COMMERCIAL ENERGY CONSUMERS ASSOCIATION OF BRITISH COLUMBIA'S (the "CEC")

INFORMATION REQUEST NO. 1
April 11, 20007

Application by British Columbia Hydro and Power Authority ("BC Hydro")
for 2007 Rate Design Application
Project No. 3698455

1.0 Reference: Exhibit B-1, Page 1, Purpose of Application

1.1 In a commentary written by Mr. Bob Elton, the President and Chief Executive Office of BC Hydro, which was published in the Vancouver Sun on April 10, 2007 at page A11, Mr. Elton made the following comment:

> Conservation is the first and best choice for us to manage the supply gap that has been identified. And energy conservation starts at home. Current electricity consumption per household is 10,750 kilowatt hours per year; that is projected to increase to about 11,450 kilowatt hours per household per year by 2020 under current trends. The Government has set a goal of acquiring half of incremental energy needs through conservation by 2020. It will take leadership from BC Hydro and personal leadership from individual British Columbians to accomplish this. If we are to meet these targets, households will not only have to curb the growth in the electricity use, they will have to use 10% less electricity than they do today.

Is a purpose of the Rate Design Application to attempt to encourage reduction of electricity consumption in homes by 10% by 2020?

1.2 Does BC Hydro agree that paying the full cost of service under the rate design methodology put forward by BC Hydro is likely to have a greater impact on encouraging conversation than paying less than the cost of service?

2.0 Reference: Exhibit B-1, Page 1, Lines 18 and 19

2.1 BC Hydro indicates that including appropriate price signals to encourage energy conservation and load management to the extent practicable is a purpose in the application. Please describe what went into BC Hydro's determination as to what is the "extent practicable"?

3.0 Reference: Exhibit B-1, Page 3 and 4, Linkages to Other BC Hydro Activities and Plans

3.1 BC Hydro indicates that it plans to update and review the cost of service study and the need for any rate rebalancing on a regular basis. Please define what BC Hydro intends to be "a regular basis".

3.2 Please define what would trigger a need for rate rebalancing beyond that which is being sought in this application.

4.0 Reference: Exhibit B-1, Page 4, Mitigation of Customer Impacts

4.1 BC Hydro proposes to provide customers that are adversely affected by the proposed rate changes the opportunity to participate in Power Smart programs to increase their energy efficiency thus reducing the impact of the rate changes. To what extend is BC Hydro contacting customers with specific Power Smart programs which may address their rate impact resulting from this application?

4.2 Is BC Hydro going to give higher priority to Power Smart programs targeted to customers adversely affected by the proposed rate changes or will it also continue to try and provide Power Smart programs to customers which are still paying in excess of their cost of service notwithstanding the proposed rate rebalancing?

5.0 Reference: Exhibit B-1, Page 5, Stakeholder Engagement

5.1 BC Hydro describes the stakeholder engagement between November of 2006 and March of 2007. Please summarize what specific changes were made to the Rate Design proposal of BC Hydro as a result of those consultations.

6.0 Reference: Exhibit B-1, Page 10, Lines 3 through 5

6.1 BC Hydro indicates that if a revenue to cost ratio falls materially short of unity, the rate class is deficient in revenue and may be subject to a rate increase. BC Hydro has previously pointed out that the last rate design was undertaken in 1991. Does BC Hydro factor into its rate design the period of time in which a rate class has overpaid its cost of service in determining what is a fair rate to be paid by that rate class on a go forward basis?

7.0 Reference: Exhibit B-1, Page 12, Lines 15 through 20

7.1 BC Hydro is referencing the 12 CP allocator method. For how long has BC Hydro utilized the 12 CP allocator method?

7.2 Please describe why BC Hydro believes this method is the most appropriate method for BC Hydro.

7.3 Has BC Hydro ever utilized the 1 CP method for cost allocation?

7.4 Please describe what other jurisdictions utilize the 12 CP method and their similarities and/or differences to BC Hydro in terms of customer contribution to load.

8.0 Reference: Exhibit B-1, Page 14, Functionalization

8.1 Has BC Hydro changed functionalization in any way from its prior rate design applications? If so, what changes have been made and why?

