BC Hydro's RIB rate structure, but there are trade-offs in such designs in the amount of conservation that can be achieved, and it notes that the conservation estimates are not precise. For these reasons, BC Hydro submits it believes that there are a number of alternatives that, while not preferred, would perform nearly as well as its proposal. These designs would achieve material conservation, meet the eight rate design criteria, provide a suitably simple foundation upon which further rate restructuring could be built, and could be implemented this Fall. For instance, BC Hydro refers to its testimony where Scenario 14 was highlighted as a potential alternative (BC Hydro Argument, pp. 75-77; T5: 759-763).

No Intervenor commented on seasonal rates.

4.1.3 Three Step Rates

BC Hydro stated that in addition to a seasonal two-step rate structure, a seasonal three-step rate structure would also be a relevant conservation focused design, but that it had eliminated it because of its added complexity (Exhibit B-3, BCUC 1.12.3).

BC Hydro submits that its statements related to trade-offs and simplicity compared to complexity addressed above also refer to the three-step rates.

In its opening statement counsel for BCOAPO submitted that "if the determination is to proceed, there's a number of options that could be explored to at least ameliorate the impact, and perhaps produce a more efficient rate. One would be to go to a three-step rate structure, with the lower step 1, step 2 threshold, and a very high-priced step 3, aimed at gluttonous consumption" (T2:86-87)

Dr. Orans testified that "not many customers hit the third step anyway, it probably wouldn't matter because customers wouldn't see it in their bill anyway. So if it was, as we talked about earlier in the hearing, for gluttonous use for example, a huge third… step out there, it wouldn't make much difference to the description" (T5:742).

No other Intervenor comments on the three-step rate structure.

4.2 Segmentation

4.2.1 General Background

A considerable level of interest in the segmentation concept was displayed during the proceeding reflecting certain Intervenors' concerns about the degree to which BC Hydro's RIB proposal creates undue discrimination since, without segmentation, some Intervenors submitted that it has disproportionate impacts on certain members of the residential class. For instance, the JIESC in its Opening Statement stated that "…in our submission, by choosing not to segment the residential class BC Hydro chose expediency and simplicity over fairness and effectiveness" (T2: 101).

BC Hydro uses the expression "segmentation" to refer to the creation of sub-classes of residential customers defined by their characteristics including, for example location or type of primary heat source and submits the following general observations

- potential segmentation of the residential rate class can be understood as falling into two categories: that which may be justifiable on a cost-of-service basis, and that which can not. Into the former category fall customers segmented by heating type and location, while into the latter fall customers segmented by incomes and age of customer. To the extent that residential customer segmentation is done without the benefit of a cost foundation, BC Hydro submits that it is inevitable that a cost-of-service study for that segment will ultimately be undertaken. The results of such studies are uncertain at this time, and may result in rates that amplify rather than attenuate the bill impact problem that was meant to be addressed by the segmentation;

- segmentation by residential sub-class can compound discrimination issues because a rate variation for a segment, intended to mitigate bill impacts, will invariably give an additional unwarranted benefit to some members of that sub-class at the expense of non-members of that sub-class; and

- so far as segmentation of the residential customer class is concerned the Commission is not designed or equipped to make assessments that are socio-political in nature. The allocation of resources on the basis of social worth is fundamentally the job of elected legislators, not of the Commission. Furthermore, once the Commission decides that low-income customers should have a special rate that could lead to assessment of the social utility, for example, of heat pump rates, "gluttonous" use rates and "basic needs" rates. BC Hydro also questions the merit of the potential complexity of adding socio-political rate segments to its rate

structures.

(BC Hydro Argument, pp. 35-37)

In response to a number of IRs BC Hydro modeled the impact of its proposed rate on various segments of its residential customer class, based on the 3,500 respondents to its REUS questionnaire who consented to the linkage of their response to their billing data as described in Section 3.1.3.

BC Hydro estimated the impact of its proposed RIB rate structure and the current flat rate structure for the year ending March 2010, by the following categories and subcategories set out in Table 4.4. BC Hydro stated that the attached tables usefully demonstrate that the bill impacts of the RIB rate are not materially concentrated in any customer segment (Exhibit B-7, BCUC 2.67.1, Attachment 1).

Table 4.4 Subcategory Comparisons

Category	Number of Subcategories
Household income	6
Region	4
Dwelling type	5
Number of occupants	4
Heating fuel	6
Age (of occupant)	6

Source: Exhibit B-7, BCUC 2.67.1, Attachment 1

The following table summarizes BC Hydro's work in this regard. Of the 31 comparisons performed by BC Hydro, Table 4.5 identifies 10 which are germane to the submissions concerning segmentation that the Commission heard.

Table 4.5 Bill Impacts of the RIB Rate on Various Sub-categories

Category	Sub-category	#of Respondents	Total Annual kWh	Total Annual Bill Flat Rate	Total Annual Bill RIB rate	Percentage Difference
Household income	Under $20K	364	7,386	$574	$555	(3.3)%
Household income	$20K-$40K	731	8,412	$647	$625	(3.5)%
Region	Lower Mainland	735	8,929	$684	$665	(2.8)%
Region	Vancouver Island	1,058	13,516	$1,009	$1,032	2.3%
Region	South Interior	918	10,683	$808	$799	(1.1)%
Region	North	698	10,418	$790	$776	(1.7)%
Heating Fuel	Electricity	1,087	12,617	$946	$966	2.1%
Heating Fuel	Natural Gas	1,698	8,946	$685	$659	(3.9)%
Age of Occupant	65+	1,063	8,938	$685	$668	(2.4)%
Dwelling Type	Single Family	2,417	12,229	$918	$920	0.2%
No of Occupants	4+	604	14,007	$1,044	$1,059	1.4%

Source: Exhibit B-7, BCUC 2.67.1, Attachment 1

CEC disagrees with some of BC Hydro's assertions. With regard to the requirement for cost-of-service studies CEC submits that today there are a number of sub-classes which BC Hydro has separated out, such as the farm related accounts, which are not based on cost-of-service studies. CEC submits that for sub-classes the determinative factor is whether they may become a permanent feature in the rate schedules or whether the sub-class is transitory until another alternative treatment is settled. Similarly, CEC does not accept that sub-classes should not be created for the fear that the outcome of a new cost-of-service study might be to exacerbate bill impact issues. CEC submits that if there is a cost causation argument for creation of a sub-class, then the implicit unfairness issue may already exist and that the potential uncertain bill impacts should be addressed rather than avoided (CEC Argument, p. 22).

CEC further submits that it is in general agreement with BC Hydro on the issue of "social rates", with the exception that the Commission is mandated by legislation to consider at least the following key social issues: (1) the conservation and efficiency of electricity use and (2) the province's GHG goals. In conclusion, CEC submits that the Commission should avoid 'social rates' because of the clear potential to create unfairness issues and undue discrimination when considering a broad range of social issues beyond those the Commission is specifically required to consider (CEC Argument, p. 23).

Terasen submits that, with regard to the potentially varying intrinsic values of electricity use, no value judgment is required to develop different rates for heating and non-heating customers; rather, the assessment is based on the premium paid for electricity in the winter months and the relative inefficiency of using electricity for space and water heating compared to other options. The Commission is equipped to make determinations of relative efficiency as between fuel sources without making "value judgments". Terasen submits that segmentation recognizes that more efficient substitutes for electric space and water heating exist, whereas the same is not true in the case of end uses such as lighting and other appliances (Terasen Argument, p. 11).

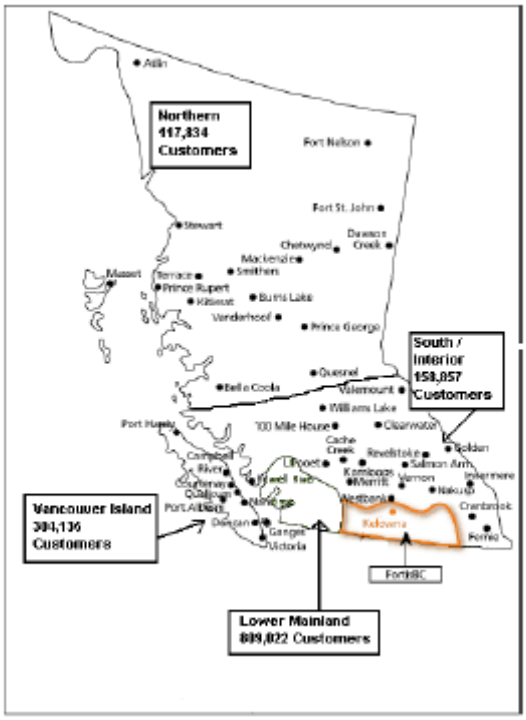
BC Hydro's Reply to Terasen's submission is set out under Electric Heat below.

4.2.2 Regional Rates

With respect to regionally-differentiated rates, BC Hydro states that it would be inappropriate to move beyond the stated government policy of postage stamp rates for its service territories as enunciated in a letter dated May 27, 2003 from the Minister of Energy, Mines and Petroleum Resources to the Union of British Columbia Municipalities and entered into evidence during the 2007 RDA hearing as Exhibit B-47. BC Hydro further states that on a more practical level, regionally differentiated rate structures would require more detailed, regionally distinguished cost of service studies than it currently has available (Exhibit B-1, p. 2-7).

BC Hydro provided the following map and table providing the number of customers, proposed to be on the RIB rate structure in Rate Zone I within its four operating regions.

Table 4.6 - Zone 1 Map



Source: Exhibit B-3, BCSEA 1.1.3

Table 4.7 – Consumption by Region

Operating Region	Approximate Number of Customers	Total Annual kWh	Average Annual kWh by Customer
Lower Mainland	809,022	8,010,286,924	9,901
Northern	117,834	1,344,473,996	11,410
South Interior	158,857	1,804,369,992	11,358
Vancouver Island	304,135	4,192,441,405	13,785
TOTAL	1,389,848	15,351,572,317	11,046

Source: Exhibit B-3, BCSEA 1.1.3

BC Hydro addressed the possibility of variations to the Step-1 thresholds by region, and stated that from a practical perspective alone, regional rates based on different thresholds could be implemented within its billing system but, from a rate design perspective, it acknowledged that it did not have cost of service studies which it believed would be needed to support regionally-differentiated pricing reflective of regional cost differences. It further noted that to maintain

overall revenue neutrality, regionally differentiated threshold levels would necessarily require regionally-varied price levels for Step-1 and Step-2 rates (Exhibit B-3, BCUC 1.12.1, 1.12.6, 1.23.1).

BC Hydro submits that it does not believe the proposed RIB rate structure unduly discriminates on the basis of region for the following reasons:

- most of the customers in each of the Zone I four regions (Vancouver Island, Lower Mainland, Southern Interior and Northern) will have lower annual bills under the RIB rate structure than under the otherwise applicable flat rate structure. For instance, the average annual consumption by customers on Vancouver Island of 13,785 kWh is below the annual break-even point of approximately 14,500 kWh. As a result, the majority of Vancouver Island customers are expected to have smaller bills on average under the RIB rate structure than under the flat rate structure (Exhibit B-7, ESVI 2.15.2); and

- no region has a preponderance of customers with larger consumption, and therefore no region has a predominance of customers with adverse bill impacts. To support this argument, BC Hydro provided a table to demonstrate that even on Vancouver Island, which has a higher proportion of electrically heated homes than other regions because natural gas service arrived there more recently, customers with consumption over 25,000 kWh per annum are not more likely to be on Vancouver Island than anywhere else in BC Hydro's service territory.

Table 4.8 – Customers' Consumption by Region

District	Customers <25,000 kWh/yr	Customers >25,000 kWh/yr	Percentage of Customers >25,000 kWh/yr
Lower Mainland	778,389	34,893	4.3%
Northern	113,396	7,048	5.9%
Southern Interior	150,779	9,701	6.0%
Vancouver Island	270,553	34,364	11.3%

Source: (Modified from Exhibit B-7, ESVI 2.4.1)

BC Hydro further explained that the reasons why a Vancouver Island customer is a larger consumer include the fact that there are more relatively large electrically heated houses on Vancouver Island, with 54 percent of electrically heated homes that are larger than 3,000 sq. ft. being on Vancouver

Island, and only 34 percent being in the Lower Mainland (Exhibit B-28, Undertaking No. 10). BC Hydro submits that to the extent that there are regional variances in consumption, with meaningfully distributed variances in bill impact, there are corresponding regional variations in customers' ability to conserve and corresponding regional variations to mitigate bill impacts, on the premise that larger users are generally more price responsive and able to conserve (BC Hydro Argument, pp. 43-44).

BC Hydro further submits that even if its proposed RIB rate structure was found to be discriminatory on the basis of location, it would nonetheless oppose a regional variation of the RIB rate structure designed for the purpose of mitigating bill impacts for the following reasons:

- although its billing system is sufficiently accurate to implement a regional rate structure; the current regional boundaries are based on historic operating divisions of BC Hydro. Therefore, there are no common characteristics between the four regions based on customer, gas availability, transmission facilities, generation or heating type and accordingly the divisional boundaries have no rate design basis;
- some customers with consumption already below the 14,500 kWh break-even threshold would get further bill reductions based on their location which would result in higher bills for customers in other regions; in other words, the establishment of regional rates for the purpose of bill impact mitigation is likely to compound rather than diminish fairness and discrimination concerns;
- a regional RIB rate structure variation for the North or Vancouver Island could result in unintended but foreseeable consequences. Given that both of those regions have lower population densities, and Vancouver Island is served from generation that is as far away from load as is possible within BC Hydro's system, regional cost-of-service studies necessary to set regional rates could result in higher average rates for those regions; and
- BC Hydro generally opposes any erosion of the postage stamp principle upon which its rates are currently set.

  (BC Hydro Argument, pp. 44-45)

CEC agrees with BC Hydro's position that regional rates would not solve any of the fairness issues with respect to the RIB rate structure proposal, do not have a foundation in the evidence of this proceeding, and would have potentially far reaching consequences (CEC Argument, p. 26).

Accordingly, CEC submits that it does not believe the Commission should support separate segments for regions in its RIB determinations (CEC Argument, p. 26).

ESVI challenges the summary statement of BC Hydro, which states that "BC Hydro does not believe the proposed RIB rate unduly discriminates on the basis of region ..."

ESVI addresses BC Hydro's submission that most of the customers in each of the four regions will have lower annual bills under the RIB rate structure than under the otherwise applicable flat rate structure, points to its table below, and submits that the percentage difference in average bill increases for F2010 over F2009 in the RIB rate structure regime as compared to flat rates are positive on Vancouver Island while they stay negative in other regions. ESVI also notes that in years beyond F2010 the difference will increase.

Table 4.9 - F2010 over F2009 Average Bills

Region	**% Difference RIB vs. Flat**
Lower Mainland	- 2.8
Vancouver Island	+ 2.3
Southern Interior	- 1.1
Northern	- 1.7
Source: Exhibit B-7, BCUC 2.67.1, Table 2	

ESVI submits that its evidence (Exhibit C13-4) and BC Hydro's Undertaking 11 (Exhibit B-28) support its position (ESVI Argument, pp. 8-9).

ESVI addresses BC Hydro's submission that "…customers with consumption over 25,000 kWh per year are not more likely to be on Vancouver Island than anywhere else in BC Hydro's service territory" and submits that with 11.3 percent of the total Vancouver Island has a preponderance of customers with larger consumption as compared to other regions which range between 4.3 percent and 6.0 percent, and therefore a preponderance of customers with adverse bill impacts (ESVI Argument, p.10).

ESVI also submits that the statistic that 54 percent of electrically heated homes that are larger than 3,000 sq ft are on Vancouver Island as compared to the 34 percent in the Lower Mainland is even more significant considering that this high percentage is from an area with a low customer base of 21.9 percent versus 58.2 percent in the Lower Mainland (ESVI Argument, p. 10).

ESVI addresses BC Hydro's submission on the regional variations in ability to conserve and corresponding ability to mitigate bills, and submits that BC Hydro's statement does not provide relevance for those that do not or cannot change behaviour. Furthermore, ESVI submits that there is no evidence supporting that the ability to conserve and mitigate bill impacts will be significant enough to overcome the regional variances (ESVI Argument, p. 11).

In summary, ESVI submits that it is pleased to support BC Hydro's RIB Application only when accompanied by the following directive: "That the Commission Panel directs BC Hydro to include regional aspects into a cost-of-service study for the next rate design application or rate design filing. The purpose of the study would be to provide enough information to determine the suitability and, if appropriate, implementation of regional programs, both non-rate DSM and rate related" (ESVI Argument, pp. 1, 12).

Terasen submits that the ESVI's submissions are without merit and supports the positions taken by BC Hydro (Terasen Argument, pp. 5-6).

In Reply, with respect to the issues raised by ESVI, BC Hydro submits that its statements that "Most Vancouver Island customers will have lower bills under the RIB rate than the otherwise applicable flat rate" and that the "Average Vancouver Island bill will be higher under the RIB rate than under the otherwise applicable flat rate" are different issues and not inconsistent. By way of explanation, BC Hydro submits that while most Vancouver Island customers will have lower bills, the total "benefit" will be slightly lower in absolute value terms than the total "cost" borne by the Vancouver Island customers who will have higher bills (BC Hydro Reply, p. 13).

With regard to the "preponderance" issue addressed by ESVI, BC Hydro replies that "preponderance" means "majority" and that the 11.23 percent of Vancouver Island customers with annual consumption over 25,000 kWh per year are not a majority or a preponderance of Vancouver Island customers (BC Hydro Reply, p. 13).

In response to ESVI's submission that "there is no evidence supporting [the proposition] that the ability to conserve and mitigate bill impacts will be significant enough to overcome the regional variances", BC Hydro observes that there is no evidence suggesting that Vancouver Island customers have fewer options or alternatives to save electricity compared to customers in other regions (BC Hydro Reply, p. 13).

