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Via Email

Mr. Ray Aldeguer
Senior Vice-President
Corporate Resources & General Counsel
BC Hydro and Power Authority
333 Dunsmuir Street - 17th Floor
Vancouver, BC V6B 5R3

Attn. Mr. Aldeguer:

**Re: *BC Hydro and Power Authority
Heritage Contract, Stepped Rates and Access Principles***

Please find attached Information Request No. 1 from ZE PowerGroup Inc. on behalf of CBT Energy.

Yours truly,

(original signed by Zak El-Ramly)

Dr. Zak El-Ramly
President

cc: R.J. Pellatt, BCUC
Registered Intervenors



Information Request – BC Hydro Heritage Contract, Stepped Rates and Access Principles

Question 1

During the Workshop, there was an indication that although the BC Hydro filing was “conceptually complete” the application was “thin”.

- 1.0 Please specify what areas of BC Hydro’s filing are fully complete.
- 1.1 What parts of the Terms of Reference have been met by the BC Hydro filing.
- 1.2 At the workshop it was stated that if BC Hydro had more time to consider the Heritage Contract the application would not have been “as thin” – please explain how, and in which areas, improvements would be made, or details would have been provided, if extra time were to have been available to BC Hydro?

Question 2

- 2.0 In detail, please provide how the BC Hydro filing meets or advances the Energy Plan, more particularly:
 - (i) Action item #8 “BC Hydro’s distribution will operate as a separation line of business from generation.”
 - (ii) Action item #9 “Electricity distributors will acquire new supply on a least-cost basis, with regulatory oversight by the BC Utilities Commission.”
 - (iii) Action item #12 “The structure of the BC Utilities Commission, and its mandate in regulating BC Hydro and other energy distributors, will be strengthened.”
 - (iv) Action item #13 “The private sector will develop new electricity generation, with BC Hydro restricted to improvements at existing plants.”
 - (v) Action item #14 “Under new rate structures, large electricity consumers will be able to choose a supplier other than the local distributor.”
 - (vi) Action item #15 “The BC Hydro Transmission Corporation will improve access to the transmission system and enable IPP participation in US.”



- (vii) Action item #20 "Electricity distributors will pursue a voluntary goal to acquire 50 percent of new supply from BC Clean Electricity over the next 10 years."

Question 3

- 3.0 Does the Heritage Contract meet all of the objectives and action items of the Energy Plan?
- 3.1 If not, which objectives or action items were not met (or compromised) and why?

Question 4

- 4.0 Given that under BC Hydro's filing the revenue requirement will be set using actual costs and the ratepayer will pay the full cost of the heritage assets, how would the efficiency of the management of BC Hydro be measured?
- 4.1 What incentive is there in the Heritage Contract for the management team of BC Hydro to procure an efficient least cost basis additional supply?

Question 5

Reference: Proposal, Volume 1, P. 40, Section 3.7.1

- 5.0 The Heritage Contract is presented as a contract between two parties, BC Hydro Generation division and BC Hydro distribution. Notwithstanding two different divisions are parties to the contract BC Hydro's proposal uses the name "BC Hydro" throughout the filing and therefore it is difficult to determine which of the two divisions being referred to.

As an example please refer to the first paragraph of Section 3.7.1 (page 40):

"BC Hydro will be responsible for the management and operation of the Heritage Resources, and delivery of the Heritage Electricity. Within BC Hydro, that responsibility currently resides with BCH Generation. BC Hydro is also, and will continue to be, obliged to serve all its ratepayers, and deliver to them their actual electricity demand. The cost of the former will not coincide with the latter, but will be a component of it. Thus, a forecast Heritage Payment Obligation will be a component of BC Hydro's revenue requirement through the term of the Heritage Contract. With each revenue requirement application, the forecast Heritage Payment Obligation will be updated."

- 5.1 Please provide a version of the volume one substituting BC Hydro with BC Hydro Generation and/or BC Hydro Distribution as is appropriate.