9.0 Reference: Exhibit B-1, Page 17, Classification

9.1 Has BC Hydro made any changes to its approach to classification from its 1991 rate design process? If so, what changes have been made and why?

10.0 Reference: Exhibit B-1, Page 28

10.1 BC Hydro states:

> Given the length of time since BC Hydro's last general RDA, the principle focus of the Application is to ensure that BC Hydro's rate and Terms and Conditions are fair, efficient and simple.

Defining "efficient", BC Hydro highlights that there needs to be appropriate price signals to encourage energy conservation. Would the residential class of customers not receive a better price signal to encourage energy conservation if their revenue to cost ratio was closer to unity?

10.2 Given the focus of the new Energy Plan, is this not an important objective to pursue particularly given the length of time which could occur between rate design applications?

11.0 Reference: Exhibit B-1, Page 29, Table 1

11.1 This table highlights that the spread between the revenue to cost ratio of residential customers to general service under 35 kilowatt hours is 20.4 percentage points. This significant discrepancy has existed for decades. Would it not be more "fair" to more aggressively close the gap between these two classes of customers?

12.0 Reference: Exhibit B-1, Page 28, Lines 5 through 11

12.1 BC Hydro highlights that a range of reasonableness is 90 to 110% and that this range takes into account and recognizes many assumptions that are necessary in the development of a COS study. Is it BC Hydro's view that it is reasonable that one class is always in excess of 1 and another class is less then 1 over a prolonged period of time?

13.0 Reference: Exhibit B-1, Page 30, Table 2

13.1 What would the revenue impact be per year of moving the large commercial rate to a ratio of 1 over three years or over five years?

13.2 What would be the required rate increases for the residential customers to provide the matching revenue impacts to the answers to question 13.1 above?

14.0 Reference: Exhibit B-1, Page 30, Table 2

14.1 What would the revenue impact be per year of moving the small commercial customers to a ratio of 1 over five years or over 10 years?

14.2 What would be the required rate increases for the residential customers to provide the matching revenue impacts to the answers to question 14.1 above?

14.3 What would be the revenue impact of moving the industrial customers to a revenue to cost ratio of 1?

14.4 What would be the required rate increases for residential customers to match the revenue requirement impacts to the answers to question 14.3 above?

15.0 Reference: Exhibit B-1, Page 41, E-plus

15.1 What would be required for BC Hydro to inform the E-plus customers that they needed to switch off electricity to their back-up fuel source during a timeframe specified by BC Hydro every year in the future?

15.2 Would BC Hydro requiring the E-plus customers to switch to their back-up fuel sources during a timeframe specified by BC Hydro every year be consistent with the current tariff?

15.3 What constraints would BC Hydro be bound by, under the current tariff for E-plus customers, in specifying a timeframe during which E-plus customers would be required to switch to alternate fuel sources?

16.0 Reference: Exhibit B-1, Page 41, E-plus

16.1 What has been the E-plus customer energy consumption during the four months of the year in which BC Hydro is most likely to experience peak energy use on its system?

17.0 Reference: Exhibit B-1, Page 31

17.1 What percentage of residential customers would have energy consumption below 3000 KWh/year?

17.2 What would the rate impacts be for each decile of residential customers if the residential rate were set at 5% below the rate required to achieve a cost to revenue ratio of 1 for the first 3000 KWh and for any use above 3000 KWh was at the rate required to achieve a cost to revenue ratio of 1 for the whole class and if this were implemented in equal steps over three years or alternatively over five years?

18.0 Reference: General

18.1 What would be required to move E-plus customers or Irrigation customers that volunteered to an appropriate two tiered rate with lower costs for off peak use and very much higher costs for on peak use?

1.0 Reference: Exhibit B-1, Page 1, Purpose of Application

1.1.1 In a commentary written by Mr. Bob Elton, the President and Chief Executive Office of BC Hydro, which was published in the Vancouver Sun on April 10, 2007 at page A11, Mr. Elton made the following comment:

> Conservation is the first and best choice for us to manage the supply gap that has been identified. And energy conservation starts at home. Current electricity consumption per household is 10,750 kilowatt hours per year; that is projected to increase to about 11,450 kilowatt hours per household per year by 2020 under current trends. The Government has set a goal of acquiring half of incremental energy needs through conservation by 2020. It will take leadership from BC Hydro and personal leadership from individual British Columbians to accomplish this. If we are to meet these targets, households will not only have to curb the growth in the electricity use, they will have to use 10% less electricity than they do today.
>
> Is a purpose of the Rate Design Application to attempt to encourage reduction of electricity consumption in homes by 10% by 2020?