4.2.3 Electric Heat

Various Intervenors submitted a significant number of IRs on this topic to explore the potential for discrimination against residential customers who use electricity for their space and water heating. As well, a number of Letters of Comment expressed concern that BC Hydro's proposal discriminated against those of its customers who had chosen to heat their homes by electricity.

JIESC expressed concern for this group of customers and stated that there appears to be a better solution: "segmenting the residential class into its two elements, customers that use electricity for space and water heating and those that do not" (T2:99).

BC Hydro submits that electric heat customers are not unduly discriminated against as a result of the RIB rate structure proposal. BC Hydro stated that approximately half of all electric heat customers will actually have lower annual bills as a result of the RIB rate structure than they would have under the other wise applicable flat rate structure, and that when they have both electric space and water heating the average consumption of electric heat customers is very close to the break-even threshold of 14,500 kWh per year (Exhibit B-7, BCUC 2.67.1).

BC Hydro noted that while electric heat is a significant end-use; a wide array of end-uses ranging from clothes dryers to computer equipment and large screen televisions to second fridges contribute to total consumption (Exhibit B-3, BCUC 1.4.6.1). Furthermore, among large single family dwelling users, electric heat customers are not disproportionately represented as they make up less than half of the single family dwelling customers with consumption over 25,000 kWh per year (Exhibit B-3, BCOAPO 1.24.2, page 3 of 3; T5: 754-755).

To the extent that electric heat customers are larger electricity users, BC Hydro takes the position that they are more price responsive and able to conserve, based on the hypothesis that larger users tend to have more end-uses and are able to alter their total consumption more readily than smaller users (Exhibit B-3, BCUC 1.35.2, T2:259-260) (BC Hydro Argument, pp. 39-40).

BC Hydro further submits that it would not support the establishment of an electric heat rate even if it was required to mitigate bill impacts to ensure that the RIB rate structure would not be unduly discriminatory for the following reasons:

- implementing an electric heat rate on the basis of current billing information would extend the benefit of that rate to customers who should not have it, and would not extend it to some of those who should, thereby creating more rather than less discrimination. BC Hydro submits that the discrepancy between the billing system and REUS information regarding electric heat customers (20 percent vs. 35 percent) is significant (T3:445);

- an electric heat rate that did not compound fairness and discrimination concerns would require the thoughtful establishment of an applicability definition, and a mechanism to ensure eligibility, both at the outset and on an on-going basis (T3:446, T3:426), neither of which currently exists;

- an electric heat rate would inevitability lead to circumstances where customers with identical consumption pay different rates, which again would raise fairness issues. For instance, 25 percent of electric heat customers in homes larger than 3,000 sq ft consume less than the 14,500 kWh break-even point; therefore, even an electric rate targeted to such customers would be bound to provide an unjustified preference to many of them (T4:544-545);

- given the number of customers to whom an electric heat rate would be applicable (20 percent of 1.5 million customers or 300,000 customers) and that eligibility verification would self-evidently require in-home inspections, there would be significant

implementation and cost issues; and

- given the annual residential load shape and its significant contribution to the winter peak relative to other rate classes (T3:419-420), it is reasonable to assume that an electric heat cost-of-service study would result in higher average rates for electric heat customers than non-electric heat customers, thereby undermining the assumed purpose of an electric heat rate.

  (BC Hydro Argument, pp. 40-42)

CEC agrees with most of BC Hydro's submission in this regard and submits that electric heat customers will have significant conservation options to respond to the RIB rate structure price signals, and that further rate design work in regard to TOU rates will obviate the need to potentially investigate cost-of-service issues for electric heat. Accordingly, CEC does not believe the Commission should support a separate rate for electric heat in this proceeding (CEC Argument, p. 25).

JIESC submits that the Commission could consider requiring BC Hydro to segment the residential class into heating and non-heating classes with different thresholds to recognize consumption differences, since one of the significant drivers of total consumption by residential customers is the use of electricity for space and water heating. JIESC submits that, on average, customers who heat their homes with electricity use 3,649 kWh per year more than customers who do not and customers who use electricity for both heating and hot water use 6,264 kWh per year more than customers who do not (Exhibit B-7, BCOAPO 2.29.1). The result of segmenting the residential class to recognize this difference would be to reduce the exposure of the heating class somewhat to Step-2 rates while increasing the exposure of the non-heating class. JIESC submits that this approach is fairer and will spread the bill impact and conservation effects of the RIB rate structure more evenly among the residential class (JIESC Argument, p. 7).

Terasen submits that the implementation of the RIB should not be delayed for the purposes of investigating the potential for further refinements regarding the heating vs. non-heating customer segmentation. Further, Terasen submits that there is sufficient evidence on the record to suggest

that different rates for electric heating and non-electric heating customers should be considered in the future because BC Hydro is paying, or will be paying, more for power delivered in the peak months of November through February, which is also the peak electric heating season. In summary, Terasen submits that BC Hydro should be directed to study this issue further and report to the Commission the cost to resolve the data and definitional problems that currently pose the main obstacle to adopting separate rates for electric heating and non-electric heating customers (Terasen Argument, pp. 10-11).

In Reply, with reference to JIESC and Terasen submissions, BC Hydro notes that while both Intervenors recommend further study to support the creation of an electric heat sub-class, their intended purposes seem quite different. In the case of the JIESC, BC Hydro submits it would be to mitigate bill impacts, whereas in the case of Terasen, it would presumably be to increase electric rates to encourage fuel-switching and increased natural gas sales. BC Hydro submits that the record does not support either objective, or the requested work that would allow such segmentation to proceed. BC Hydro notes that the scope and cost of such work would depend on its purpose, and submits that if the Commission is inclined to grant the requested relief, that it specify clearly the intended objective (BC Hydro Reply, p. 12).

4.2.4 Rates for Low-Income Customers

BCOAPO makes extensive submissions regarding the Commission's power to approve a differentiated rate for low-income customers of BC Hydro. Specifically, BCOAPO submits that the Commission has the option of establishing a residential rate which incorporates relief for low-income customers, or alternatively of establishing low-income residential customers as a discrete rate class (BCOAPO Argument, pp. 8-29). The jurisdictional issues were addressed in more detail in Section 2.2. While BCOAPO did not file a formal application with the Commission for lifeline rates, its Argument includes a "Lifeline Rate Proposal" which will be summarized under Intervenor Submissions.

As noted earlier in Section 2.2 of these Reasons, BC Hydro takes no position on the social value of lifeline rates, which it regards as an issue solely within the authority of the provincial legislature and states that its opposition is founded on the current Act. BC Hydro submits that its proposed RIB rate structure does not unduly discriminate against low-income customers for the following reasons:

- the vast majority, 84 percent, of BC Hydro customers whose incomes are below the federal government's Low-Income Cut-Off ("LICO") will have lower annual bills under the RIB rate structure than under the otherwise applicable rate (Exhibit B-7, BCOAPO 2.19.2), and there is no basis to believe that LICO customers are more likely to be large users of electricity. Even when LICO customers have both electric space and water heating (21 percent) the average consumption is 11,000 kWh per year, which is well below the break-even threshold of 14,500 kWh per year (T2:189);

- the evidence does not support the assertion that LICO customers' end-uses are more "essential" or, conversely, that just because a customer is below the LICO, he or she has no or even just fewer discretionary end-uses. Consumption of those LICO customers who consume over 14,500 kWh per year is driven by a diverse number of end-uses, as it is for non-LICO customers (T2:247). For example, about 12 percent of LICO customers have a second refrigerator (T2:161), 27 percent of large LICO customers have a second refrigerator (T3:3030) and some LICO customers also have digital cable as well as hot tubs (T2:188);

- since 96 percent of LICO customers consume less than 20,000 kWh per year, the most those customers would need to conserve, to offset an $80 per year bill impact, is about 1,000 kWh or only 5 percent of current annual consumption (T2:210—211). In summary, BC Hydro submits that to the extent that LICO customers are relatively large users of electricity, they have relatively greater ability to conserve, and therefore to reduce bill impacts.

  (BC Hydro Argument, pp. 46-47)

Regardless of the jurisdictional concern, and whether 'lifeline" rates are "desirable" from a provincial policy perspective, BC Hydro submits that two practical issues would require resolution, the first being that in the absence of robust, verifiable information regarding low-income eligibility, a 'lifeline" rate would raise fairness and discrimination issues. Considering that BC Hydro may have as many as 250,000 customers meeting the LICO definition, it is crucial that the eligibility and verification procedures are rigorously defined while not being overly rigid. The second issue would be that, since 84 percent of LICO customers would receive lower annual bills under the RIB rate

structure than under the otherwise applicable flat rate structure, giving LICO customers a further benefit would increase discrimination and fairness issues vis-à-vis non-LICO customers. BC Hydro submits that the estimated loss of revenue from adopting a California style LICO program would range from $21 million to $30 million per year, which would need to be recovered from other ratepayers (BC Hydro Argument, pp. 48-49).

BCOAPO submits that if the Commission intends to approve a RIB rate structure for BC Hydro it should stipulate that low-income households, defined as those with incomes at or below the LICO, will be eligible to be billed at the lowest step rate for all of their electricity consumption; and direct BC Hydro to design a program to administer a lifeline rate structure along the general lines of the California program and to file a proposal for a comprehensive lifeline plan in advance of an October 2009 launch date for any approved version of the RIB and to integrate it into the new rate structure from the onset. The plan should also include a proposal to provide relief to low-income renters whose landlord is billed for their electricity consumption.

BCOAPO further submits that while household heat, lighting, hot water and cooking fuel are essential for all households, low-income people's access to those essential end-uses is in jeopardy and that the Commission has the jurisdiction and the capacity to take that into account when designing residential rates.

Finally, BCOAPO submits that its proposed Step-1 lock-in plan would involve a far lower revenue shift than the $21 to $30 million cost estimate based on California's experience which was provided by BC Hydro (BCOAPO Argument, pp. 36-40).

CEC supports BC Hydro's submissions, and does not believe that information is available to establish rates based on income and would not support putting BC Hydro in a position where it had to collect such information as a basis for eligibility for such a rate, even if the Commission had the jurisdiction to implement such a rate (CEC Argument, p. 26).

Terasen submits that it is sympathetic to the desire of BCOAPO to improve the energy security of low-income customers and notes that the RIB proposal results in favourable bill impacts for the vast majority of customers that BC Hydro has identified as low-income customers. Terasen further submits that even the minority of low-income customers that can expect to see higher bills under the RIB proposal needs to conserve only a modest amount of energy to offset bill impacts associated with the RIB rate structure (Terasen Argument, pp. 7-8).

In Reply, BC Hydro is silent regarding the above specific BCOAPO "lifeline" rate proposal. In reference to BCOAPO's "essential" use argument, BC Hydro submits that there is no evidence on the record of the RIB proceeding upon which the Commission could conclude that any customer's "essential" end-uses are in jeopardy, with or without a RIB rate structure (BC Hydro Reply, p. 10).

4.2.5 Other Options for Creation of Sub-categories

Other potential sub-categories of the residential class that can be inferred from Letters of Comment, IRs, cross-examination, and submissions were customer age, type of dwelling, and number of occupants, as well as other uses such as geothermal pumps and plug-in vehicles.

One such Letter of Comment expressed concern "that the proposed Residential Inclining Block Application will have a negative effect on the adoption and use of 'green' alternatives such as electric cars and heat pumps (when used in the winter months)" (Exhibit E-36).

BC Hydro submits that there simply is no cost basis for segmentation on the basis of personal characteristics such as age, or number of occupants, and relies on its "lifeline" rate jurisdictional argument in regard to such segmentation. With respect to a "heat pump" rate, or a "dwelling type" rate, BC Hydro submits that there is no cost basis for such rates on the evidentiary record of the RIB proceeding, and that it has no basis upon which it could infer that there might be such a cost basis. BC Hydro further submits that its evidence refutes the idea that the proposed RIB rate structure unfairly discriminates on the basis of such segmentation, or that such segmentation would be warranted. Finally, regarding heat pump rates specifically, where the justification

presumably would be to discourage GHG emissions, BC Hydro submits that nothing in the UCA engages the Commission's obligation to consider GHG emissions when setting rates (BC Hydro Argument, p. 49).

The CEC agrees with BC Hydro that there has not been sufficient information put on the record in the RIB proceeding to support any other segmentation of the residential class. With regard to the jurisdictional matters the CEC submits that GHG related considerations are within the Commission's scope; accordingly, the Commission in setting the rates has the latitude to consider what it deems necessary but may avoid dealing with GHGs (CEC Argument, p. 27).

Terasen submits that potential refinements to BC Hydro's residential rate structure can and should be considered at a later date once BC Hydro has studied customer price response and the conservation benefit yielded by its proposed RIB rate structure. Terasen further submits that BC Hydro should be directed to consider how residential rate design could help to address the prominent role space heating plays in contributing to system peak load and that further segmentation of the residential class merits further study (Terasen Argument, pp. 14-15).

Corix submits that it supports a residential inclining rate design concept that promotes conservation of energy but notes that BC Hydro's RIB proposal is focused only on conservation of electricity. Corix submits that its specific concern is that the RIB proposal has the potential to discourage consumers from choosing geo-exchange energy systems for space heating and cooling instead of conventional thermal energy systems. Corix further submits that this unintended effect would not be in the public interest and should be remedied by the Commission through a directive to BC Hydro to develop a special rate category for electricity consumption for geo-exchange energy systems (Corix Argument, p. 1).

By way of further explanation, Corix submits that geo-exchange energy systems require the installation and operation of heat exchange and related equipment to access geo-thermal energy. These systems are powered by electricity and therefore may add incremental electric load to that residence. The relative cost of energy is a key factor for the consumer when choosing between a

geo-exchange energy system and a conventional natural gas fuelled energy system (Corix Argument, p. 2).

Finally, regarding BC Hydro's submission that "it would respond to a directive from the appropriate authority to design and implement action to promote "good" uses of electricity", Corix submits that the Commission has both the authority and good reasons to issue such a directive to BC Hydro in relation to the geo-exchange energy choice issue (Corix Argument, p. 5).

In Reply, BC Hydro submits that by seeking an order directing BC Hydro to *develop* a special rate Corix implicitly acknowledges that the record is inadequate to support a Commission order that would establish "geo-exchange rates" at this time. Furthermore, BC Hydro submits that the record does not support even the basic proposition that its proposed RIB rate structure will have any material effect on the use of such end-uses; and that there is no evidence on what price would be required so as not to provide a disincentive for geo-exchange end-uses. BC Hydro also points out that the relief Corix seeks requires the Commission to direct BC Hydro to address the question of fuel-switching, and the use of rates to achieve fuel-switching objectives. BC Hydro submits that "a rate design hearing of one utility is a very poor springboard from which to embark upon an enquiry that squarely engages energy policy at the provincial level, and all utilities in the province." and urges the Commission to reject the request (BC Hydro Reply, pp. 14-15).

Commission Determinations

The Commission Panel notes that the RIB rate structure proposal is anticipated to be the first of a series of "conservation rate" applications BC Hydro will be bringing to the Commission over the next few years. It is also mindful of the importance of customer understanding and acceptance**. The Commission Panel is persuaded by the rationale for simplicity put forward by BC Hydro and accordingly accepts a simple two-step inclining block rate structure as an appropriate initial design for a residential conservation rate.** The Commission Panel expects BC Hydro to continue its dialogue with its stakeholder and customer groups as part of its program to further refine its residential rate design, and to continue its review of other alternative structures including

seasonal, three-step and CBL type rate structures.

The Commission Panel has considered the evidence and submissions regarding differentiated rates for residential customers who use electricity for their space and water heating, and is persuaded by BC Hydro's submissions and determines that electric heat customers are not unduly discriminated against as a result of a simple two-step inclining block rate structure.

The Commission Panel has also considered the evidence and submissions on regionally-differentiated rates and determines that there is insufficient evidence before it to justify any departure by BC Hydro from setting rates on the postage stamp principle.

With regard to differentiated rates for low-income residential customers, the Commission Panel has considered the extensive submissions of BCOAPO regarding differentiated rates but concurs with BC Hydro's evidence 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. Accordingly, BCOAPO's request that that low-income households, defined as those with incomes at or below the LICO, will be eligible to be billed at the lowest step rate for all of their electricity consumption is denied.

After considering the submissions of BC Hydro and the Intervenors regarding other options for segmentation or special rates the Commission Panel determines that there is not sufficient evidence regarding the impact of the RIB rate structure on the use of geothermal pumps or plug-in vehicles. Accordingly, Corix's request to develop a special geo-exchange rate is denied.

Furthermore, the Commission Panel finds that there is insufficient evidence upon which to order a segmented cost of service study of an electric heat sub-class as requested by Terasen Utilities or a cost of service study that includes regional aspects as suggested by ESVI.

5.0 BC HYDRO'S PROPOSAL

This Section will review the orders that BC Hydro seeks with respect the establishment of its proposed RIB rate structure. It will review the impact of BC Hydro's design principles on the rate itself and will consider whether the application of these principles yields a rate that is "just, reasonable and not unduly discriminatory" and if the application does not yield such a rate, determine what principles would yield such a rate. In addition, the bill impacts on customers, including the ability to mitigate the impacts, and on conservation are considered.

5.1 BC Hydro's Proposal

Orders sought

In Appendix D of its Application BC Hydro sets out the specific orders it seeks from the Commission:

- BC Hydro's proposed RIB rate structure is approved, as applied for, effective October 1, 2008;
- For greater certainty, Rate Schedules 1101 and 1121 shall be amended and filed with the Commission on or before September 30, 2008 to show a Step-1 rate of 6.28 cents/kWh; a Basic Charge of 12.38 cents/day; a Step-1 Threshold of 1600 kWh per bi-monthly Billing Period; and a Step-2 rate of 6.98 cents/kWh;
- New Rate Schedules 1151 and 1161, for those customers on exempt residential service, will be filed with the Commission on or before September 30, 2008 showing a flat rate of 6.55 cents/kWh and a Basic Charge of 12.93 cents/day; and
- On or before February 28, 2009 BC Hydro shall file Rate Schedules 1101, 1121, 1151 and 1161 that are to be effective April 1, 2009, reflecting the Commission's acceptance of BC Hydro's proposed RIB rate structure, the revenue requirement then applicable to the fiscal year beginning April 1 2009, and any rate rebalancing rate changes effective April 1, 2009.