Question 6

6.0 At volume 1, page 28, section 3.3.4:

"BC Hydro proposes that imports into the BC Hydro control area be valued at the Mid-Columbia index price (as was done in BC Hydro's Real Time Pricing tariff) plus the cost of transmission between Mid-Columbia and the BC border."

And volume 1 page 29, section 3.3.4:

"In the case of exports from the BC Hydro control area, the power would be valued at the Mid-Columbia index price less the cost of transmission between Mid-Columbia and the BC border."

What transmission rate(s) (firm, non-firm, average, actual, etc.) will be used to calculate the sale/purchase price between Powerex and BC Hydro? Please explain why that rate(s) will be used.

Question 7

- 7.0 Will there be individual revenue requirements for each of the generation and distribution divisions?
- 7.1 If there will be a separate revenue requirement for generation, what role will distribution division play in establishing the generation division's revenue requirement?
- 7.2 If there will not be an individual revenue requirement for generation, please reconcile this with Policy Action #8, which states that Distribution will operate as a separate line of business.

Question 8

- 8.0 Who is responsible for meeting the demand of the distribution utility beyond the capabilities of the heritage contract resources, BC Hydro Distribution or BC Hydro Generation?
- 8.1 If the answer to the above question is BC Hydro Generation, how would you reconcile that with Policy Action #9 from the Energy Plan, which states that new supply would be acquired by "distributors" at a least cost basis "with regulatory oversight by the BCUC"?
- 8.2 Provide in detail what mechanism will be used to set the 2nd Tier rate? How does this ensure "least cost" procurement as outlined in the Energy Plan?



Question 9

- 9.0 Explain in detail, from an industry perspective ("IPP"), how BC Hydro's filing promotes development by the private sector in the province (with reference to how the filing meets the relevant action items in the Energy Plan and Terms of Reference).

Question 10

Reference: i) Application 1991-1992, January 15, 1991;
amended by BC Hydro on October 28, 1991
ii) Terms of Reference, Proposal, Volume 1,
Appendix A, PP. 5, Lines 4-7
iii) Proposal, Volume 2, Appendix A-
Stepped Rate Design Report

Reference: Rate Design Application by BC Hydro -
Industrial Rate Proposal Decision, April 24,
1992, PP. 33, Chapter 4.1

- 10.0 In 1991/92 BC Hydro made a rate design application referred to as the IRP in which BC Hydro and the industrial customers produced a report which was put forward to the commission; has BC Hydro made use of that report and related information (e.g. application, consultation process, information requests, submissions by intervenors and the actual decision) from this report?
- 10.1 If the answer to Question 10.0 is no, why not?
- 10.2 If the answer to Question 10.0 was yes, please provide all documents which analyze the IRP in the context of this application.
- 10.3 Produce all documents which were provided to E3 in relation to the IRP prior to the completion of E3's report?

Question 11

- 11.0 Please Reference Proposal, Volume 1, Page 17, Section 3.1:

"Due in large part to the complexity of operating the system, BC Hydro proposes in this application to maintain the current coordinated working relationships within BC Hydro as a means of optimizing system value. In particular, in order to allow the system to be optimized today and in the future, the Heritage Contract proposal needs to be flexible enough to ensure that a coordinated approach to meeting overall domestic demand can continue."

Is it BC Hydro's position that the introduction of the notion of a heritage contract will not impact on the current market structure and/or BC Hydro's current operation?



Question 12

- 12.0 Is it BC Hydro's position that keeping BC Hydro Generation in full control of the dispatch of all the provincial resources is the only way of ensuring that the least cost suppliers are most effectively utilized?
- 12.1 Is having BC Hydro Generation in control of dispatch over all province resources the only way to ensure economic dispatch?
- 12.2 If yes, does BC Hydro reject the notion that other market participants can provide additional efficiencies to the economic dispatch process?
- 12.3 If no, please provide other ways of ensuring economic dispatch without full management by BC Hydro Generation.