RESPONSE:

No. Please refer to the response to BCUC IR 1.5.1.

1.0 Reference: Exhibit B-1, Page 1, Purpose of Application

1.1.2 Does BC Hydro agree that paying the full cost of service under the rate design methodology put forward by BC Hydro is likely to have a greater impact on encouraging conversation than paying less than the cost of service?

RESPONSE:

The only material rate class with a revenue to cost ratio below 100 per cent is the residential rate class. Moving the residential class to 100 per cent would not have a material effect on conservation. Please refer to the response to Terasen IR 1.5.2.

2.0 Reference: Exhibit B-1, Page 1, Lines 18 and 19

1.2.1 BC Hydro indicates that including appropriate price signals to encourage energy conservation and load management to the extent practicable is a purpose in the application. Please describe what went into BC Hydro's determination as to what is the "extent practicable"?

RESPONSE:

BC Hydro considered many factors such as the bill impacts on customers, the capability of BC Hydro's meter technology, revenue neutrality and customer satisfaction.

3.0 Reference: Exhibit B-1, Page 3 and 4, Linkages to Other BC Hydro Activities and Plans

1.3.1 BC Hydro indicates that it plans to update and review the cost of service study and the need for any rate rebalancing on a regular basis. Please define what BC Hydro intends to be "a regular basis".

RESPONSE:

BC Hydro plans to update its cost of service study and review the need for any rate rebalancing every three to four years.

3.0 Reference: Exhibit B-1, Page 3 and 4, Linkages to Other BC Hydro Activities and Plans

1.3.2 Please define what would trigger a need for rate rebalancing beyond that which is being sought in this application.

RESPONSE:

At this time, BC Hydro considers that rates are in balance if they are within a +/- 10 per cent band around a revenue to cost ratio of 100 per cent. If a future cost of service study indicated that the revenue to cost ratio of a customer class had deviated from that band, BC Hydro would consider further rate rebalancing necessary.

4.0 Reference: Exhibit B-1, Page 4, Mitigation of Customer Impacts

1.4.1 BC Hydro proposes to provide customers that are adversely affected by the proposed rate changes the opportunity to participate in Power Smart programs to increase their energy efficiency thus reducing the impact of the rate changes. To what extend is BC Hydro contacting customers with specific Power Smart programs which may address their rate impact resulting from this application?

RESPONSE:

BC Hydro plans to include reference to Power Smart in future communications regarding the approved rate changes. In addition, BC Hydro's call centres provide Power Smart information to all those requiring more information.

More specifically, a database providing a comparison of 2006 annual revenue and/or consumption against the proposed changes of the Rate Design Application is being created. The database outputs will be used to compare rate, site, and overall revenue impact. BC Hydro representatives will use this analysis tool to work with customers on budgetary concerns and possible demand side management opportunities to offset the increase.

4.0 Reference: Exhibit B-1, Page 4, Mitigation of Customer Impacts

1.4.2 Is BC Hydro going to give higher priority to Power Smart programs targeted to customers adversely affected by the proposed rate changes or will it also continue to try and provide Power Smart programs to customers which are still paying in excess of their cost of service notwithstanding the proposed rate rebalancing?

RESPONSE:

Please refer to the response to ESVI IR 1.4.4.

5.0 Reference: Exhibit B-1, Page 5, Stakeholder Engagement

1.5.1 BC Hydro describes the stakeholder engagement between November of 2006 and March of 2007. Please summarize what specific changes were made to the Rate Design proposal of BC Hydro as a result of those consultations.

RESPONSE:

Stakeholder engagement informed the 2007 RDA as follows:

<u>Rate Restructuring, GS > 35 kW</u>

There was general agreement among the stakeholders at the workshops that the current rate structure does not provide the appropriate price signal. Some customers felt that any changes should be phased in over a number of years and that lead time be provided in order for customers to prepare for the changes, including understanding the changes, acting on opportunities for energy efficiencies and budgeting appropriately.