  (Exhibit B-1, Appendix D)

BC Hydro states that, at the time it made its Application, it was awaiting approval of an interim rate increase from the F09/F10 RRA and legislative changes regarding the 2007 RDA Decision, and was seeking approval of the design principles by which the current flat rate structure would be adjusted at first instance to the proposed RIB rate, and annually thereafter. Thus, the tariff sheets included in Appendix D showed per unit rates, for illustrative purposes only, that assumed that the rate rebalancing elements of the 2007 RDA Decision had been extinguished; that the F2009 rate relief sought in the F09/F10 RRA had been granted; and that the RIB rate was implemented in October 2008 (Exhibit B-1, p. 1-14).

BC Hydro submits that the specific relief it relief seeks "is primarily related to what it has referred to as its RIB "pricing principles". The essential principles are the establishment of a 1600 kWh per bi-monthly billing period "Step-1 Threshold"; the establishment of a "Step-1 rate" for consumption below the Step-1 Threshold, increasing annually by inflation; and the establishment of a "Step-2 rate" for consumption in excess of the Step-1 Threshold, calculated residually on a revenue neutral basis [viz for its residential customer class]" (BC Hydro Argument, p. 2).

In addition, BC Hydro seeks a further order approving the revised tariff sheets at Attachment A to the Final Argument to account for its proposal regarding the optionality of general service rates (BC Hydro Argument, p. 99).

At the Oral Phase of Argument counsel for BC Hydro submitted that the Commission should not "throw the baby out with the bathwater" and reject BC Hydro's proposal outright, and pointed out that BC Hydro had placed 27 alternative scenarios before the Commission and urged it to select one (T6:859).

5.2 BC Hydro's Additional "Economic Efficiency" Tests

BC Hydro states that while Bonbright's rate design criteria are important, they do not provide sufficient guidance to develop specific rate structures that can send efficient price signals to residential consumers to promote economic conservation, without causing undue bill impacts or

other issues. Thus, the assessment of a properly-designed rate structure requires that alternative design elements within the two-step inclining block structure be evaluated. BC Hydro states that the basic eight rate design criteria do not account for the circumstances in which a new rate structure is introduced, and how a new rate structure ought to be assessed in light of those circumstances. Finally, they do not provide guidance in assessing a particular inclining block rate structure.

BC Hydro states that it developed the following tests to assess the performance of the proposed RIB rate structure against the economic efficiency criterion and that it calls them "tests" because it believes that to the extent possible any proposed RIB rate should satisfy each of them. BC Hydro qualifies - "to the extent possible" - because achieving them all to the highest degree possible would be impossible, and any RIB rate proposal that seeks to satisfy as many of the tests as possible will require trade-offs between them. To the extent that these tests can all be satisfied by a specific RIB rate structure, without undue trade-offs against each, BC Hydro believes that its RIB rate structure proposal will best satisfy the economic efficiency rate design criteria. Conversely, any proposed RIB rate that utterly fails on any one of the tests is not a rate structure that BC Hydro would readily endorse (Exhibit B-1, p. 3-2).

BC Hydro describes its four "economic efficiency" tests as follows:

1) no customer should see a rate decrease, to avoid providing disincentives to conservation;
2) as many customers as possible should see the Step-2 rate, to maximize the number of customers that have incentives to conserve;
3) the differential between the Step-1 rate and Step-2 rate should be sufficiently large to provide a meaningful incentive for conservation; and
4) the Step-2 rate should be more reflective of, while not exceeding, the full cost of new supply (plus fixed costs), relative to the otherwise applicable flat rate, to incent more conservation than under a flat rate structure.

   (Exhibit B-1, pp. 3-2, 3-3)

BC Hydro submits that trade-offs are required between these tests, and that none can be applied without compromising one or more of the others. Nevertheless, BC Hydro considers that the "no rate decrease" test should be a pass/fail test, and that the limitation of the Step-2 rate to an amount no greater than the cost of new supply should be a limiting principle (BC Hydro Argument, p. 18).

The CEC submits that the four economic efficiency tests are not economic efficiency tests but rather "define design limits and objectives for how where and when to incorporate the efficient price signal into the residential rate structure" (CEC Argument, p. 13).

5.3 Choice of Threshold

BC Hydro states that a 1,600 kWh bi-monthly Step-1 threshold will result in about 60 percent of its residential customers seeing the Step-2 rate in at least their high consumption billing periods.

BC Hydro states that it chose the 1,600 kWh bi-monthly Step-1 threshold on the ground that it allows for a balanced rate design. However, BC Hydro believes that a further reason to favour a 1,600 kWh Step-1 threshold is that it is close to the average residential customer consumption level, which is currently about 1,800 kWh per bi-monthly billing period but drops to about 1,600 kWh per bi-monthly billing period when the largest five percent of customers are removed (Exhibit B-1, p. 3-22).

BC Hydro stated that once it removed the outliers, being accounts with consumption between 0 and 100 kWh per month and with greater than 10,000 kWh per month, the median consumption of the remaining accounts (99 percent of the total) was 762 kWh per month and the average consumption was 932 kWh per month (Exhibit B-3, BCUC 1.4.7).

B C Hydro stated that the threshold size was unrelated to the Heritage Contract and its policy witness testified: "The prospect of restructuring the residential tariff on the basis of an express allocation of the benefits of the heritage resources alone would have resulted in many more

development months, as it necessarily would have required BC Hydro's engagement with the provincial government throughout" (T2:124).

BC Hydro stated that "There is no deliberate allocation of the benefits of the Heritage Resources among customers. Instead, each customer receives an amount of Heritage Energy equal to the product of their individual load and the ratio of Heritage Energy to total domestic system load. This construct has it roots in the Commission's 2003 report regarding the Heritage Contract ….The enquiry was primarily about the allocation between BC Hydro and its customers of the benefits of the Heritage Resources" (Exhibit B-16, Panel 1.4.1).

BC Hydro also stated that the 1,600 kWh bi-monthly Step-1 threshold was not chosen on a cost basis, and that while one of its design criteria is "fair apportionment of costs", it believed that the proposed RIB rate structure achieved that objective, and that there is no basis in ratemaking or regulatory principle to subject every single element of a rate design to the eight rate design criteria (Exhibit B-7, BCUC 2.74.1).

BC Hydro addressed the issue of why the two-step rate more fairly apportions embedded costs between large volume and small volume residential customers and stated that like most embedded cost of service studies, BC Hydro's study only looks backwards at an historical period and "neglect[s] the important fact that BC Hydro has a fixed amount of low cost resources and its rates are increasing as it is forced to dilute those resources with higher cost new resources. One fair way to allocate the existing resource among customers is to give each customer an equal share of those resources and apportion a disproportionate share of the new resource costs to larger users. BC Hydro stated that its proposed RIB design effectively implements this allocation without causing unacceptable billing impacts" (Exhibit B-7, BCOAPO 2.20.3).

In a reply to a Letter of Comment, the Minister of Energy, Mines and Petroleum Resources stated "The Tier 1 step was set at approximately 10 percent below the average residential electricity use per month". The Minister concluded "The Province and BC Hydro are committed to achieving their energy efficiency and conservation goals while maintaining access to affordable electricity service

for all British Columbians" (Exhibit E-5-1). BC Hydro explained that it provided the 10 percent statistic to the Minister "for information rather than as a driver for the Step-1 threshold" (Exhibit B-7, BCUC 2.76.2).

The second highlight from the 2007 Energy Plan entitled "A Strong Commitment to Energy Conservation and Efficiency" reads in part as follows: "Current average per household electricity consumption for BC Hydro customers is about 10,000 kWh per year. Achieving this conservation target would see average electricity use per household decline to approximately 9,000 kWh per year by 2020" (Exhibit B-1, Appendix B, p. 5), implies future use having to move to 90 percent of current levels.

The following table compares certain metrics of a number of scenarios modeled by BC Hydro having different thresholds:

Table 5.1 – Comparison of Various Threshold Levels

Scenario #	Threshold (kWh)	Worse-off Break Point (kWh/yr)	% Better/ Worse Off	% Load Billed @ Step-2	% Seeing Step-2 at least once	Range of Estimated Conservation GWh/yr
1	1,600	14,500	74/26	35	62	303-316
5	400	11,000	61/39	79	96	168-168
11	1,000	12,400	68/32	53	79	235-240
9	1,200	13,000	69/31	46	74	265-265
12	2,000	16,100	78/22	27	51	359-359
13	2,200	17,000	79/21	24	46	330-387

(Source: Exhibit B-22).

Of all Intervenors only BCOAPO comments specifically on the 1,600 kWh threshold, and submits "The RIB version offered by BC Hydro is not the appropriate one, should the Commission feel compelled to go down that road at all. A preferable version would feature a 1,000 kWh per billing period threshold between steps" (BCOAPO Argument, p. 70) … "This will expose more customers to

the Step-2 rate incentive to adopt DSM measures. This would clearly facilitate the creation of a 'conservation culture' which BC Hydro has indicated it is try[ing] to build" (BCOAPO Argument, p. 62).

In Reply, BC Hydro notes that BCOAPO's proposal would result in a significantly diluted price signal and, to the extent that low-income customers are more likely to consume less electricity, would adversely impact more low-income customers compared to BC Hydro's proposal (BC Hydro Reply, p. 20).

5.4 Customers who will See the Step-2 Rate as Proposed

In its Application BC Hydro estimates the percentages of its residential customers who will see the Step-2 rate and the frequency:

Table 5.2 – Percentage of Customers seeing the Step-2 Rate at 1,600 kWh

Customers that see Step-2 Rate	Percent of Customers All year	Percent of Customers Mar-Oct	Percent of Customers Nov-Feb
Never	38	49	42
Sometimes	37	26	6
Always	25	25	53

(Source: Exhibit B-1, Table 3-4, Exhibit B-3, BCOAPO 1.31.1)

BC Hydro addresses its second economic test to maximize the number of customers that see the Step-2 rate and notes that the choice of threshold determines the percentage of its residential customers who will see the Step-2 rate in at least one of the six bi-monthly bills they receive each year. Setting a lower threshold causes more customers to see the Step-2 rate, and also results in a lower differential between the Step-1 and Step-2 rates, which has the effect of diluting the conservation signal. BC Hydro submits those customers who never see the Step-1 threshold, are motivated to keep their consumption within Step-1 through the presence of the second step (BC Hydro Argument, p. 19).

JIESC observes that "The effect of this policy is dramatic", and that with Tier 2 rates moving over time to nearly two times those of Tier 1, the bulk of the burden of BC Hydro's increases in revenue requirements will be borne by the 25 percent of its customers who will see Tier 2 prices regularly, while 38 percent of its customers will see lower increases (JIESC Argument, p. 6). JIESC further observes that a rate that tells almost one-half of its customers that rates will be fixed in real terms, when the costs of serving those customers are rising significantly faster than inflation, fails miserably in delivering the appropriate message (JIESC Argument, pp. 6-7).

5.5 Establishment of Pricing for Steps 1 and 2

BC Hydro's states that its proposal first sets the Step-1 rate and Basic Charge, and then residually determines the Step-2 rate, and that the pricing structure would be adjusted annually thereafter as follows:

- increase the Step-1 rate and the Basic Charge by the projected rate of inflation inherent in the revenue requirement applicable for the fiscal period beginning on April 1; and
- increase the Step-2 rate so that it allows BC Hydro to recover the residual residential revenue requirement for the fiscal period beginning on April 1 that would not be recovered by the Basic Charge and Step-1 rate.

  (Exhibit B-1, p. 3-9)

BC Hydro addresses its first economic test that "No customer should see a rate decrease, to avoid providing disincentives to conservation" and states that it believes that the Step-1 rate should be no less than the current flat rate in effect on March 31, 2008 (namely 6.15 cents/kWh) and that, assuming that its revenue requirement increases will exceed general inflation in the near to medium term, the Step-1 rate should increase by projected inflation, keeping it constant in real dollar terms. To minimize the conservation disincentive for the residential customers who consistently consume at a level below the Step-1 threshold requires, to the extent reasonably possible, that their rates do not decline, and preferably do not decline on an inflation-adjusted basis (Exhibit B-1, p. 3-12).

CEC observes that this test ensures that for a substantial block of customers the price signal will be "poor" and submits that the test is "of limited value" (CEC Argument, p. 14).

BC Hydro provided the following table of annual rate increases assumed in its 2007 Load Forecast in its 2008 LTAP:

Table 5.3

F2009	F2010	F2011	F2012	F2013	F2014	F2015	F2016	F2017	F2018
6.6%	8.2%	6.5%	9.3%	0.2%	0.8%	4.0%	6.2%	4.5%	1.8%

Source: Exhibit B-28, Undertaking 7

BC Hydro also stated that the annual inflation assumption underlying these nominal rate increases was 2.1 percent.

Based on the above forecast of annual increases in revenue requirements and in inflation, BC Hydro provided the following table to illustrate how its design principles would impact its residential rates:

Table 5.4

	Basic Charge (cents/day)	Step-1 Rate (cents/kWh) for use up to 1600 kWh bi-monthly	Step-2 Rate (cents/kWh) for use above 1600 kWh bi-monthly
F2009	12.38	6.28	6.98
F2010	12.64	6.41	8.53
F2011	12.91	6.55	9.68
F2012	13.18	6.68	11.61
F2013	13.21	6.69	11.61
F2014	13.31	6.75	11.66
F2015	13.59	6.89	12.37
F2016	13.88	7.04	13.69
F2017	14.17	7.26	14.47
F2018	14.43	7.59	14.47

BC Hydro stated that in preparing the above table it made the following specific adjustments:

- In F2013, F2014 and F2018, the RRA increase levels were less than the assumed rate of inflation. In F2013, forecast sales growth was such that applying the RRA increase to the Basic Charge and the Step-1 rate, would have resulted in a decrease in the Step-2 rate in F2013 relative to F2012, so that for the purposes of responding to this undertaking, and consistent with the "test" that rate decreases should be avoided, BC Hydro kept the F2013 Step-2 rate at the same level as in F2012, and adjusted the Step-1 rate to ensure revenue neutrality; while in F2014 and F2018 BC Hydro increased the Basic Charge and the Step-1 rate not by inflation but by the RRA increase, with the Step-2 rate being calculated residually to ensure revenue neutrality; and
- On the basis of an assumed long-run incremental cost of supply of 12 cents/kWh (in $2008), the Step-2 rate was capped at that amount, adjusted annually for inflation, in each of F2017 and F2018 resulting in higher Step-1 rates than would otherwise be the case in those years, to ensure revenue neutrality.

  (Exhibit B-28, Undertaking 7)

BC Hydro addresses its third economic efficiency test that "the differential between the Step-1 rate and Step-2 rate should be sufficiently large to provide a meaningful incentive for conservation" in its Argument and states that the differential ranges from 7 to 11 percent in year 1, 18 to 33 percent in year 2 and 27 to 51 percent in year 3. It does not define "sufficiently" or "meaningful" (BC Hydro Argument, p. 20).

A number of Intervenors comment on BC Hydro's proposal. BCOAPO submits that Step-1 increases should not necessarily be held back to the rate of inflation, and that under any scenario (except perhaps runaway inflation or "stagflation"), the differential between the Step-1 and Step-2 rates would widen (drastically, under some scenarios) and the impact of exposure to Step-2 would increase rapidly (BCOAPO Argument, pp. 33, 70).

JIESC takes great exception and submits that "By choosing a rate design that places the bulk of the burden of the increases in BC Hydro's cost of service above the rate of inflation on the minority of customers who pay Tier 2 rates regularly, BC Hydro has designed a rate that will cause severe 'rate

shock' and unfairness for some customers. The rate is also not nearly as effective as it could be if the rate increase were distributed more evenly" and "BC Hydro's inclining block rate design is not delivering a conservation message in an efficient manner. 38% of BC Hydro's customers will get the signal that the price of electricity is fixed in real terms for the next three years. A further 37% will get the signal that BC Hydro's rates are either close to fixed in real terms, or are increasing at somewhat more than the rate of inflation, and 25% of its customers will get a Tier 2 rate at all times, with associated bill impacts many times the rate of inflation" (JIESC Argument, pp. 5-6).

During the Oral Phase of Argument BCOAPO states that "it is unreasonable if the amount of pain inflicted on the customers on the receiving end is out of all proportion to the intended benefits of the rate structure. That really goes to whether or not the measure which causes some discrimination is an appropriately-calibrated tool to achieve the societal or regulatory objective. So we say this proposal is unduly discriminatory because it is not a reasonably-calibrated tool to achieve its societal objective of conservation. The pain-to-gain ratio is so far off the scale that it is not an appropriate means. And people have put to you various bill impacts that conveniently look only at the first year, or potentially the second year. But we have seen projections on the record of where this is going, and we know that the impact is quite enormous" (T6:901).

5.6 Establishment of the Step-2 Rate Cap

BC Hydro addresses its fourth economic test that "the Step-2 rate should be more reflective of, while not exceeding, the full cost of new supply" and states that the most current information it has regarding the long run cost of new supply in British Columbia is from its F2006 Call for Tender ("CFT"), but that there is also considerable uncertainty regarding the future long-run cost of new supply, and that it plans to conduct a further call for energy in F2009, which will likely yield a different levelized call price than the F2006 CFT price, which it currently uses as the best indicator of the long-run cost of new supply in British Columbia. The results of the future call will not be known until the regulatory review of that process, including section 71 filings, are complete.