Question 13

Background Information:

Question 13.0 Reference: Proposal, Volume 1, PP. 17, Chapter 3.1

Question 13.1 Reference: BC Energy Plan, Solutions, PP. 30

Preamble:

"For example, Powerex advises on the development of market opportunities. Similarly, BC Hydro keeps Powerex closely apprised of the ever-changing system capabilities and opportunity costs of stored water."

- 13.0 Will this relationship between BC Hydro and Powerex disadvantage other IPPs in the Province, that is, put them in an uncompetitive position with respect to BC Hydro Generation/Powerex, and result in delaying the evolution of a competitive environment in BC?
- 13.1 If the answer to Question 13 is no, please explain why not.
- 13.2 If the answer to Question 13 is yes, would that be in contradiction to Policy Action #13 of the Energy Plan, particularly where it states "The intent will be to encourage the private sector to find a variety of innovative and economical ways to satisfy the growing demand for power."?



Question 14

Background Information:

Question 14.0 Reference: Proposal, Volume 1, PP. 19, Chapter 3.2.1

Preamble:

"To develop the quantity of energy for the Heritage Contract, BC Hydro has examined the historical average energy from the Heritage Resources and simulation studies of expected future generation from these resources."

- 14.0 Please confirm that the 49,000 GWh per year number referenced in BC Hydro's filing is financially irrelevant, that is, if this number were higher or lower there would be no impact on the actual revenue requirement, payment by the BC Hydro Distribution to BC Hydro Generation, or ultimately, the rates paid by the ratepayers.
- 14.1 If not, please explain in detail how a figure different than 49,000 GWh would have a material impact on the actual revenue requirement.

Question 15

Background Information:

Question 15.0 Reference: Proposal, Volume 1, PP. 25, Chapter 3.3.1

Preamble:

"Through Powerex, BC Hydro also has the option of hedging its costs or revenues, reducing its exposure to volatile commodity gas and power prices for domestic supply."

- 15.0 Please provide an example of hedging activity that BC Hydro has undertaken before and one which BC Hydro could potentially take in the future?



Question 16

Background Information:

- Question 16.0 Reference:** i) BC Energy Plan, Appendix 1, PP 42
ii) BC Energy Plan, Appendix 1, PP 43
iii) Proposal, Volume 1, PP. 33, Chapter 3.5

Preamble:

"As specified in the Energy Plan, the Heritage Contract is to have a minimum ten-year term. During this term, actual costs to supply the Heritage Electricity will vary from the expected costs, sometimes significantly. Fixing the Heritage Payment Obligation for ten years would require that all risks, both financial and operational, be reflected in the price in order to compensate BC Hydro for assuming such risks. As this would significantly increase the pricing, BC Hydro proposes instead to set its revenue requirement on the basis of the forecast Heritage Payment Obligation. To mitigate annual volatility of its revenue requirement, BC Hydro proposes that the Heritage Deferral Account replace the existing RSA. Thus BC Hydro's proposal is to allow for the lowest long-term cost to supply the Heritage Contract."

- 16.0 Has BC Hydro attempted to quantify the risks referred to in this paragraph, and calculate the corresponding impact on the price?
- 16.1 If yes, please provide any calculation and supporting documentation.
- 16.2 If no, how is it possible to assert that the risk is too high to be absorbed by BC Hydro?
- 16.3 As the risk does not disappear, is BC Hydro not simply placing the risk on the ratepayers?
- 16.4 Is BC Hydro certain that the Government is not interested in carrying this risk for a premium, or whether the ratepayer would be interested in avoiding this risk?
- 16.5 Similar to the approach adopted in Quebec, what is BC Hydro's best judgment regarding the premium required to fix the heritage revenue requirement (payment obligation), through:
- i. A premium
 - ii. A decrease in the guaranteed heritage supply



Question 17

Background Information:

Question 17.0 Reference: Proposal, Volume 2, PP. 3, Chapter 2

17.0 Please Reference 1st and 2nd paragraphs Page 3, Section 2 Volume 2:

"To assist in the development of the proposal for stepped rates, BC Hydro retained the services of Energy and Environmental Economics, Inc. (E3). The report prepared by E3 is discussed in more detail below and reproduced in its entirety at Tab A of this volume. Early in discussions with E3, it became apparent that a stepped rate proposal should adhere to some basic principles. Failure to adhere to these principles will, in BC Hydro's view, cause undesirable and potentially substantial cost shifting between customers. The principles are:

(1) The stepped rate should be a mandatory tariff. The principle is that new growth above a customer's historic consumption would be supplied at the "cost of new supply," rather than at existing embedded cost-based rates or a blend of old and new costs. At the same time, BC Hydro needs to carefully balance the objectives of providing the proper price signals with offering comparable terms to both new and existing customers who increase their consumption."

BC Hydro contends that failure to adhere to the listed principles will cause undesirable and potentially substantial cost shifting between customers; could BC Hydro give an example of how this undesirable and potentially substantial cost shifting could occur?

Question 18

18.0 Please Reference 2nd last paragraph Page 3, Section 2 Volume 2:

"Preserving the option of serving load at 1821 rates would also limit the extent of "retail competition for large BC Hydro customers" (Policy Action #1 4) because new supplies are unlikely to be cost-competitive when compared to BC Hydro's existing hydro generation. Finally, it might give industrial customers who are working with wholesale marketers the ability to purchase power at a low embedded cost-based price and resell it at higher market-based prices. This would increase rates to all non-participating customers of BC Hydro."

Why does BC Hydro suggest that the customer would have the right to re-sell power purchased from BC Hydro?



- 18.1 If the customer is restricted to the right to use only, and not the right to re-sell, would that remove BC Hydro's concern about the mandatory tariff and cost shifting? Please explain.

Question 19

Background Information:

Question 19.0 Reference: Proposal, Volume 2, PP. 3-6, Chapter 2

Question 19.1 Reference: Proposal, Volume 2, PP. 4, Chapter 2

- 19.0 Regarding Stepped Rates being margin neutral at all consumption levels: If enough customers were able to find alternate supply and in the process delay the need for BC Hydro to acquire new resources, would BC Hydro still expect their actions to be margin neutral?
- 19.1 How does BC Hydro propose to calculate "BC Hydro's risk adjusted value of saved energy" and, BC Hydro's incremental cost of acquiring new supply?
- 19.2 Would the requirement to keep BC Hydro margin neutral necessitate a much higher level of scrutiny, and regulatory burden, of BC Hydro's marginal cost and marketing operation?

Question 20

Background Information:

Question 20.0 Reference: Proposal, Volume 2, PP. 5, Chapter 2

Preamble:

"However, BC Hydro does not believe that the Energy Plan intended for Heritage Beneficiaries to be identified individually on a customer-specific basis, nor did it intend for rate designs to have the effect of assigning heritage value directly to individual customers."

- 20.0 Please identify specific language from the Energy Plan or the Terms of Reference which support BC Hydro's belief.



Question 21

Background Information:

Question 21.0 Reference: Proposal, Volume 2, PP. 5, Chapter 2

Preamble:

"If heritage value is assigned directly to a customer (based on historical usage, for example), it suggests a right of ownership."

- 21.0 Please justify this conclusion identifying specific language from the Energy Plan or the Terms of Reference.

Question 22

Background Information:

Question 22.0 Reference: Proposal, Volume 2, PP. 5, Chapter 2

Preamble:

"The designs ensure that no individual customers are made worse off by the action of another existing customer."

- 22.0 Does this statement hold true even in the case of ineffective response by BC Hydro Generation or Distribution to the action of the individual customer (for example BC Hydro's failure to delay the development of new resources or ineffective disposition of surplus power)?

Question 23

Background Information:

Question 23.0 Reference: Proposal, Volume 2, PP. 7, Chapter 3

Preamble:

"E3 was not asked to and did not present a single complete rate design that emerges as the obvious best choice. Each of the designs presented in the report is suited to one or more of the rate design objectives. The choice among the designs ultimately requires a ranking of the relative



importance of the stepped rate objectives, including the objectives in the Energy Plan."