The workshops presented two rate restructuring scenarios, one which moved closer to rate flattening and one which flattened the rate. Both proposals were to be done over a two year period. The 2007 RDA proposal is to flatten the rate but the phase-in period has been changed from two to three years.

<u>Rate Restructuring, E-Plus</u>

E-Plus customer feedback indicated that many felt BC Hydro had made a permanent commitment. Additional feedback themes indicated that capital investments had been made to qualify for the rate, that recent investments had been made to maintain back-up systems (a condition of the rate), and that purchasing decisions had been based on the fact that the premise had the E-Plus rate. Another feedback theme was that if the E-Plus rate was to be changed, it should be done with a phased approach and that adequate notification be given to allow customers time to respond to the change and allow further opportunity to recover investments made.

BC Hydro had considered phase-out periods of three, four, and five years for E-Plus rates. The 2007 RDA proposal is to increase the rate to two-thirds the standard rate over a five year period and eliminate the rate following a 10 year notification period. The proposal to terminate the requirement to maintain back-up heating systems and eliminate the transfer of the rate for new customers has

not changed from the original proposal.

Distribution Extension Policy

The proposal to simplify the policy was generally well received and supported by customers and, therefore, changes were not made to the proposal.

Miscellaneous Fees

Customer feedback was not provided on the charges update and, therefore, changes were not made to the proposal.

Rate Rebalancing

Some customers felt BC Hydro should be trying to move revenue to cost ratios to unity. There was sensitivity to customers experiencing bill increases and there was general support for a phased in approach. Therefore, changes were not made to the proposal.

6.0 Reference: Exhibit B-1, Page 10, Lines 3 through 5

1.6.1 BC Hydro indicates that if a revenue to cost ratio falls materially short of unity, the rate class is deficient in revenue and may be subject to a rate increase. BC Hydro has previously pointed out that the last rate design was undertaken in 1991. Does BC Hydro factor into its rate design the period of time in which a rate class has overpaid its cost of service in determining what is a fair rate to be paid by that rate class on a go forward basis?

RESPONSE:

No, BC Hydro does not consider the period of time that a customer class may have a revenue to cost ratio greater than 100 per cent when determining whether that rate should be rebalanced or not. As long as the BCUC has not made BC Hydro's rates interim they are by law fair, just and reasonable.

7.0 Reference: Exhibit B-1, Page 12, Lines 15 through 20

1.7.1 BC Hydro is referencing the 12 CP allocator method. For how long has BC Hydro utilized the 12 CP allocator method?

RESPONSE:

Please refer to the response to BCUC IR 1.17.4.

7.0 Reference: Exhibit B-1, Page 12, Lines 15 through 20

1.7.2 Please describe why BC Hydro believes this method is the most appropriate method for BC Hydro.

RESPONSE:

Classification of demand related costs on the basis of 12 CP is appropriate because it recognizes that the system is planned to meet peak demands throughout the year. The system is not planned to simply meet the system annual peak load. 12 CP is used in other jurisdictions where electric facilities are required to meet peak loads throughout the year.

7.0 Reference: Exhibit B-1, Page 12, Lines 15 through 20

1.7.3 Has BC Hydro ever utilized the 1 CP method for cost allocation?

RESPONSE:

Please refer to the response to BCUC IR 1.17.4.

7.0 Reference: Exhibit B-1, Page 12, Lines 15 through 20

1.7.4 Please describe what other jurisdictions utilize the 12 CP method and their similarities and/or differences to BC Hydro in terms of customer contribution to load.

RESPONSE:

Please refer to the response to BCOAPO IR 1.25.3.

8.0 Reference: Exhibit B-1, Page 14, Functionalization

1.8.1 Has BC Hydro changed functionalization in any way from its prior rate design applications? If so, what changes have been made and why?

RESPONSE:

Please refer to the response to BCUC IR 1.17.4.

9.0 Reference: Exhibit B-1, Page 17, Classification

1.9.1 Has BC Hydro made any changes to its approach to classification from its 1991 rate design process? If so, what changes have been made and why?

RESPONSE:

Please refer to the response to BCUC IR 1.17.4.