BC Hydro stated that it did not rely on a long-run incremental cost study prepared for it by E3 and dated December 1, 2004 which was entered in evidence in the 2007 RDA, on the grounds that it was out-of-date (Exhibit B-7, BCOAPO 2.44.1). It filed a study by E3 concerning the use of marginal costs in ratemaking which stated: "Crucially, marginal costs can vary widely according to location and time…" Marginal capacity cost of transmission or distribution may be low in locations where there is always available capacity, and high in other locations where capacity is often constrained (Exhibit B-28, Undertaking 23, p. 5).

BC Hydro stated that its best current estimate of the cost of new energy supply at the plant gate, grossed-up for losses, is 8.27 cents/kWh. This estimate excludes any incremental delivery costs of either transmission or distribution and comprises the weighted average levelized price from the 2006 CFT of 7.36 cents/kWh (which is the Tier-2 price for RS 1823), and the effect of grossing up for losses (Exhibit B-3, BCOAPO 1.3.3).

BC Hydro stated that making its current flat rate structure more efficient requires bringing the marginal energy rate closer to, but not greater than, the long-run marginal cost of new energy supply. Assessing any particular rate design against this principle requires the establishment of a marginal rate "ceiling" - the rate that should not be exceeded by the marginal rate. If BC Hydro's residential tariff provided for the recovery of residential fixed delivery and customer costs through a mechanism other than the energy charges (the Step-1 rate and Step-2 rate in BC Hydro's proposal) then establishing the marginal rate "ceiling" would be a simple matter: the "ceiling" would be the long-run cost of new energy supply.

However, BC Hydro stated that under its residential tariff structure the Basic Charge collects only about six percent of the total residential cost of service, and does not recover the residential fixed delivery and customer costs, which have to be recovered through the energy charge (there being no demand charge). BC Hydro stated that this means that a "ceiling" rate that was based only on the long-run cost of new energy supply would be set at an artificially low amount, resulting in a less efficient pricing structure than one which acknowledged that the energy charges were being used to recover more than simply energy costs. BC Hydro estimated that about three to four cents/kWh

of the current flat energy charge recovers the residential fixed delivery and customer costs and stated that these costs ought to be added to the marginal cost of new energy supply for the purpose of establishing the marginal rate ceiling i.e. the rate which the Step-2 rate should not exceed (Exhibit B-7, BCOAPO 2.44.1).

CEC and Terasen accept the principle that Step-2 should be priced at the long range marginal cost of new supply (CEC Argument, p. 12; Terasen Argument, para 13).

BCOAPO submits that BC Hydro has offered no evidence to support its assertion that the long term cost of resource smart projects or acquisitions from IPP projects is the marginal cost associated with marginal changes in the load. BCOAPO notes that until 2016 BC Hydro's long term supply acquisitions are largely being driven by the need to achieve the self-sufficiency goals set out in the 2007 Energy Plan and that domestic demand in the same period will be static, and submits that, since acquisition requirements and their timing appear to be relatively insensitive to marginal changes in demand, a price reflecting these acquisition costs does not equal BC Hydro's marginal cost due to a change demand. The price signal in the current flat residential rate is closer to the marginal cost consequences of marginal consumption changes than the Step-2 price signal being proposed for RIB (BCOAPO Argument, pp. 43-44). BCOAPO submits that a "long run spot market forecast represents a reasonable estimate of BC Hydro's long run marginal cost due to a marginal change in load , at least between now and 2016" (BCOAPO Argument, p. 47).

In Reply BC Hydro submits that "BCOAPO ['s] argument in this section is utterly unsupported by any evidence from any witness qualified to opine on these matters" and cites Dr. Orans' testimony as to why the short-run cost of new supply is "a very confusing signal with lots of noise in it (T4:627-28)", and using the long-run full cost brings rate stability (BC Hydro Reply, p. 6).

BC Hydro submits that statements made by BCOAPO in this regard should not be given any weight.

5.7 Impact on Customers

A large number of IRs and questions during cross-examination addressed the impact of BC Hydro's proposal on its customers.

Using its billing model BC Hydro provides the information summarized in Table 5.1 on the bill impacts to customers of its RIB rate structure proposal, on the assumption that customers make no changes to their electricity consumption levels upon the introduction of the RIB rate structure.

BC Hydro points out i) that the estimated bill impacts are conservative in the sense that they over-estimate the degree to which customers will face adverse bill impacts. This is because the estimated bill impacts do not account for any conservation measures that customers can take, and ii) its bill impact analyses did not reflect the decrease in RS 1901 (the deferral account rate rider) from 2.0 percent on March 31, 2008 to 0.5 percent on April 1, 2008 (BC Hydro Argument, pp. 32-33).

Table 5.5

BC hydro

Table 3-1 Scenario B1 Bill Impact Analysis

% Bill Increase	F2009		F2010		F2011	
	# of Customers	% of Customers	# of Customers	% of Customers	# of Customers	% of Customers
> 80						
70 - 80						
61.2 - 70						
					⇩Bill Impact Test 61.2% Cumulative 3 Years	
50 - 61.2					106	0.0%
45 - 50					3,550	0.3%
39.5 - 45					17,932	1.3%
			⇩Bill Impact Test 39.5% Cumulative 2 Years			
35 - 39.5			1,479	0.1%	45,088	3.3%
30 - 35			14,550	1.1%	85,589	6.2%
25 - 30			66,110	4.8%	112,156	8.1%
20 - 25			126,750	9.2%	128,073	9.3%
17.2 - 20			88,578	6.4%	74,946	5.4%
	⇩Bill Impact Test 17.2% Cumulative 1 Year					
14 - 17.2			110,861	8.0%	90,668	6.6%
12 - 14	3,606	0.3%	71,771	5.2%	59,720	4.3%
10 - 12	73,146	5.3%	74,442	5.4%	66,545	4.8%
8 - 10	166,841	12.1%	79,710	5.8%	83,080	6.0%
6 - 8	188,268	13.6%	95,300	6.9%	613,329	44.4%
4 - 6	184,824	13.4%	651,231	47.2%		
2 - 4	764,097	55.3%				
0 - 2						

(Exhibit B-1, Table 3-1)

BC Hydro states that under its proposed RIB rate structure design, approximately 75 percent of residential customers (about 1.1 million) will face smaller overall bill increases with the RIB rate structure in place than would have been the case if the F09/F10 RRA rate increases were applied to the existing flat rate structure. These customers consume up to approximately 14,500 kWh annually. Thus the 14,500 kWh per year consumption can be viewed as the "breakeven" point, below which a customer is better off under the proposed RIB rate structure than under the flat rate structure, for the same F09/F10 RRA rate increases. This breakeven point arises from the specific design parameters of BC Hydro's proposed RIB rate structure, in particular the level of the Step-1 threshold, and the Step-1 and Step-2 rates.

BC Hydro states that approximately half of these 1.1 million customers (which half collectively uses only 15 percent of residential load), have bi-monthly consumption that is small enough that they are unlikely to see the Step-2 rate in any billing period. The remaining half of these customers will consume above the Step-1 threshold in some billing periods, and hence will see the Step-2 rate. However the bill impact of this higher priced consumption is more than offset by the consumption priced at the lower Step-1 rate. As a result, these customers are expected to have lower bills than they would have otherwise received under the flat rate structure with the F09/F10 RRA increases.

Accordingly, BC Hydro's proposed RIB rate structure will allow the Step-2 rate, which is more reflective of BC Hydro's long-run marginal cost of new electricity supply, to be seen at some time during the year by half of the 1.1 million customers, promoting energy conservation through the higher price signal. Yet at the same time their annual bill increases are mitigated, due to the design of the rate.

BC Hydro considers the impact on the approximately 334,000 customers (some 25 percent of the total) whose consumption exceeds the "breakeven" point and states that on average, these customers use approximately 22,000 kWh annually, twice that of the average residential customer, and will pay the Step-2 rate in every billing period, and will face larger bill increases than would have been the case under the flat rate structure with the F09/F10 RRA annual rate increases applied (Exhibit B-1, pp. 4-1 to 4-3).

5.7.1 BC Hydro's Customer Bill Impact Test

One of the mostly frequently addressed issues during the Hearing was BC Hydro's Customer Bill Impact Test.

BC Hydro characterizes its customer bill impact test as a "Material Adverse Bill Impact" test and states that it is based on two premises:

- customer bill impacts as a result of rate restructuring alone should ideally be no more than 10 percent per year; and
- rate restructuring impacts are cumulatively additive to general rate increases (such as those applied for in the F09/F10 RRA).

  (Exhibit B-1, pp. 3-2, 3-3)

BC Hydro observes that rate re-structuring necessarily results in bill impacts that from a customer perspective are either favourable, or adverse, in the sense that they either result in lower or higher annual bills than under the existing flat rate structure, and that the degree to which a new proposed rate structure limits adverse bill impacts while still meeting to the highest degree possible the other basic rate design criteria is an important factor to consider in the assessment of that rate structure.

BC Hydro states that its bill impact test is not strictly a pass-fail test, and that the results of a bill impact analysis must be assessed in light of other design criteria and considerations, even if the proposed rate structure causes more than an annual 10 percent bill impact. Annual bill impacts may be acceptable if absolute dollar increases in bills were nominal, or if small percentages of BC Hydro's 1.5 million residential customers faced adverse bill impacts greater than 10 percent annually. Such impacts would be acceptable because of the extremely wide distribution of residential consumption, and because of the difficulty of otherwise achieving the objectives of any RIB rate structure proposal under some of those scenarios.

BC Hydro considers the concept of “acceptable” and observes that “acceptable” is a qualitative assessment of what is reasonable in the circumstances, and as guided by regulatory precedent. Regarding the latter, BC Hydro believes that the Commission has generally accepted the 10 percent bill impact test since BC Hydro’s first rate design hearing in 1992 (Exhibit B-1, pp. 3-3, 3-4).

BC Hydro observes that there is a practical difficulty in using the two-times rule when future revenue requirement increases are unknown, which, BC Hydro submits, weighs in favour of the 10 percent test since its early development work on the RIB rate structure had taken place before the F2009 and F2010 revenue requirement increases were known.

BC Hydro submits that an objective test – because it is transparent, and allows for modeling and analysis of rate design proposals – is necessary. Further, because the 10 percent test is not bound to particular revenue requirement increases, it is a particularly suitable objective test. Finally, and as shown in the following section, the use of an objective measure that is additive to revenue requirement increases, such as BC Hydro's 10 percent test, is consistent with regulatory practice by the Commission and other regulators (BC Hydro Argument, p. 28)

BCOAPO submits “Although the two-times rule has a good pedigree, we are content with a 10 percent rate shock test, so long as it is used as an all-in measure of acceptability of the hit on the customer’s bottom-line. Essentially, what BC Hydro’s approach does is to engross the measurement, for practical purposes, so that revenue requirement increases don’t count for rate shock purposes, but the new test operates as a “shock-plus” standard” (BCOAPO Argument, p. 52).

JIESC submits that “BC Hydro maintains this position, even though in present circumstances the result effectively sanctions cumulative increases of up to 60 percent over three years for some customers. In our respectful submission, BC Hydro’s position on rate shock is in itself “shocking”, and amounts to little more than taking an established test that made sense in one set of circumstances, and improperly applying it to a different set of circumstances. Moreover, it shows that BC Hydro is willfully blind to the extent of the harm it may inflict on some of its customers” (JIESC Argument, para. 4).

CEC submits that while it does not take issue with BC Hydro's 10 percent guide for its own proposals it does not believe the Commission should "adopt it as a determinative test" and counsels the Commission to "allow itself the latitude to make a subjective determination based on the evidence before it" (CEC Argument, p. 19).

Terasen submits that bill impact should not be the only factor in designing rates, and urges the Commission to retain flexibility to consider all factors as the particular factual context demands, rather than making a "hard and fast" 10 percent or two-times rule when it comes to bill impacts due to rate design. The conservation objectives inherent in the RIB rate structure are also valid and ought to be given greater weight than bill impacts in these particular circumstances where the larger bill impacts are limited to a relatively small number of large-consuming households (Terasen Utilities Argument, para. 26).

BCSEA views a 10 percent RIB-only guideline as one where a RIB rate structure application would not be dismissed on the grounds of unacceptable bill impact if the Commission were to find that the bill impact on segments of the residential class does not exceed 10 percent of what the bill would have been had the RIB rate structure not been proposed. BCSEA stresses that the present RIB rate application occurs in the context of BC Hydro's electricity prices being both relatively low and rising faster than the rate of inflation, and that a principle of simply combining the impact of the revenue requirement and a rate design to establish a number against which a single criterion (such as 10 percent) can be applied means that the faster the revenue requirement increases the less room there would be for rate design changes. BCSEA submits that since the RIB rate structure proposal is aimed at acquiring a considerable amount of very low-cost incremental conservation, the all-in approach would reduce the ability of rate design improvements to achieve this goal, and there needs to be a bill-acceptability metric applicable to the rate design separate from the revenue requirement. BCSEA submits that a 10 percent RIB-only guideline is reasonable and appropriate (BCSEA Argument, para. 27-28).

In Reply BC Hydro submits that, RIB rate structure implementation issues aside, an objective bill impact test is a useful tool for the purpose of rate design and, in circumstances where revenue requirement changes are unknown a necessary one. However, in no instance would it be determinative of whether bill impacts are acceptable, or not (BC Hydro Reply, p. 8).

BC Hydro addresses the sections of BCOAPO and JIESC arguments regarding "rate shock" and bill impact and submits that BCOAPO incorrectly states, and the JIESC incorrectly implies, that BC Hydro proposes that the Commission should ignore the combined effect of revenue requirement and rate design-induced bill increases. BC Hydro says this issue is a "straw man" which it refuted in its response to BCOAPO 1.44.1, where it stated that, because in BC revenue requirement and rate design applications are invariably reviewed in different proceedings, it is necessary, and has been for a long time, to propose a bill impact test specific to the Application. "In this case BC Hydro has proposed a 10 percent bill impact test consistent with its previous rate design applications, but has shown how that would look in light of the F09/F10 RRA" (Exhibit B-3, BCOAPO 1.44.1, cited at BC Hydro Reply p. 8).

5.7.2 Mitigation

BC Hydro states that the rationale for restructuring its residential rates is to employ price signals as part of an integrated strategy to encourage residential energy conservation, and that it plans to encourage conservation via implementation of an integrated DSM plan and enhanced customer services. Conservation actions taken by customers will help to mitigate any bill impacts due to the introduction of the RIB rate structure (Exhibit B-1, p. 4-1).

BC Hydro replied to a number of IRs concerning the Power Smart programs it had available and the levels of saving and the net cost to the residential consumer (Exhibit B-3, CEC 1.6.1, JIESC 1.2.1, and Exhibit B-7, BCUC 2.73.1). BC Hydro listed a number of actions typical customers could take to reduce their consumption which would save 6,700 kWh per yr or $570/yr at Step-2 rates at a cost of $2,500. BC Hydro submits a customer who currently consumes about 32,000 kWh per year will experience a bill impact of the RIB rate structure in F2010 of $211 relative to the otherwise

applicable flat rate structure, and that this amount can be entirely eliminated by adopting these largely behavioural measures (BC Hydro Argument, pp. 32-33).

In Final Argument BC Hydro addresses the "no-cost" and "low-cost" conservation measures that low-income customers can avail themselves of to reduce electricity consumption and minimize electricity bills. BC Hydro cites its Low-Income Strategy under which it has developed the "Power Smart for Low Income Households" program, which is expected to be operational in the fall of 2008 and whose first element, namely Energy Savings Kits, is already underway with the distribution of about 9,000 free kits to low-income customers targeted for the end of 2008. BC Hydro estimates that the Energy Savings Kits will help electric heat and water customers to realize up to 740 kWh per year in electricity savings (BC Hydro Argument, pp. 61-62).

5.8 Conservation Impact

BC Hydro anticipates that its residential customers will respond to the RIB rate structure's price signal through a variety of actions, some of which will require limited or no customer investment while others will require customer investment that may be partially supported by BC Hydro's Power Smart program incentives. BC Hydro states that forecasting its residential customer demand response to electricity price changes is challenging given its history of relatively low and stable electricity prices, and that while the actual response to price increases will doubtless vary from its estimate the implementation of the RIB rate structure will provide it and its stakeholders with valuable experience regarding actual demand response to conservation price signals and "will inform future elasticity assumptions and subsequent rate development" (Exhibit B-1, p. 4-6).

In light of its uncertainty in relation to anticipated conservation impacts, BC Hydro presents its conservation estimates as ranges, based on different price elasticity assumptions. The range of elasticities used is based on assumptions which, given the lack of experience and empirical evidence in this jurisdiction, it considers reasonable and which come from published studies of measured price response results in other jurisdictions with relatively low rates and a winter system peak, similar to British Columbia. In developing its net conservation estimates, BC Hydro assumes a

uniform elasticity for all consumption under the RIB rate structure. This modeling method is referred to by BC Hydro as "Uniform RIB Rate Elasticity". The method also assumes:

- customers begin to respond to the RIB rate structure when the rate is implemented;
- elasticity of demand on the existing flat rate structure is estimated at -0.05 (that is, for each one percent increase in real price, usage declines by 0.05 percent); and
- elasticity of demand for the proposed RIB rate structure is estimated at between -0.075 and -0.15.

Based on this method and its underlying assumptions, BC Hydro estimates that the net conservation effect of the RIB rate structure by F2010 to be between 204 and 500 GWh/year.

BC Hydro states that an alternative approach to estimating the demand response to the proposed RIB rate is to reflect that greater price responsiveness of higher usage customers by applying a higher price elasticity to consumption over the Step-1 Threshold and that it undertook a sensitivity analysis that applied a higher elasticity to users with bi-monthly consumption above the Step-1 Threshold (using a range of elasticities between -0.075 and -0.15), and a lower elasticity of -0.05 to consumption below the Step-1 Threshold. BC Hydro refers to this method as "Non-uniform RIB Rate Elasticity".