10.0 Reference: Exhibit B-1, Page 28

1.10.1 BC Hydro states:

> Given the length of time since BC Hydro's last general RDA, the principle focus of the Application is to ensure that BC Hydro's rate and Terms and Conditions are fair, efficient and simple.
>
> Defining "efficient", BC Hydro highlights that there needs to be appropriate price signals to encourage energy conservation. Would the residential class of customers not receive a better price signal to encourage energy conservation if their revenue to cost ratio was closer to unity?

RESPONSE:

Please refer to the response to CECBC IR 1.1.2.

10.0 Reference: Exhibit B-1, Page 28

1.10.2 Given the focus of the new Energy Plan, is this not an important objective to pursue particularly given the length of time which could occur between rate design applications?

RESPONSE:

No. Please refer to the response to BCUC IR 1.28.1.

11.0 Reference: Exhibit B-1, Page 29, Table 1

1.11.1 This table highlights that the spread between the revenue to cost ratio of residential customers to general service under 35 kilowatt hours is 20.4 percentage points. This significant discrepancy has existed for decades. Would it not be more "fair" to more aggressively close the gap between these two classes of customers?

RESPONSE:

BC Hydro considers that costs are fairly apportioned to customer classes if the revenue to cost ratios for the classes are within the range of reasonableness of 90 per cent to 110 per cent.

12.0 Reference: Exhibit B-1, Page 28, Lines 5 through 11

1.12.1 BC Hydro highlights that a range of reasonableness is 90 to 110% and that this range takes into account and recognizes many assumptions that are necessary in the development of a COS study. Is it BC Hydro's view that it is reasonable that one class is always in excess of 1 and another class is less then 1 over a prolonged period of time?

RESPONSE:

Please refer to the response to BCUC IR 1.28.1.

13.0 Reference: Exhibit B-1, Page 30, Table 2

1.13.1 What would the revenue impact be per year of moving the large commercial rate to a ratio of 1 over three years or over five years?

RESPONSE:

As shown in the Application, page 30, Table 2, the forecast F2008 revenue from the GS > 35 kW class is $24.7 million greater than the F2008 cost of service for the class.

The requested revenue impacts are as follows.

$24.7 million / 3 = $8.23 million per year for 3 years
$24.7 million / 5 = $4.94 million per year for 5 years

13.0 Reference: Exhibit B-1, Page 30, Table 2

1.13.2 What would be the required rate increases for the residential customers to provide the matching revenue impacts to the answers to question 13.1 above?

RESPONSE:

Increasing the revenue received from residential customers by $24.7 million would require a further rate increase for the residential class of 2.20 per cent (equivalent to 0.73 per cent per year for 3 years or 0.44 per cent per year for 5 years).

14.0 Reference: Exhibit B-1, Page 30, Table 2

1.14.1 What would the revenue impact be per year of moving the small commercial customers to a ratio of 1 over five years or over 10 years?

RESPONSE:

As shown in the Application, page 30, Table 2, the forecast F2008 revenue from the GS < 35 kW class is $21.6 million greater than the F2008 cost of service for the class.

The requested revenue impacts are as follows.

$21.6 million / 5 = $4.32 million per year for 5 years
$21.6 million / 10 = $2.16 million per year for 10 years

14.0 Reference: Exhibit B-1, Page 30, Table 2

1.14.2 What would be the required rate increases for the residential customers to provide the matching revenue impacts to the answers to question 14.1 above?

RESPONSE:

Increasing the revenue received from residential customers by $21.6 million would require a further rate increase for the residential class of 1.93 per cent (equivalent to 0.38 per cent per year for 5 years or 0.19 per cent per year for 10 years).

14.0 Reference: Exhibit B-1, Page 30, Table 2

1.14.3 What would be the revenue impact of moving the industrial customers to a revenue to cost ratio of 1?

RESPONSE:

As shown in the Application, page 30, Table 2, the forecast F2008 revenue from the transmission class is $10.2 million greater than the F2008 cost of service for the class.

14.0 Reference: Exhibit B-1, Page 30, Table 2

1.14.4 What would be the required rate increases for residential customers to match the revenue requirement impacts to the answers to question 14.3 above?