Based on this method and its underlying assumptions, BC Hydro estimates that the net conservation effect of the RIB rate structure by F2010 to be between 217 and 523 GWh/year (Exhibit B-1, pp. 4-7-4-8).

BC Hydro stated that it estimated that the reduction in peak demand caused by its lowest estimate of conservation of 204 GWh per year would be 38 MW and valued the peak saving at $3.9 million per year and the load reduction at $21 million per year (both amounts in $2010) (Exhibit B-3, BCUC 1.30.1; Exhibit B-7, BCUC 2.55.1, 2.55.2).

BC Hydro stated that the price elasticities were recommended to it by Dr. Orans on the basis of his literature review of 105 peer-reviewed papers on residential electricity demand (Exhibit B-3, BCOAPO 1.8.1), and that, of the papers reviewed by Dr. Orans, four were in regard to studies most relevant to BC as a winter-peaking region with relatively low and stable rates (Exhibit B-3, BCUC 1.28.1). BC Hydro described its estimates of price elasticity as conservative and stated that they are more likely to result in underestimates rather than overestimates of incremental RIB rate structure-induced conservation (Exhibit B-3, BCOAPO 1.10.2, 1.18.0).

Dr. Orans testified as to the nature of these savings:

> "So if B.C. Hydro moves towards efficient pricing, it will induce between 200 and 500 gigawatt hours, is this range of estimates we've provided in this proceeding. Those gigawatt hours are produced from a total resource cost perspective at the bottom end of this curve. They're essentially almost zero cost. We're not asking to invest a bunch of money in incentives or new programs especially for this rate. So they are the lowest cost alternative, or lower than CFLs, program T stats [programmable thermostats], standby losses, et cetera. So they come in here beneath everything else" (T2:269).

BC Hydro set out its rationale for assuming that price elasticity is greater under the RIB rate structure as opposed to the existing flat rate structure by stating that when customers recognize that their unit price of electricity rises with consumption levels under the RIB rate structure, they are more inclined to conserve than when their unit price of electricity does not vary with consumption as under the flat rate structure.

BC Hydro observed that, under any inclining block rate structure, lower-usage customers will generally be less responsive than higher-usage customers as they will see the Step-1 rate as their marginal price of consumption, and, since the Step-1 rate will provide a smaller rate increase than would the flat rate structure; this reduction in kWh consumed under the RIB rate structure will be less than under the flat rate structure. This suggested that the RIB rate structure will lead to less conservation by lower-usage customers than would be the case under a flat rate structure.

BC Hydro further observed that by the same token, under any inclining block rate structure, higher-usage customers will be generally more price responsive than lower-usage customers and will see the Step-2 rate as their marginal price of consumption and, since the Step-2 rate will provide a larger rate increase than the flat rate structure would provide, the reduction in kWh consumed under the RIB Rate will be more than under the flat rate structure and the RIB rate structure produces greater conservation by them than would be the case under the flat rate structure.

BC Hydro stated that as its higher-usage customers account for more of the residential sales than its lower-usage customers, it believed that the incremental conservation by higher-usage customers can more than offset the lower levels of conservation achieved by lower-usage customers and concluded that the RIB rate structure yielded a higher price responsiveness than a flat rate structure (Exhibit B-1, BCOAPO 1.11.1).

BC Hydro stated that the single most significant barrier to determining price-induced conservation estimates for British Columbia is the lack of consumption data, whether at the disaggregated customer level or the aggregate system level, observed over a sample period with significant price changes. Due to British Columbia's history of stable, low rates, no such consumption data exist.

In particular, for this RIB Application; BC Hydro does not have British Columbia-specific time series data on which to estimate the conservation effect of a mandatory inclining block tariff. Thus, it is difficult to precisely identify and accurately estimate price-induced consumption changes in the province due to changes in a mandatory tariff. In contrast, system level data for a state like California, with rapidly rising rates, can facilitate more accurate conservation estimation.

BC Hydro stated that since there were no accurate conservation estimates based on British Columbia specific data, it worked with E3 to better understand elasticity and to identify elasticity studies of utilities that are comparable to BC Hydro and have a winter-peak and low, stable rates. This work also included developing a better understanding of the conservation potential of rate structures in general and how that fits together with the conservation potential from non-rate components of the DSM Plan to minimize "double counting" within conservation estimates (Exhibit

B-3, BCUC 1.8.2).

BC Hydro submits that the 2008 LTAP proceeding will provide a forum for the Commission and all Intervenors to test its elasticity assumptions and conservation modeling as those inputs will have relatively significant effects on the perspectives parties bring to BC Hydro's long-term plans to ensure load-resource balance, and further submits that "it would be prudent for the Commission to avoid making final, conclusive determinations in this proceeding regarding the price elasticities used by BC Hydro or how they are used. That is, the Commission can and should approve the RIB Application on the basis that under the "conservative but plausible" price elasticity estimates a material amount of conservation will be achieved, without giving a final view on whether the price elasticities or conservation models are appropriate generally or for other purposes" (BC Hydro Argument, p. 24).

CEC submits that the Commission should avoid making a determination regarding price elasticity and "to approve the RIB on the basis that "conservative but plausible" price elasticity estimates result in a material amount of conservation" (CEC Argument, p. 17).

BCSEA submits that "Because of the fact that the proposed RIB rate is an overwhelmingly cost-effective conservation measure nothing turns – in this proceeding – on intensive scrutiny of the elasticity numbers (BCSEA Argument, para.23).

Commission Determination

In Section 3 of these Reasons for Decision the Commission Panel determined that an inclining block rate structure was in the public interest and was the suitable rate structure for BC Hydro's residential rate class and that October 1, 2008 was the appropriate time to implement it as a conservation rate for its residential customer class. In Section 4 of these Reasons for Decision the Commission Panel determined that such rate structure should be a simple two-step inclining block rate structure.

In this Section the Commission Panel will consider whether BC Hydro's particular design principles for such a rate structure are suitable and appropriate, and determine whether the application of the design principles yield rates that are "just, reasonable and not unduly discriminatory".

The Commission Panel has considered the evidence and submissions concerning BC Hydro's design principles, its four economic efficiency tests and its bill impact test.

The Commission Panel agrees with CEC's submission that BC Hydro's economic efficiency tests are not economic efficiency tests but rather "define design limits and objectives for how, where and when to incorporate the efficient price signal into the residential rate structure" and does not consider them to be determinative in finding whether the proposed rate structure is just, reasonable and not unduly discriminatory.

With respect to BC Hydro's bill impact test the Commission Panel agrees with those Intervenors who submitted that the Commission should not endorse a "one size fits all" approach to "rate-shock" but should evaluate each application on its own merits. In addition, as was noted in the Oral Phase of Argument by virtually all counsel, the Commission has a considerable degree of latitude in determining whether a proposed rate is fair, reasonable and not unduly discriminatory. Counsel for BCOAPO observes that there is no "red light" to go off when a rate crosses into "a zone that's unfair, unreasonable or discriminatory" and that "essentially the question for the Commission is this: Does the structure pass the sniff test?" The Commission Panel agrees.

So far as BC Hydro's proposed principle of allocating its revenue requirement increases to Step-1 and Step-2 rates, with all increases beyond inflation being applied to the Step-2 rate, the Commission Panel has considered the evidence and submissions of how the application of BC Hydro's principle of "annually thereafter" will affect Step-1 and Step-2 rates in the years from F2008 to F2018. Exhibit B-28 (Undertaking 7) shows that while revenue requirements increase cumulatively by 59 percent, Step-1 increases from 6.15 cents/kWh to 7.59 cents/kWh (an increase of 23 percent) while Step-2 increases from 6.15 cents/kWh to 14.47 cents/kWh (an increase of 135 percent).

The Commission Panel is of the view that such a principle of allocation would result in a price signal being sent to those customers who never see Step-2 that the cost of electricity was increasing at approximately one third (23 percent) of the actual rate of increase (59 percent), and to those customers who always see Step-2 that the cost was increasing at more than two times (135 percent) its actual rate of increase (59 percent) and that it would, as a result, yield a residential rate that was neither just nor reasonable. Accordingly the Commission Panel determines that BC Hydro's proposed RIB rate structure design principles yield a rate that is unjust and unreasonable and that it would not be in the public interest.

The Commission Panel also notes BC Hydro's submission set out in Section 5.1 not to "throw the baby out with the bathwater" and reject its Application, but to choose a structure from among the many scenarios set out in the evidence.

Accordingly the Commission Panel exercises its discretion to provide amended design principles that will, in its view, yield a just, reasonable and not unduly discriminatory rate, by adjusting the threshold, establishing a new cap for the Step-2 rate, and setting guidelines for the adjustment of Step-1 and Step-2 rates "annually thereafter", which is provided to BC Hydro on the condition that it incorporate the design principles and file tariff sheets that incorporate the said principles within 14 days of Order G-124-08.

In considering the Step-1 threshold chosen by BC Hydro of 1,600 kWh per billing period the Commission Panel notes that there was very little in the way of theoretical underpinning for that choice offered by BC Hydro. In addition the Commission Panel notes that, notwithstanding BC Hydro's first economic efficiency test, at that threshold almost 40 percent of BC Hydro's customers never see the Step-2 rate.

The Commission Panel notes as well both the Minister of Energy, Mines and Petroleum Resources' letter citing the threshold at 10 percent below the average usage, and BC Hydro's Rate Schedule 1823, which sets individual thresholds at 90 percent of each customer's baseline.

The Commission Panel considers that the removal of both high and low outliers (i.e. those who consume less than 100 kWh per month and those who consume more than 10,000 kWh per month) will correct for the highly skewed distribution caused by large users of electricity. The Commission Panel considers that a residential threshold set at 90 percent of the median consumption (which is 762 kWh per month) will be 1,350 kWh per two-month billing period, will better reflect the typical residential use and will establish a fairer threshold. The Commission Panel expects that this threshold reduction will cause materially more of BC Hydro's residential customers to see the Step-2 rate at least once a year.

The Commission Panel has considered BC Hydro's proposal to cap the Step-2 rate at an assumed long run incremental cost of supply of 12 cents/kWh (in $2008). The Commission Panel will first consider a suitable referent for the Step-2 rate and then consider what the referent should comprise and how it should be calculated.

The only Intervenor who did not agree with BC Hydro's principle of basing the referent on the long run marginal cost of new supply was BCOAPO which argued that the referent should be a long run spot market forecast. The Commission Panel agrees with BC Hydro's submission that BCOAPO's argument is unsupported by evidence. The Commission Panel also gives considerable weight to SD-10, as it instructs the Commission when setting rates for BC Hydro to take self sufficiency into account. In the Commission Panel's view this indicates that the long-run cost of new supply is the appropriate referent.

The Commission Panel has considered BC Hydro's assertion that long run marginal cost comprises the cost of new supply, adjusted for line losses and a "gross up of three to four cents" per kWh and finds little evidence to support the gross up of three to four cents and none of it to be persuasive. The Commission Panel accepts the economic principle that marginal costs at a residential customer's meter should include the marginal cost of transmission and distribution improvements and indeed that is what the Commission's System Extension Test ("SET") guidelines suggest. However there are a number of issues to be addressed before the principle can be applied. The first is that the RIB rate structure is a conservation rate intended to show existing customers the

cost of new supply and to offer an incentive to reduce consumption. In these circumstances it is incorrect to show the existing customer the incremental cost of transmission and distribution. The second issue is that those incremental costs, by their nature, vary by region and do not lend themselves to BC Hydro's current policy of postage-stamp rate making. The third issue is that the Commission recently approved BC Hydro's SET guidelines whereby transmission system improvements would only be considered for new customers "attaching with a load of 500 kVa or more" (2007 RDA Decision, p. 30), and it would appear unreasonable to ask an existing customer to pay something that is not being asked of a prospective customer. Finally, concerning the marginal cost of distribution improvements, the SET itself ensures that any cost of attaching to the system in the excess of the embedded average cost of distribution is borne by the developer, and the Commission Panel is of the view that this largely eliminates the incremental cost of distribution from consideration.

For all the reasons stated in the previous paragraph, the Commission Panel is of the view that a suitable cap for the Step-2 rate is BC Hydro's current estimate of the cost of new supply at the plant gate which is currently 7.35 cents/kWh grossed up for line losses of 0.92 cents/kWh to yield 8.27 cents/kWh at the residential meter.

Concerning the administration of the design principles the Commission Panel does not believe it is appropriate at this time to look beyond the period covered by BC Hydro's F2009/2010 RRA and accordingly includes in the conditional design principles an instruction that BC Hydro move its Step-2 rate from the present 6.15 cents/kWh to 8.27 cents /kWh in two equal stages on October 1, 2008 and April 1, 2009. In addition the Commission Panel includes in its conditional design principles an instruction that, when circumstances dictate, BC Hydro must file an application to change its estimate of the cost of new supply and to include in that application a proposal of how to phase in the change, so that the allocation of revenue requirement increases between the Step-1 and the Step-2 rates will be reviewed on a case by case basis each time BC Hydro makes an application to change its estimate of the cost of new supply.

The Commission Panel notes that the application of the conditional design principles will result in the Step-1 rate being reduced from 6.15 cents/kWh to 5.98 cents/kWh, which would appear to violate BC Hydro's first economic efficiency test that no customer see a rate decrease, and reiterates its view that bill impacts must be viewed on a case by case basis. The Commission Panel does not consider that the reduction that could result from its Order G-124-08 will send erroneous price signals to BC Hydro's low usage customers or otherwise encourage consumption. The Commission Panel also agrees with BC Hydro that its larger use cohort of customers who will see larger bills under almost any form of RIB rate structure, will have the ability and the capacity to reduce their consumption and, through conservation, mitigate the impact on their bills.

The Commission Panel recognizes that its determinations in Section 4 were made on the basis of comparisons of BC Hydro's proposed RIB rate structure (and the application of its design principles) with BC Hydro's current flat rate structure. The Commission Panel has carefully considered the impact of its conditionally approved design principles on the determinations it made in Section 4 and has concluded that the application of its conditionally approved design principles will result in BC Hydro establishing the Step-1 rate residually on April 1, 2008 6.3 cents/kWh more or less while it increases Step-2 to 8.27 cents/kWh, and that this will not exacerbate the impact on any of the sub-categories considered in Section 4 and indeed has concluded that its conditionally approved design principles will, in all 10 instances set out in Table 4.5, to some degree ameliorate the impact.

The Commission Panel has considered the evidence concerning the conservation impact of the RIB rate structure and agrees with BC Hydro that the uncertainty of the estimates should not cause rejection of the proposal. The Commission Panel is satisfied that a material amount of conservation will be achieved as a result of the introduction of a RIB rate structure and considers that the impact of the conditional design principles will not be dissimilar to that of BC Hydro's Scenario #9 (which had a threshold of 1,200 kWh) presented in Exhibit B-22, and that it should yield conservation in excess of the 265 GWh in a full year.

6.0 MISCELLANEOUS MATTERS

6.1 Revenue Neutrality

BC Hydro discusses revenue neutrality of the inclining block rate and states that it understands "revenue neutrality" to mean, at a high level, and in the context of this application, that BC Hydro will be held substantially financially harmless from the introduction of the RIB rate structure and, in consequence, other customer classes will also be held harmless. BC Hydro distinguishes between revenue neutrality on a forecast basis, for the purpose of setting the RIB pricing, and revenue neutrality on an actual, or after-the-fact basis (Exhibit B-1, p. 4-9).

BC Hydro has designed its RIB rate structure to be revenue neutral on a forecast residential class consumption basis. In particular, the RIB rate structure pricing for a fiscal year (commencing on April 1) is calculated on the basis of the forecast revenue from the residential class for that year. Going forward, where the BCUC issues final revenue requirement orders in respect of a fiscal period, BC Hydro would use the underlying revenue and load forecasts from the BCUC orders to establish the annual Step-2 Rate.

Under this approach both the proposed and the conditional RIB rate structures would be revenue neutral, in the general sense, because they account for load and revenue forecasts net of demand response. They account for the expected response to the rate structure because BC Hydro's load forecast after DSM includes, as an implicit part of the DSM savings estimates, the impact of new rate structures.

BC Hydro states that there are also significant after-the-fact considerations that arise from the differences between forecast load and revenue and actual load and revenue. If the RIB rate's marginal rate (the Step-2 Rate) is higher than the marginal short run cost of energy (which BC Hydro forecasts to range between US$30 and $US83 in F2008/09 at Mid-C), it will earn less (more) net income when the actual load is below (above) the forecast load.

Thus a RIB rate structure could introduce income volatility that BC Hydro has not experienced under the residential flat rate structure. This issue is addressed in the F09/F10 RRA, in which BC Hydro has requested an amendment to the Non-Heritage Deferral Account, to allow it to capture differences between forecast and actual cost of energy arising from the differences between forecast and actual load (Exhibit B-1, p. 4-12).

The only Intervenor to comment on the revenue neutrality aspect of BC Hydro's proposal is CEC, which submits that if BC Hydro's forecasts of the impact of conservation are understated it will receive less revenue from its Residential class, which under-recovery it proposes to defer and collect by way of a Rider from all customer classes. CEC submits that this would contravene the UCA as amended, and submits that any under-collection of RIB revenue should be "captured or paid for by the residential customer class" (CEC, Argument para. 2).

In Reply, BC Hydro submits that the relief CEC seeks is "not available in this proceeding" (BC Hydro Reply, p. 29).

Commission Determination

The Commission Panel will make no determination in this regard. The issue of what costs or lost revenues BC Hydro should defer and how it should recover them is outside the scope of this proceeding, and belongs, rather, in a revenue requirements application.

6.2 Administration

In its Application BC Hydro makes several references as to how the process of restructuring residential rates might evolve, and states that it will continue to work with its external stakeholders to consider innovative rate designs with potential to contribute to BC Hydro's conservation objectives (Exhibit B-1, p. 1-12). BC Hydro testified that future developments of the RIB rate structure might include the introduction of seasonal thresholds and/or rates and a three step rate (T2:193).

BC Hydro submits that the RIB rate structure proposal is the first step on a path of residential rate restructuring. Within the next few years, BC Hydro expects to begin deploying Smart Meters and introducing TOU rates at least on an optional basis. BC Hydro provided a draft timetable in this respect in response to a question from the Commission Panel (Exhibit B-28, Undertaking 17). BC Hydro anticipates an annual compliance filing a few months in advance of April 1 of each year.

By "compliance filing" BC Hydro means that it would not be seeking a Commission order; rather, it would be filing the tariff sheets reflecting the pricing for the following year in accordance with the Commission order establishing the RIB rate structure pricing principles. BC Hydro believes that each such compliance filing ought to be accompanied by a summary report confirming: the correct application of the pricing principles; that the Step-2 Rate does not exceed the long-run cost of new supply; that bill impacts continue to remain within whatever limits the Commission prescribes in a decision approving the rate; and that the RIB rate structure pricing remains consistent and integrated with any other residential rate alternatives that have been approved or are pending approval. If those conditions are not met, or the pricing principles for any other reason produced a perverse result, BC Hydro would, instead of making a compliance filing, apply for an order allowing a variance from the pricing principles.

Illustrations of potential variances are shown in Exhibit B-28, which projects RIB rate structure pricing ten years into the future on the basis of three different revenue requirement rate increase scenarios. Whether the annual filing was a compliance filing, or whether it was an application seeking a variance of the pricing principles, BC Hydro observes that it would copy RIB rate Intervenors with the filing. In this manner BC Hydro believes that the "likelihood of the RIB rate running amok is non-existent," and that the likelihood of successfully integrating it with future residential rate applications is maximized (BC Hydro Argument, pp. 50-51).

Terasen submits that the proposed RIB rate structure is sustainable and that the variations that might occur from the normal RIB rate setting process can be readily accommodated. Terasen submits that potential refinements to BC Hydro's residential rate structure can and should be considered at a later date as more is learnt about customer price response and the conservation

benefits yielded by the proposed rate structure, and that BC Hydro should be directed to consider how residential rate design could help to address the prominent role space heating plays in contributing to system peak load (Terasen Utilities Argument, para. 40-41).

ESVI submits that the Commission direct BC Hydro to make a full application for the F2011 RBI rates and consequent years, rather than BC Hydro's proposed "compliance filing", which would ensure that not only BC Hydro, but also the Commission and all Intervenors would be able to re-consider the RIB principles (including pricing principles), to evaluate the potential relationship of the RIB to non-rate DSM programs (including regional DSM programs) and to integrate RIB with the Smart Meter Infrastructure (ESVI Argument, p. 1).

In Reply, BC Hydro states that despite its proposed elements of an annual RIB rate filing, where no party's rights to make submissions to the Commission on such filings, whether as compliance filings or seeking relief, would be compromised, ESVl asks for a formal review prior to the F2011 rates coming into effect (a little more than a year from now). BC Hydro submits that ESVI's request should be rejected on the grounds one year is too soon, and that any fixed timeline imposes an unnecessary degree of inflexibility into what already promises to be a full regulatory agenda (BC Hydro Reply, p. 15).

Commission Determination

The Commission Panel has in Section 5 determined that BC Hydro can only adjust the Step-2 cap by way of an application to the Commission. Accordingly it sees no point in directing when BC Hydro should make such an application. The Commission Panel notes that Smart Meters are to be installed at all BC Hydro's residential customers' premises by the end of calendar 2012, which suggests that April 1, 2013 would be a suitable date for BC Hydro to roll out a new suite of residential rate structures. The Commission Panel considers that BC Hydro should have the flexibility to introduce any amendments that experience and further consultation might suggest are required by its RIB rate structure in the April 2011 timeframe.

6.3 Exemptions and Miscellaneous Matters

6.3.1 Proposed Exemptions

BC Hydro proposes that its RIB rate structure will be mandatory for all residential customers, except as noted below:

- residential customers in Rate Zone II who are already on an inclining block rate with the Step-2 Rate set to reflect the (typically) higher cost of supply in Rate Zone II;
- customers in the Bella Non-Integrated Area ("NIA"), who were exempted by the Commission from an inclining block rate structure by Order No. G-171-07. Instead of being transferred to the proposed RIB rate structure, Bella NIA customers would be transferred to a proposed exempt residential rate - RS 1151 - which would have the same flat rate structure that Zone I residential customers are on today. The new exempt rate RS 1151 would be subject to the across-the-board rate changes resulting from revenue requirement and any rate rebalancing increases;
- customers designated as farm accounts under the existing residential rate RS 1101 who will be transferred to the proposed exempt residential rate RS 1151. Conservation rates for farm customers will be reviewed when conservation rates for small commercial customer classes are reviewed;
- selected residential customers who in November 2006, began a year-long Conservation Research Initiative ("CRI Pilot") to pilot time-of-use rates and smart meters under rate schedules RS 1141, RS 1142, RS 1143, RS 1144 and RS 1145. The CRI Pilot was extended one year, to the end of October 2008, with adjustments to peak hours and with the introduction of critical peak pricing and load control components. At present, there are approximately 1,700 BC Hydro customers enrolled in the CRI Pilot of which approximately 1,300 are on time-of-use rates and the balance on rate RS 1101 as a control group. The control group is proposed to be transferred temporarily to the proposed exempt residential rate RS 1151 until the end of the CRI Pilot. Should the CRI Pilot not be extended beyond October 2008, BC Hydro will transfer all customers to the new RS 1101 rate (the RIB Rate Schedule proposed in the Application); and

- residential E-Plus customers, where the E-Plus account will continue to be billed as a flat rate with average residential class increases applied. BC Hydro states that the rate structure proposed in this application is meant to be applicable only to the non-E-Plus account.

  (Exhibit B-1, pp. 1-12 - 1-13)

BC Hydro addressed the exemption for farms and stated that given the dual residential and commercial nature of farms under the residential service, it had proposed to exempt farms from the RIB rate structure, and noted that in its 2007 RDA Decision, Order G-130-07, the Commission had noted that farms receive service under several different rate classes and had directed BC Hydro to develop a rate strategy for agricultural customers. Accordingly, BC Hydro stated that it intends to review conservation rates for farm customers at the same time as it reviews conservation rates for small commercial customers (Exhibit B-3, BCUC 1.4.3).

No Intervenor took issue with BC Hydro's proposed exemptions.

6.3.2 Optionality to choose the Small General Service Rate Schedule

BC Hydro notes that an important issue raised in the IR process was the extent to which residential customers to whom the RIB rate structure would be applicable could, under the current Electric Tariff, opt out, and take service under a general service rate (RS 1220, 1200, 1201, 1210 and 1211).In light of that concern, and because the Electric Tariff is not as clear on the "optionality" of general service as it could usefully be, BC Hydro has proposed that such a right be expressly eliminated, in a manner that closely reflects current customer rights to take general service as an alternative to residential service. In particular:

- customers eligible for residential service would in general have no right to elect general service as an alternative to residential service. While the right to choose general service may in theory currently exist under the Electric Tariff, it has not been a right exercised by the vast majority of residential customers given the higher average rates under that service compared to residential service;

- where customers have had the right to elect general service, and have exercised that right because it has been economical to do so, BC Hydro proposes they continue to have that right. Thus, farm customers and common use customers would have the right to take general service as they currently have; and

- in the case of home-based businesses, residential service is not available on a single meter where the business meets the criteria of commercial use. BC Hydro's proposal is to allow such businesses to choose general service (> 35 kW), but to otherwise make residential service mandatory.

BC Hydro appends the tariff amendments that would effect these proposals to its Final Argument as Attachment A (BC Hydro Argument, pp. 51-53).

No Intervenor took issue with BC Hydro's proposal.

Rate Schedule 1121

BC Hydro states that the All-Purpose Multi-Residential rates RS 1131 and RS 1133 were transferred to its Multiple Residential Service RS 1121 effective April 1, 2008 in accordance with the 2007 RDA Decision, and that under that rate schedule, customers are charged the Basic Charge per single-family dwelling. In the Application, BC Hydro proposes that the RS 1121 be allotted a Step-1 threshold proportional to the number of single-family dwellings for each account (Exhibit B-1, p 1-13), and gave an example for rental apartment buildings on RS 1121 that do not have separate meters for each rental unit, the Step-1 threshold will be multiplied by the number of units, so that if there are eight rental units, the Step-1 threshold for the building as a whole will be 8 x 1,600 kWh per bi-monthly period (Exhibit B-3, ROMSBC 1.4).

BC Hydro addressed common area usage in such establishments and stated that for a residential building on RS 1121 that does not have separate meters for the common use facilities in the building, BC Hydro will be unable to differentiate between whether the energy is being consumed by residential units, or the building plant.

As set out in section 4.4.1 of the Terms and Conditions in BC Hydro's Electric Tariff, a premise with more than two Single-Family Dwellings has the option of providing for electricity used in common areas to all tenants to be metered through a separate meter. The separate meter could be charged under RS 1121 or any of RS 1200, 1201, 1210, 1211 or 1220 (Exhibit B-3, ROMSBC 1.5).

ROMSBC submits that BC Hydro's proposed RIB rate structure will place rental building owners in an untenable position, since owners of apartment buildings cannot realistically influence tenants who consume the electricity for which the owners pay to reduce their consumption, since the cost of electricity is invisible to them as it is included in their rent, and since the owners cannot use price increases – the foundation of the RIB rate structure – as the incentive for their tenants to change their consumption behaviour (Exhibit C3-5, p. 2).

BC Hydro addresses ROMSBC's concerns, and states that while ROMSBC did not specify the service it had in mind, the reference to a lack of individual apartment metering makes it reasonably clear that it had RS 1121 service in mind. BC Hydro estimates that only a very small proportion of MRS accounts will, under its proposal, have higher bills under the RIB rate structure than under the otherwise applicable flat rate, and submits that ROMSBC concerns are, in light of BC Hydro's specific proposal, groundless (BC Hydro Argument, p. 56).

Commission Determination

The Commission Panel accepts BC Hydro's proposed exemptions. The Commission Panel does not consider that RS 1121 should be exempted from the application of the RIB rate structure. The Commission Panel also accepts BC Hydro's proposed amendments to its Terms and Conditions.

The Commission Panel's acceptance of both the proposed exemptions and the proposed amendments is conditional on BC Hydro's compliance with paragraph 1 of Order G-124-08.

6.4 Basic Charge and Minimum Charge

BC Hydro proposes no change to the Basic Charge or to the Minimum Bill. The Basic Charge will be 12.38 cents per day and the Minimum Bill will continue to be the Basic Charge (Exhibit B-1, Appendix D, p. 5).

BC Hydro stated that it introduced the Basic Charge in March 1977, and that its purpose is to recover a portion of the customer related costs allocated to the residential class. BC Hydro stated that it was not able to ascertain the original cost basis for the charge and that since 1977 it has increased by general rate increases (Exhibit B-3, BCUC 1.19.5).

BC Hydro stated that it introduced a minimum charge in April 1964 with its first residential tariff but that it did not have any records that provide the cost basis for the original minimum charge. The initial minimum charge was $1 per month. BC Hydro assumes that in accordance with most tariffs, a minimum charge allows for the recovery of some portion of customer related fixed costs.

On April 1, 1982 the minimum charge was revised to be the Basic Charge per period. Again, BC Hydro can find no documents that provide a rationale for this change. The Basic Charge has since been increased by the amount of any general rate increase as approved by the Commission (Exhibit B-5, BCUC 2.79.1).

BC Hydro stated that the fully allocated cost of providing distribution service was $198.51 million per year (35.22 cents per residential customer/day) while the fully allocated cost of providing customer billing and support service was $29.53 million per year (5.22 cents per residential customer/day) (Exhibit B-3, BCOAPO 1.4.2).

Dr. Orans testified that “nobody charges the full amount of fixed costs as the basic charge, because it's potentially regressive to very small users” (T5:802), and BC Hydro testified that “It doesn't really send a price signal with respect to efficiency. So in that scenario, it would be better to have it at zero” (T5:804).

With respect to the Minimum Charge BC Hydro testified “So, given that it doesn't really send a price signal to customers, it's really meant as a revenue stability mechanism ...There's really no policy reason why we would be opposed to making changes around it” (T5:805).

BC Hydro addresses the Basic Charge in Argument and submits that by increasing it to recover more, or all, of BC Hydro's fixed distribution and customer costs to supply the residential class would have significant bill impacts on low usage customers, and would require a variation of its proposed pricing principles to maintain an inclining block rate, while decreasing the Basic Charge would allow for a more effective conservation rate, but would increase bill impacts for larger users (under BC Hydro's pricing principles) and would diminish the relationship between the Basic Charge and fixed costs, and that on balance, it would prefer at this time not to make changes to the Basic Charge or the application of its pricing principles to it.

In addition BC Hydro looks forward and sees the potential value of maintaining the Basic Charge, so that it might increase it rather than the Step-1 Rate, in circumstances where the application of its pricing principles would increase the Step-2 Rate to such an extent that adverse bill impacts became of greater concern.

BC Hydro addresses the implicit proposals either i) to de-couple the Minimum Charge from the Basic Charge and increase it to $10 to $20 per month, or ii) to eliminate the minimum charge altogether and submits that it does not support either proposal because i) of the bill impacts on small customers, and ii) inactive accounts that are still connected to BC Hydro's system still impose a small cost on BC Hydro.

CEC is the only Intervenor to comment on the Basic Charge and the Minimum Charge and submits that it does not believe that a compelling case has been made to amend either the Basic Charge or the Minimum Charge (CEC Argument, para. 3.4).

Commission Determination

The Commission Panel is of the view that BC Hydro did not pay adequate attention to the interaction of the Basic Charge with its proposed RIB rate structure. The evidentiary record clearly shows the material impact that the Basic Charge can have on the apparent cost of energy and the establishment of the Step-1 and Step-2 rates in its proposal. While this is unfortunate it does not detract from BC Hydro's efforts in this regard. With very little evidence in front of it, the Commission Panel will not direct BC Hydro to amend its proposed Basic Charge. The Commission Panel is persuaded by BC Hydro's observation in its Argument that the Basic Charge may have a role to play in future years' rate design and that retaining it at its present level and in its present form may be beneficial. The Commission Panel directs BC Hydro to address the role of its Basic Charge in its next residential rate design application.

So far as concerns the Minimum Bill, the Commission Panel will not direct BC Hydro to amend its proposed Minimum Charge. In its next RIB application BC Hydro should consider whether the Minimum Bill should more accurately reflect the cost of remaining attached to the system during periods of very low consumption or dormancy

DATED at the City of Vancouver, in the Province of British Columbia, this 24th day of September 2008.

Original signed by:

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A.J. (TONY) PULLMAN
PANEL CHAIR & COMMISSIONER

Original signed by:

_____

ROBERT J. MILBOURNE
COMMISSIONER

Original signed by:

_____

L.A. O'HARA
COMMISSIONER

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BRITISH COLUMBIA UTILITIES COMMISSION

ORDER NUMBER G-124-08

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IN THE MATTER OF
the Utilities Commission Act, R.S.B.C. 1996, Chapter 473

and

Application by British Columbia Hydro and Power Authority ("BC Hydro")
2008 Residential Inclining Block Application ("RIB Application")

BEFORE: A.J. Pullman, Panel Chair
R.J. Milbourne, Commissioner
L.A. O'Hara, Commissioner

August 28, 2008

O R D E R

WHEREAS:

A. On February 26, 2008 BC Hydro filed an application with the Commission, pursuant to sections 58 to 61 of the *Utilities Commission Act* (the "Act"), for the review and approval of a new, two-step, inclining block rate structure for its residential customers (the "RIB Application"); and

B. The RIB Application contains a proposed restructuring of rates to BC Hydro's residential customers. The objective of the proposal is to encourage additional electricity conservation, a goal that was prescribed in certain Policy Actions to the 2007 Energy Plan released by the provincial government on February 27, 2008; and

C. Specifically, BC Hydro aims to start contributing to the 2007 Energy Plan's 2020 conservation goal, to accelerate customer awareness of the increasing cost of electricity, and to gain experience with residential customer demand response to rates in order to inform future rate design proposals; and

D. The RIB Application is revenue neutral on a forecast consumption basis at the residential class level. The proposed two-step rate has the Step-1 Threshold set at 1,600 kWh per bi-monthly billing period and under the threshold, customers pay a lower per unit rate for electricity consumption. The Step-2 Rate would be set annually and calculated residually, that is based on the amount that is necessary to allow the recovery of revenue requirement of the residential class, less the amount generated by the Step-1 Rate and the Basic Charge, which BC Hydro proposes to increase at its forecast of inflation. The Step-2 rate would be capped at the cost of new energy supply and incremental transmission and distribution delivery costs; and

E. BC Hydro seeks orders that approve (i) the design principles by which the current flat rate structure would be adjusted at first instance to the proposed RIB rate, and annually thereafter; (ii) amendments to Rate Schedules 1101 and 1121; (iii) creation of new Rate Schedules 1151 and 1161; and (iv) revised tariff sheets related to the Terms and Conditions of the General Service rates; and

F. Specifically BC Hydro seeks, on the assumptions that the RIB rate structure would be approved on or before August 30, 2008 for implementation on October 1, 2008 and that the April 1, 2008 interim approval of BC Hydro's F2009 revenue requirement rate increase is still in effect, an order that approves: (i) Rate Schedules 1101 and 1121 to show a Step-1 Rate of 6.28 cents/kWh; a Basic Charge of 12.38 cents/day; and Step-1 Threshold of 1,600 kWh per bi-monthly Billing Period, and a Step-2 Rate of 6.98 cents/kWh; and (ii) Rate Schedules 1151 and 1161 to show a flat rate of 6.55 cents/kWh and a Basic charge of 12.93 cents/day; and

G. By Commission Order G-28-08 dated February 28, 2008, the Commission established a Procedural Conference to be held on April 28, 2008 regarding the regulatory processes for the RIB Application, along with two other concurrent applications from BC Hydro: the F09/F10 Revenue Requirements Application and the Transmission Service Rate Re-pricing Application; and

H. By Commission Order G-76-08 dated April 28, 2008, the Commission ordered that an Oral Public Hearing be held to review the RIB Application. The regulatory timetable for the proceeding included two rounds of Information Requests to BC Hydro, and a timetable for the submissions of Intervenor Evidence and Information Requests to Intervenors; and

I. The only Intervenor to file Evidence was Energy Solutions for Vancouver Island; and

J. On May 22, 2008, the British Columbia Old Age Pensioners' Organization *et al.* ("BCOAPO") filed a copy of the May 16, 2008 Decision of the Ontario Divisional Court regarding the jurisdiction of the Ontario Energy Board to implement a low income affordability program (Exhibit C10-4). BCOAPO referred this Ontario court decision as a subject matter for legal argument; and

K. The Public Hearing commenced on June 16, 2008 in Vancouver and the evidentiary phase of the proceeding closed on June 19, 2008, subject to the delivery of responses to outstanding Undertakings; and

L. By Commission Letter L-31-08 dated June 26, 2008, the Commission made a determination on the submissions of the Parties on the issue of the right of reply by Intervenors to the Final Arguments of other Intervenors and the schedule for Final Arguments by the Parties. The schedule provided for the filing of Undertakings by BC Hydro on July 4, 2008, filing of BC Hydro's Final Argument on July 9, 2008, filing of Intervenors' Final Arguments on July 24, 2008, and filing of BC Hydro's Reply Argument, as well as Intervenors' Reply Argument to BCOAPO's Argument on jurisdiction, on August 7, 2008; and

M. On August 15, 2008 an Oral Phase of Argument was held; and

N. The Commission has considered the RIB Application and the evidence and submissions presented to it, including jurisdictional issues, and has determined that a RIB rate should be implemented provided that the conditions in this Order are met.