RESPONSE:

Increasing the revenue received from residential customers by $10.2 million would require a further rate increase for the residential class of 0.91 per cent.

15.0 Reference: Exhibit B-1, Page 41, E-plus

1.15.1 What would be required for BC Hydro to inform the E-plus customers that they needed to switch off electricity to their back-up fuel source during a timeframe specified by BC Hydro every year in the future?

RESPONSE:

Special Condition 3 of the E-Plus rates indicates that BC Hydro may interrupt supply by "…either manual or automatic means or by written notice by registered mail or hand delivery to the customer to cease the use of electricity under this rate schedule."

15.0 Reference: Exhibit B-1, Page 41, E-plus

1.15.2 Would BC Hydro requiring the E-plus customers to switch to their back-up fuel sources during a timeframe specified by BC Hydro every year be consistent with the current tariff?

RESPONSE:

Yes.

15.0 Reference: Exhibit B-1, Page 41, E-plus

1.15.3 What constraints would BC Hydro be bound by, under the current tariff for E-plus customers, in specifying a timeframe during which E-plus customers would be required to switch to alternate fuel sources?

RESPONSE:

Special Condition #1 of the E-Plus rate allows BC Hydro to interrupt customers "whenever there is a lack of surplus hydro energy and the service cannot be provided economically from other energy sources". Please refer to the responses to CECBC IR 1.15.1 and CECBC IR 1.15.2.

16.0 Reference: Exhibit B-1, Page 41, E-plus

1.16.1 What has been the E-plus customer energy consumption during the four months of the year in which BC Hydro is most likely to experience peak energy use on its system?

RESPONSE:

The four months of the year in which BC Hydro is most likely to experience peak energy use in its system are November to February. E-Plus metered consumption for November 2005 to February 2006 is shown in the table below.

E-Plus Rate Class	Nov 2005 (kWh)	Dec 2005 (kWh)	Jan 2006 (kWh)	Feb 2006 (kWh)
Non-Residential	3,373,290	3,921,293	3,901,174	3,904,644
Residential	15,842,809	19,364,345	19,960,652	17,815,162

17.0 Reference: Exhibit B-1, Page 31

1.17.1 What percentage of residential customers would have energy consumption below 3000 KWh/year?

RESPONSE:

BC Hydro cannot readily obtain the requested information. However, based on F2006 data, approximately 27 per cent of residential customers consume less than 5,000 kWh/year.

17.0 Reference: Exhibit B-1, Page 31

1.17.2 What would the rate impacts be for each decile of residential customers if the residential rate were set at 5% below the rate required to achieve a cost to revenue ratio of 1 for the first 3000 KWh and for any use above 3000 KWh was at the rate required to achieve a cost to revenue ratio of 1 for the whole class and if this were implemented in equal steps over three years or alternatively over five years?

RESPONSE:

BC Hydro cannot readily obtain the data required to model an energy block of 3,000 kWh/year. However, based on an energy block of 5,000 kWh/year, the rate proposed in the question would be as follows:

First 5,000 kWh/year 6.21 cents/kWh
Additional consumption 6.76 cents/kWh

Under this rate structure, the average increase in the residential rate (from the February 1, 2007 rates) would be 6.3 per cent. The increase would vary by size of customer, as shown in the following table.

Annual kWh	Annual Bill Feb 07 Rate	Annual Bill Proposed Rate	Annual Bill Percentage Change
5,000	$352	$355	1.0%
7,500	$510	$524	2.7%
10,000	$666	$693	4.1%
12,500	$821	$862	5.0%
15,000	$976	$1,031	5.6%
17,500	$1,131	$1,200	6.0%
20,000	$1,287	$1,369	6.4%
22,500	$1,442	$1,538	6.6%
25,000	$1,597	$1,707	6.8%

If this rate structure were phased-in over three or five years, the annual percentage change would be one-third or one-fifth, respectively, of the percentage change in the above table.

18.0 Reference: General

1.18.1 What would be required to move E-plus customers or Irrigation customers that volunteered to an appropriate two tiered rate with lower costs for off peak use and very much higher costs for on peak use?

RESPONSE:

BC Hydro would need to develop the rate, obtain BCUC approval and install the appropriate metering and data collection infrastructure.