NOW THEREFORE pursuant to sections 58-61 of the Act, the Commission determines, with Reasons for Decision to follow, that it is in the public interest for BC Hydro to implement a RIB rate structure and orders that:

1. Provided BC Hydro files, no later than 14 days from the date of this Order, revised tariff sheets for Rate Schedules 1101 and 1121 that reflect a two-step RIB rate structure which incorporates the following design principles:

    (i) for the period commencing on April 1, 2009, establishes the Step-2 rate at BC Hydro's current estimate of the cost of new energy supply at the plant gate, grossed up for losses, of 8.27 cents per kWh (Exhibit B-3, BCOAPO 1.3.3) and caps it at that amount;

    (ii) for the period commencing October 1, 2008 through March 31, 2009 establishes the Step-2 rate as the above rate less one-half of the difference between that rate and 6.15 cents per kWh (being the rate for Rate Schedules 1101 and 1121 prior to the most recent interim rate increase);

    (iii) establishes the Step-1 to Step-2 threshold at 1,350 kWh per billing period (being more or less 90% of the median consumption of BC Hydro's customers (Exhibit B-3, BCUC 1.4.7) of 762 kWh per month);

    (iv) calculates residually the Step-1 rate and the Basic Charge for the period October 1, 2008 to March 31, 2009, and for April 1, 2009 for F2010 to achieve revenue neutrality for the residential rate class for those periods;

    a RIB rate structure incorporating the above design principles is approved, effective October 1, 2008; otherwise the RIB Application is dismissed.

2. Subject to paragraph 1, the Commission also orders that:

    (i) the proposed exempt residential Rate Schedule 1151 for farm accounts, residential service customers in Zone 1B, and those residential customers enrolled in the Conservation Research Initiative Pilot project is approved;

(ii) the proposed exempt Rate Schedule 1161 for Multiple Residential Service is approved;

(iii) the revised tariff sheets related to the Terms and Conditions of the General Service rates are approved;

(iv) the energy rate and the Basic Charge of Rate Schedules 1151 and 1161 are approved;

(v) on or before February 28, 2009 BC Hydro shall file the Rate Schedules 1101, 1121, 1151 and 1161 that are to be effective April 1, 2009, and which reflect the revenue requirements applicable to the fiscal year beginning April 1, 2009; and

(vi) should BC Hydro's current estimate of the cost of new energy supply at the plant gate, grossed up for losses be varied, BC Hydro is to apply to the Commission to amend and phase-in if necessary the Step-2 rate of Rate Schedules 1101 and 1121 accordingly.

DATED at the City of Vancouver, in the Province of British Columbia, this 28th day of August 2008.

BY ORDER

Original signed by:

A.J. Pullman
Panel Chair

LIST OF APPEARANCES

G.A. FULTON, QC	Commission Counsel
J. CHRISTIAN I. WEBB J. SOFIELD J. NYLAND	British Columbia Hydro and Power Authority
L. PRESCOTT	British Columbia Transmission Corporation
M. GHIKAS	Terasen Gas Inc. Terasen Gas (Vancouver Island) Inc. Terasen Gas (Whistler) Inc. (Collectively the "Terasen Utilities")
D. WATSON M. LEYLAND	FortisBC Inc.
F. WEISBERG	Columbia Power Corporation
D. AUSTIN	Independent Power Producers Association of British Columbia
R. CARLE P. COCHRANE	City of New Westminster
R. B. WALLACE	Joint Industry Electricity Steering Committee
D. NEWLANDS	Elk Valley Coal Corporation
D. FITZGERALD	Catalyst Paper Corporation
C. WEAFER D. CRAIG	Commercial Energy Consumers of British Columbia
J. QUAIL L. WORTH	B.C. Branch,B.C. Old Age Pensioners' Organization, Council of Senior Citizens' Organizations, Federated Anti-Poverty Groups of B.C., West End Seniors' Network (Collectively ("BCOAPO")
W.J. ANDREWS	B.C. Sustainable Energy Association, Sierra Club of Canada British Columbia Chapter (Collectively ("BCSEA")

A. KEMP	Rental Owners and Managers Society of B.C.
D. BURSEY I. WIGINGTON	Corix Multi-Utility Services Inc.
L. BERTSCH	Energy Solutions for Vancouver Island Society
A. WAIT	On His Own Behalf

E. Cheng	Commission staff
T. Roberts G. Isherwood	Contract staff
Allwest Reporting Ltd.	Court Reporters

LIST OF WITNESSES

BRITISH COLUMBIA HYDRO AND POWER AUTHORITY

Beverly Van Ruyven
Executive Vice President,
Customer Care & Conservation

Bridgette Zacharias
Director, Customer Care

Ken Tiedemann
Manager, Power Smart Evaluation

Dr. Ren Orans
Managing Partner of Energy and Environmental Economics, Inc.

RATE SCHEDULES **Page**

Rate Zone IB: Bella Bella

Rate Zone II: Anahim Lake, Atlin, Bella Coola, Dease Lake, Eddontenajon, Queen Charlotte Islands and Telegraph Creek District.

Residential Service: Electricity for use:

1. In Single-Family Dwellings.

2. In the common areas of Premises containing two or more Single-Family Dwellings, whether the common area is metered separately or is metered as part of a separate Residential Service to one of the dwellings, if the Electricity is used only for the common benefit of those dwellings.

3. Upon farms for any farm use whether or not in conjunction with use in a Single-Family Dwelling, provided that farm use shall not include:

   (a) use in any dwelling other than a Single-Family Dwelling,

   (b) use in the processing of farm products produced elsewhere than on the farm in question,

   (c) use in selling farm or other products to the general public other than from a small roadside stand, or

   (d) use for any commercial operation not ordinarily conducted upon a farm.

4. In dwellings where a part is used to carry on a business even if the whole dwelling is supplied through one meter.

Note: Despite anything else in this Electric Tariff, General Service is not available as an alternative to residential service, where residential service is otherwise available, except:

a) for farm use;

b) for business use in a dwelling supplied through one meter; or

c) in common use areas of Premises containing two or more Single Family Dwellings.

In the case of exception (a) or (b) being applicable, General Service (35 kW and Over) is available at the customer's request. In the case of exception (c) being applicable, any applicable General Service rate is available at the customer's request.

Secondary Voltage: A voltage of less than 750 volts measured phase to phase.

Service Connection: That part of the BC Hydro distribution facilities extending from the first attachment point on the BC Hydro distribution system to the Point of Delivery.

Service Voltage (Potential): The voltage at the Point of Delivery, and is:

(a) secondary, if the Service Connection is at Secondary Voltage; or

(b) secondary, if BC Hydro owns, operates and maintains the primary Service Connection and transformers; or

(c) primary, if the Customer's switch is at Primary Voltage.

Single-Family Dwelling: A single-family dwelling used only as a dwelling and consisting of single family living quarters having in one self-contained unit at least sleeping quarters, a kitchen and bathroom or alternative living quarters acceptable to BC Hydro.

Span of Line: A distribution conductor which spans between two BC Hydro poles.

System Improvement Costs: The incremental costs that BC Hydro estimates will be incurred on the distribution system, including distribution substations, attributed to a Customer's new load.

Temporary Service: A service where Electricity will be, or in the determination of BC Hydro is likely to be, taken for a temporary period of time.

Transformation: Includes transformers, switches, fuses, cutouts, surge arrestors and associated equipment, and labour for installation.

SCHEDULE 1101, 1121 – RESIDENTIAL SERVICE

Availability: For Residential Service. Service is normally single phase, 60 hertz at the secondary potential available. In BC Hydro's discretion, service may be three phase 120/208 or 240 volts.

Applicable in: Rate Zone I.

Rate:

1. Schedule 1101 - Residential Service

Basic Charge 12.38¢ per day

Energy Charge

A. For customers billed monthly
   Step 1 – First 675 kW.h per month @ 5.98 cents/kW.h
   Step 2 – Additional kW.h per month @ 7.21 cents/kW.h

B. For customers billed bi-monthly
   Step 1 – First 1350 kW.h per two months @ 5.98 cents/kW.h
   Step 2 – Additional kW.h per two months @ 7.21 cents/kW.h

Note: For billing purposes, Step 1 is pro-rated on a daily basis.

2. Schedule 1121 - Multiple Residential Service

Basic Charge 12.38¢ per Single-Family Dwelling per day

Energy Charge – Per Single Family Dwelling

A. For Customers billed monthly
   Step 1 – First 675 kW.h. per month @ 5.98 cents/kW.h
   Step 2 – Additional KW.h per month @ 7.21 cents/kW.h

B. For Customers billed bi-monthly
   Step 1 – First 1350 kW.h per two months @ 5.98 cents/kW.h
   Step 2 – Additional kW.h per two months @ 7.21 cents/kW.h

Note: For billing purposes, Step 1 is pro-rated on a daily basis.

Minimum Charge:

Schedule 1101 - The Basic Charge.

Schedule 1121 - The Basic Charge per Single-Family Dwelling.

Special Conditions:

1. The maximum capacity of all heating elements energized at any one time in any water heater served under this schedule shall not exceed the greater of 1,500 watts or 45 watts per litre (200 watts per imperial gallon) of tank capacity, except with the written permission of BC Hydro.

2. Schedule 1121 applies if a Premises contains more than two Single-Family Dwellings.

Discount for Ownership of Transformers:

A discount of 25¢ per month per kW of maximum demand shall be applied to Schedule 1121 if a Customer supplies the transformation from a primary potential to a secondary potential. BC Hydro will install a demand meter in addition to a kilowatt hour meter. BC Hydro will install its meters at the secondary potential. The Billing Code for Schedule 1121 Customers eligible for the Discount for Ownership of Transformers shall be Schedule 1122.

Rate Rider:

The Deferral Account Rate Rider as set out in Rate Schedule 1901 applies to all charges payable under this Rate Schedule, before taxes and levies.

Interim Increase:

Effective April 1, 2008, the Rates and Minimum Charge under these schedules include an interim increase of 6.56%.

SCHEDULE 1151, 1161 - EXEMPT RESIDENTIAL SERVICE

Availability: For residential service and uses exempted from rate schedules 1101 and 1121, including:

1. Use upon farms as referenced in the definition of Residential Service.
2. Residential service Customers in Rate Zone IB.
3. Customers enrolled in BC Hydro's Conservation Research Initiative (CRI) Pilot program as of October 1, 2008 and who, immediately prior to this Rate Schedule becoming effective, were receiving service as part of the Control Group under Rate Schedule 1101. A Customer who ceases to be enrolled in the CRI Pilot program shall revert to service under Rate Schedule 1101.

Service is normally single phase, 60 hertz at the secondary potential available. In BC Hydro's discretion, service may be three phase 120/208 or 240 volts.

Applicable in: Rate Zone I and Rate Zone IB

Rate:

1. Schedule 1151 – Residential Service

   Basic Charge 12.93¢ per day
   All kW.h @ 6.55¢ per kW.h

2. Schedule 1161 – Multiple Residential Service

   Basic Charge 12.93¢ per day per Single-Family Dwelling per day
   All kW.h @ 6.55¢ per kW.h

Minimum Charge: Schedule 1151 - The Basic Charge.

Schedule 1161 – The Basic Charge per Single-Family Dwelling

Special Conditions: The maximum capacity of all heating elements energized at any one time in any water heater served under this schedule shall not exceed the greater of 1,500 watts or 45 watts per litre (200 watts per imperial gallon) of tank capacity, except with the written permission of BC Hydro.

Discount for Ownership of Transformers: A discount of 25¢ per month per kW of maximum demand shall be applied to Schedule 1161 if a Customer supplies the transformation from a primary potential to a secondary potential. BC Hydro will install a demand meter in addition to a kilowatt hour meter. BC Hydro will install its meters at the secondary potential. The Billing Code for Schedule 1161 Customers eligible for the Discount for Ownership of Transformers shall be Schedule 1162.

Rate Rider:	The Deferral Account Rate Rider as set out in Rate Schedule 1901 applies to all charges payable under this Rate Schedule, before taxes and levies.
Interim Increase:	Effective April 1, 2008, the Rates and Minimum Charge under these schedules include an interim increase of 6.56%.

IN THE MATTER OF
the Utilities Commission Act, R.S.B.C. 1996, Chapter 473

and

British Columbia Hydro and Power Authority
Residential Inclining Block Rate Application

EXHIBIT LIST

Exhibit No.	Description
COMMISSION DOCUMENTS	
A-1	Letter dated February 28, 2008 and Order No. G-28-08 establishing a Procedural Conference
A-2	Letter dated March 3, 2008 and Order No. G-31-08 dated February 29, 2008 establishing Regulatory Timetable
A-3	Letter dated March 18, 2008 issuing Information Request No. 1 to BC Hydro
A-4	Letter dated April 22, 2008 issuing a draft agenda for the Procedural Conference scheduled for April 28, 2008
A-5	Letter dated April 25, 2008 providing a proposed regulatory timetable for review of the application
A-6	Letter dated April 30, 2008 and Order No. G-76-08 establishing an Oral Public Hearing and Regulatory Timetable
A-6A	Letter dated April 30, 2008 issuing an Errata to the Regulatory Timetable
A-7	Letter dated May 5, 2008 issuing Information Request No. 2 to BC Hydro
A-8	Letter dated May 23, 2008 granting ESVI extension request (Exhibit C13-3)
A-9	Letter dated May 29, 2008 request for comments regarding Panel-issued Final Issues List
A-10	Letter dated May 30, 2008, issuing Information Request No. 1 to ESVI

A-11 Email dated June 2, 2008 from Eileen Cheng to Ludo Bertsch providing clarification of Exhibit A-9 and the possible issuance of an Issues List

A-12 Letter dated June 4, 2008, issuing response to the comments on the scope of the Panel review

A-13 Letter dated June 5, 2008 from the Commission Panel issuing Information Request No. 1 to BCTC

A-14 Letter dated June 10, 2008 providing procedural information regarding the hearing process to participants

A-15 Letter dated June 11, 2008 issuing comments on the Commission Panel Information Requests and the regulatory process

A-16 Letter dated June 11, 2008 issuing Information Request No. 1 to Terasen Gas

A-17 Letter dated August 11, 2008 issuing the Agenda for the Oral Phase of Argument scheduled for August 15, 2008

COMMISSION COUNSEL DOCUMENTS

A2-1 **SUBMITTED AT HEARING** – Submission entitled "Series 1 – The Size of Block One"

A2-2 **SUBMITTED AT HEARING** – Filing excerpt from Exhibit B-3, response from BC Hydro on Information Request No. 1.5.7

APPLICANT DOCUMENTS

B-1 BC Hydro's letter dated February 26, 2008 filing its 2008 Residential Inclining Block Rate Application

B-2 BC Hydro's letter dated March 14, 2008 filing its Presentation and Rate Model from the Workshop held on March 13, 2008

B-3 Letter dated April 18, 2008 filing response to Information Request No. 1

B-4 Letter dated April 18, 2008 filing Errata to 2008 Residential Inclining Block Rate Application

B-5 **SUBMITTED AT PROCEDURAL CONFERENCE** – BC Hydro Strawman Proposed Regulatory Timetable

Exhibit No.	Description
B-6	Letter dated April 28, 2008 filing Appendix A, confirmation of publication as directed by Order G-28-08
B-7	Letter dated May 20, 2008 filing the revised response to the Commission's Information Request No. 1.4.4.1 and filing responses to Information Request No. 2
B-7-1	Letter dated May 22, 2008 filing outstanding response to ESVI Information Request No. 2.20.2
B-8	Letter dated May 23, 2008 comment on ESVI filing extension request (Exhibit C13-3)
B-9	Letter dated June 2, 2008 comment regarding scope of Issues List
B-10	Letter dated June 6, 2008 from Jeff Christian, Lawson Lundel, legal counsel, filing comments on the Commission Panel's Information Request No. 1 (Exhibit A-13)
B-11	Letter dated June 12, 2008 filing Responses to Commission Panel Information Request No. 1:3.1; 1.3.2 and Revised Response to Commission Information Request No. 1.19.5.1
B-12	Letter dated June 13, 2008 filing Direct Testimony's and Opening Statement
B-13	Letter dated June 13, 2008 filing responses to the Commission Panel's Information Request No. 1 – 1.1.1; 1.1.2; 1.2.1; 1.2.2; 1.2.3; 1.2.4;1.2.5;1.2.6;1.2.7;1.6.1; 1.6.2; 1.6.3; 1.6.4
B-14	Letter dated June 13, 2008 filing responses to BCOAPO's Information Request (Exhibit 10-3-2) – 3.63.1; 3.63.2; 3.64.1
B-15	**SUBMITTED AT HEARING** – Responses to Panel Information Requests No. 1.7.1; 1.7.2; 1.7.3; 1.7.4; 2.78.1 and Revised 2.78.4 and 2.78.5
B-16	**SUBMITTED AT HEARING** – Responses to Panel Information Requests No. 1.4.1
B-17	**SUBMITTED AT HEARING** – Responses to Panel Information Requests No. 1.4.2; 1.4.3; 1.4.4; 1.4.5; 1.5.1; 1.5.2; 1.5.3; 1.5.4.1; 1.5.4.2; 1.5.5; 1.5.6; 1.5.7; 1.5.8; 1.5.9
B-18	**SUBMITTED AT HEARING** – Undertaking No. 1, Volume 2, Page 213, Lines 14 to 26
B-19	**SUBMITTED AT HEARING** – Undertaking No. 2, Volume 2, Page 242, Lines 7 to 22
B-20	**SUBMITTED AT HEARING** – Responses to Panel Information Requests No. 1.8.1, 1.8.2, 1.8.3 and 1.8.4

B-21 **SUBMITTED AT HEARING –** Responses to BCOAPO Undertaking No. #3 at Volume 3, Pages 304 to 306

B-22 **SUBMITTED AT HEARING –** Filing RIB Rate Variations

B-23 **SUBMITTED AT HEARING** - Response to BCOAPO Undertaking No. #5 at Volume 3, Pages 384, Line 26 to Page 385, Line 16

B-24 **SUBMITTED AT HEARING** - Response to BCOAPO Undertaking No. #6 at Volume 3, Pages 398 to Page 400

B-25 **SUBMITTED AT HEARING** - Response to BCOAPO Undertaking No. #8 at Volume 3, Page 443, Lines 3 to 7

B-26 **SUBMITTED AT HEARING** - Response to Commission Counsel Undertaking No. #13 at Volume 4, Page 653, Line 4 to Page 654, Line 24

B-27 **SUBMITTED AT HEARING** - Response to BCOAPO Undertaking No. #14 at at Volume 4, Page 674, Line 12 to Page 675, Line 9

B-28 Letter dated June 27, 2008 filing responses to outstanding Undertakings No. #7, #10, #11, #12, #15, #16, #17, #18, #19, #20, #21, #22, #23, and #24

INTERVENOR DOCUMENTS

C1-1 **JOINT INDUSTRY ELECTRICITY STEERING COMMITTEE (JIESC) –** Letter dated February 4, 2008 from R. Brian Wallace at Bull Housser & Tupper, filing request for Registered Intervenor status

C1-2 Letter dated March 25, 2008 filing Information Request No. 1 to BC Hydro

C2-1 **CANADIAN OFFICE AND PROFESSIONAL EMPLOYEES UNION LOCAL 378 (COPE 378) –** Email received March 4, 2008 from Lori Winstanley, filing request for Registered Intervenor status

C3-1 **RENTAL OWNERS AND MANAGERS SOCIETY OF BC –** Email dated March 4, 2008, from Al Kemp, CEO, filing request for Registered Intervenor status

C3-2 Information Request No. 1 dated March 25, 2008 to BC Hydro and Power Authority

C3-3 Letter dated April 28, 2008 filing comments on the Procedural Conference

Exhibit No.	Description
C3-4	Letter dated June 2, 2008, will make opening statement with written submission to follow
C3-5	**SUBMITTED AT HEARING** - Letter dated June 16, 2008 filing Opening Statement
C4-1	**COMMERCIAL ENERGY CONSUMERS ASSOCIATION OF BC (CECBC) -** Letter dated March 5, 2008 from Christopher P. Weafer, Owen Bird, legal counsel, filing request for Registered Intervenor status
C4-2	Letter dated March 25, 2008 from Christopher P. Weafer, Owen Bird, legal counsel, filing Information Request No. 1 to BC Hydro
C4-3	Letter dated May 30, 2008, response to questions regarding Scope of Panel Issues List
C5-1	**CORIX MULTI-UTILITY SERVICES INC. (CORIX) -** Letter dated March 5, 2008 from Ronald Cliff, HighCliff Energy Services Ltd., filing request for Registered Intervenor status
C5-2	**SUBMITTED AT HEARING -** Printout from BC Hydro's website dated June 17, 2008 regarding Geothermal Heat Pumps
C6-1	**CITY OF NEW WESTMINSTER** – Letter dated March 6, 2008 request for Registered Intervenor status
C7-1	**TERASEN UTILITIES** – Letter dated March 7, 2008 request for Registered Intervenor status
C7-2	Information Request No. 1 dated March 25, 2008 to BC Hydro and Power Authority
C7-3	Letter dated May 5, 2008 filing Information Request No. 2 to BC Hydro
C7-4	Letter dated June 2, 2008 filing comments regarding scope of Issues List
C7-5	Letter dated June 12, 2008 filing Response to Commission Information Request No. 1
C7-6	**SUBMITTED AT HEARING** – Excerpt from BC Hydro response to Information Request No. 1.4.3 - Evaluation of a 2 Step Rate Design

C8-1 **PEACE RIVER REGIONAL DISTRICT ("PRRD")** - Letter dated March 7, 2008 request for Registered Intervenor status

C8-2 Information Request No. 1 to BC Hydro dated March 20, 2008

C8-3 Letter dated May 5, 2008, filing Information Request No. 2 to BC Hydro

C8-4 Letter dated May 5, 2008, filing supplemental a Information Request No. 2 to BC Hydro

C9-1 **FORTISBC INC (FORTIS)** – Online web registration dated March 10, 2008 requesting Registered Intervenor status

C10-1 **BRITISH COLUMBIA OLD AGE PENSIONERS ORGANIZATION (BCOAPO)** - Letter dated March 12, 2008 request for Registered Intervenor status for Leigha Worth, Jim Quail, Bill Harper of Econalysis Consulting and Colin Fussell

C10-2 Information Request No. 1 dated March 25, 2008 to BC Hydro and Power Authority

C10-2-1 Letter dated May 27, 2008 filing clean copy of Information Request No. 1 to BC Hydro unobstructed by the "CONFIDENTIAL" watermark (Exhibit C10-2)

C10-3 Letter dated May 5, 2008 filing Information Request No. 2 to BC Hydro and Power Authority

C10-3-2 Letter dated May 22,2008 filing three supplementary questions to Information Request No. 2 to BC Hydro and Power Authority

C10-4 Letter dated May 22, 2008 filing May 16, 2008 Decision of the Ontario Divisional Court

C10-5 Letter dated June 2, 2008 filing comments regarding scope of Issues List

C10-6 **SUBMITTED AT HEARING** – Additional materials for cross-examination

C11-1 **BC SUSTAINABLE ENERGY ASSOCIATION, SIERRA CLUB OF CANADA BC CHAPTER (BCSEA ET AL) –** Letter received March 19, 2008 from William J. Andrews, filing request for Registered Intervenor status

C11-2 Information Request No. 1 dated March 25, 2008 to BC Hydro and Power Authority

C11-3 Letter dated June 2, 2008 filing comments regarding scope of Issues List

Exhibit No.	Description
C12-1	**HEILTSUK TRIBAL COUNCIL AND SHEARWATER MARINE LIMITED ("HEILTSUK/SHEARWATER") –** Letter dated March 20, 2008 from Fred J. Weisberg of Weisberg Law Corporation, filing request for Registered Intervenor Status
C13-1	**ENERGY SOLUTIONS FOR VANCOUVER ISLAND SOCIETY –** Online web registration received March 26, 2008 from Ludo Bertsch, Horizon Technologies Inc. filing request for Registered Intervenor status
C13-2	Letter dated May 5, 2008 filing Information Request No. 2 to BC Hydro and Power Authority
C13-3	Letter dated May 23, 2008 filing request for extension for filing Intervenor Evidence
C13-4	Letter dated May 27, 2008 filing Intervenor Evidence
C13-5	Letter dated May 30, 2008, response regarding Scope of Panel Issues List
C13-6	Letter dated June 2, 2008 comments regarding Scope of Panel Issues List
C13-7	Letter dated June 11, 2008 filing response to the Commission's Information Request No. 1 (Exhibit A-10)
C13-8	**SUBMITTED AT HEARING** – Filing Appendix K to BC Hydro's 2008 LTAP from BC Hydro's 2007 Annual Report
C13-9	**SUBMITTED AT HEARING** – Filing Baseline Allowance Facts from Sempra Energy Utility
C13-10	**SUBMITTED AT HEARING** – Filing Intervenor Evidence #2
C14-1	**MEADE, STUART –** Letters dated February 26 and April 3, 2008, filing request for late Registered Intervenor status
INTERESTED PARTY DOCUMENTS	
D-1	**APPLEWAITE, ROBIN AND MAUREEN** – Letter dated March 20, 2008 request for Interested Party status

LETTERS OF COMMENT

E-1 **BLEACKLEY, JONATHAN** – Letter of Comment emailed February 27, 2008, from Jonathan Bleackley of Victoria, BC

E-2 **WALSH, GWYNYTH** - Letter of Comment emailed February 27, 2008, from Gwynyth Walsh

E-3 **CUNNINGHAM, BRIAN -** Letter of Comment dated February 27, 2008 from Brian Cunningham

E-4 **NIENABER, REIN –** Letter of Comment received February 28, 2008 from Rein Nienaber

E-5 **WOOLFRIES, ED** – Letter of Comment dated February 28, 2008 from Ed Woolfries

E-5-1 **WOOLFRIES, ED** – Letter dated April 30, 2008 from Richard Neufeld, Minister of Energy responding to email from Ed Wollfries

E-6 **CRAIGIE, BRUCE** – Letter of Comment dated February 28, 2008 from Bruce Craigie

E-7 **SPRY, PETER** – Letter of Comment dated February 28, 2008 from Peter Spry

E-8 **BARCLAY, TIM** – Letter of Comment dated February 29, 2008 from Tim Barclay

E-9 **DAY, MIKE** – Letter of Comment dated February 27, 2008 from Mike Day

E-10 **FAIRBRASS, MICHAEL** – Letter of Comment dated February 28, 2008 from Michael Fairbrass

E-11 **LOWE, SEAN** - Letter of Comment dated March 3, 2008 from Sean Lowe

E-12 **SKINNER, LARRY** – Letter of Comment dated March 1, 2008 from Larry Skinner

E-13 **LEISCHNER, TINA** – Letter of Comment dated March 3, 2008 from Tina Leischner

E-14 **VINCENT, JANICE** – Letter of Comment dated March 3, 2008 from Janice Vincent

E-15 **SCOTT, JRH** – Letter of Comment dated March 3, 2008 from JRH Scott, Brentwood Bay, BC

E-16 **PARKER-JERVIS, NOEL -** Letter of Comment dated February 28, 2008 from Mr. Noel Parker-Jervis of Victoria, BC

E-17 **WRIGHT/TOMS** - Letter of Comment dated March 5, 2008 from David J. Wright and Karen Toms of Victoria, BC

Exhibit No.	Description
E-18	**DESAI, FAIZEL** - Letter of Comment dated March 7, 2008 from Faizel Desai
E-19	**SEABROOK, LEN -** Letter of Comment dated March 7, 2008 from Len Seabrook
E-20	**APPLEWHAITE, MAUREEN & ROBIN -** Letter of Comment dated March 6, 2008 from Maureen & Robin Applewhaite, Victoria, BC
E-21	**NEWLOVE, JOHN & MARGARET -** Letter of Comment dated March 11, 2008 from John & Margaret Newlove
E-21-1	Letter of Comment dated June 9, 2008 from John & Margaret Newlove, Vernon, BC
E-22	**BEDI, SUMEET & PARVEEN -** Letter of Comment dated March 12, 2008 from Sumeet and Parveen Bedi
E-23	**MCGEE, GARY -** Letter of Comment dated March 12, 2008 from Gary McGee, Sidney, BC
E-24	**TAYLOR, PETER & GAIL** - Letter of Comment dated March 13, 2008 from Peter and Gail Taylor
E-25	**CHEAH, EUNICE** - Letter of Comment dated March 8, 2008 from Eunice Cheah, North Saanich, BC
E-26	**STRAUSS, ANEITA** - Letter of Comment dated March 13, 2008 from Aneita Strauss, Victoria, BC
E-27	**LOVEGROVE, EDWARD** - Letter of Comment dated March 13, 2008 from Edward Lovegrove
E-28	**BACKELAND, GERALD** - Letter of Comment dated March 14, 2008 from Gerald Backeland
E-29	**PARKER, JAMES** - Letter of Comment dated March 14, 2008 from James Parker, Victoria, BC
E-30	**TINKER, BRIAN** - Letter of Comment dated March 14, 2008 from Brian Tinker Sidney, BC
E-31	**DEAN, VERNAN** - Letter of Comment dated March 10, 2008 from Vernan Dean, Victoria, BC
E-32	**BURRUS, DAVID E. -** Letter of Comment dated March 17, 2008 from David E. Burrus
E-33	**YANG, PERCY -** Letter of Comment dated March 18, 2008 from Percy Yang

E-34 **SUTHERLAND, PAUL -** Letter of Comment dated March 18, 2008 from Paul Sutherland, Victoria, BC

E-34-1 Letter dated June 17, 2008 responding to Exhibit B-13

E-35 SCOTT, PETER - Letter of Comment dated March 14, 2008 from Peter Scott, Victoria, BC

E-36 PELTON, TIM – Letter of Comment dated March 20, 2008 from Tim Pelton, Victoria, BC

E-37 **KIRK, TERRY AND KAREN –** Letter of Comment received March 25, 2008 from Terry and Karen Kirk, Victoria, BC

E-38 **VONDERAHE, MARGARET -** Letter of Comment received March 14, 2008 from Margaret Vonderahe, Victoria, BC

E-39 **ARNOTT, JAMES T. -** Letter of Comment received March 19, 2008 from James T. Arnott, Victoria, BC

E-40 **JARRATT, PETER & DORA -** Letter of Comment received March 26, 2008 from Peter & Dora Jarratt, Victoria, BC

E-41 **JAATTEENMAKI, ED & MOIRA -** Letter of Comment received April 1, 2008 from Ed and Moira Jaatteenmaki, of Revelstoke, BC

E-42 **BANNER, BHARBARA -** Letter of Comment dated April 2, 2008 from Bharbara Banner, Kimberley, BC

E-43 **NEWELL, N. –** Letter of Comment dated April 16, 2008 from N. Newell

E-44 **HOFFMAN, DR. S -** Letter of Comment dated April 18, 2008 from Dr. S. Hoffman

E-45 **THE CHURCHILLS -** Letter of Comment dated April 18, 2008 from the Churchills

**** EXHIBIT REMOVED ** POSTED TO WRONG APPLICATION**

E-46 **POLLOCK, AL -** Letter of Comment dated April 21, 2008 from Al Pollock, of Windermere, BC

E-47 **BENNETT, DAVID -** Letter of Comment dated April 29, 2008 from David Bennett, of Sooke, BC

E-48 **MACPHEE, SANDY -** Letter of Comment dated May 7, 2008 from Sandy MacPhee, of Victoria, BC

Exhibit No.	Description
E-49	**BEMISTER, JANIE -** Letter of Comment dated May 7, 2008 from Janie Bemister, of Victoria, BC
E-50	**JACOBS, GWEN -** Letter of Comment dated May 13, 2008 from Gwen Jacobs, Vancouver, BC
E-51	**ROBSON, MICHAEL -** Letter of Comment dated May 13, 2008 from JMichael Robson, Belcarra, BC
E-52	**BOWMAN, NOAH -** Letter of Comment dated May 8, 2008 from Noah Bowman, West Vancouver, BC
E-53	**HUA, JOHNSON -** Letter of Comment dated May 15, 2008 from Johnson Hua
E-54	**GOSLING, JOHN B. -** Letter of Comment dated May 16, 2008 from John B. Gosling
E-55	**LEAHY, MICHAEL J. –** Letter of Comment dated May 22, 2008 from Michael J. Leahy
E-56	**BEMISTER, ALLAN –** Letter of Comment dated May 24, 2008 from Allan Bemister, Victoria, BC
E-57	**CHARRON, MAUREEN –** Letter of Comment dated May 23, 2008 from Maureen Charron, Vancouver, BC
E-58	**CARLSON, DAVE –** Letter of Comment dated May 26, 2008 from Dave Carlson
E-59	**DUBOIS, RICHARD –** Letter of Comment dated June 4, 2008 from Richard Dubois, Victoria, BC
E-60	**TAYLOR, BARBARA -** Letter of Comment dated June 6, 2008 from Barbara Taylor, Victoria, BC
E-61	**LEIDEL, CATHARINA -** Letter of Comment dated June 6, 2008 from Catharina Leidel, Surrey, BC