23.0 Why is it that BC Hydro did not ask E3 to present a single complete rate design?

Question 24

Background Information:

Question 24.0 Reference: Proposal, Volume 2, PP. 8, Chapter 4.1

Preamble:

"The E3 report identifies some significant risks associated with the implementation of a stepped rate design. It groups these risks into three categories:

- (1) Risks arising from fluctuating markets;*
- (2) Risks arising from inaccurate setting of price signals; and*
- (3) Risks arising from providing customers with the ability to switch suppliers."*

24.0 What additional risk would stepped rate design impose on BC Hydro over and above the current exposure?

Question 25

Please Reference paragraph 1, Page 8, Section 4.1, Volume 2:

"The E3 report identifies some significant risks associated with the implementation of a stepped rate design. It groups these risks into three categories:

- (1) Risks arising from fluctuating markets;*
- (2) Risks arising from inaccurate setting of price signals; and*
- (3) Risks arising from providing customers with the ability to switch suppliers."*

25.0 Please explain how price signals are set and by whom and using what process?

25.1 Please explain whether these risks are symmetrical (can be positive or negative) or carry a clear bias (always disadvantage BC Hydro and the ratepayers)?



Question 26

26.0 Please Reference paragraph 1, Page 9, Section 4.1, Volume 2:

"The discussion of risk factors in the E3 report makes clear that a wide variety of mitigative measures are available to deal with risk, some through rate design and others through principles that govern access to those rates. Thus, provisions dealing with adjustments to CBLs may mitigate some sorts of risks, while provisions governing the rights of customers to demand supply from BC Hydro when they have chosen alternative supply sources may deal with others. This suggests that the choice of access principles is integrally linked with the choice of rate design. Until the design is known, it is not possible to determine appropriate access principles."

It could be contended that clear access principles are required to determine the appropriateness and effectiveness of a rate design, which puts us into a circular argument unless access principles and rate design are determined simultaneously. Does BC Hydro agree that the two should be designed simultaneously, if not, please explain how the rate design can be judged in the absence of access principles?

Question 27

27.0 Please Reference paragraph 4, Page 10, Section 4.2, Volume 2:

"The difficulties associated with new load illustrate an inherent tension that will be introduced by any stepped rate design that charges higher rates at the margin. Higher marginal rates will tend to discourage energy consumption, thus, discouraging energy intensive development. In this sense, economic development objectives may conflict with the promotion of conservation and the maintenance of low-cost energy for the load that is already here."

It is stated that the introduction of any rate design that charges higher rates at the margin will tend to discourage energy consumption and in turn energy intensive development.

Is it BC Hydro's position, as expressed in this statement, that economic activity demands the subsidisation of energy costs?

27.1 When, in BC Hydro's view, is it important to send the correct price signal to guide consumption?



- 27.2 Based on the above reference, is the Energy Plan policy objective of sending the correct price signal (Policy Action #21) in conflict with the economic welfare of the province?

Question 28

- 28.0 Which of the two mechanisms provide a clear, price signal – the shopping credit or the stepped rate? Why?
- 28.1 Given BC Hydro's recommendation, does BC Hydro believe that the language in the Energy Plan (Policy Action #14 and Term of Reference 4(b)) actually allows for deviation from stepped rate?

Question 29

- 29.0 Please Reference paragraph 3, Page 11, Section 4.3, Volume 2:

"The shopping credit allows BC Hydro to offer direct access under a retail tariff without undertaking a complete unbundling of retail rates. The shopping credit constitutes a "price to beat" for third party suppliers, or investment in demand-side management (DSM) or self-generation."

Doesn't the provision of access require an unbundling of the retail rates? Please explain your answer.

Question 30

- 30.0 Please Reference 1st sentence, paragraph 5, Page 11, Section 4.3, Volume 2:

"First, the shopping credit mechanism is more flexible than a two-part rate in that the terms of the credit can take into account a broad spectrum of policy preferences and can be modified to take into account unforeseen circumstances that require immediate action."

- 30.0 What mechanism will BC Hydro use to set the shopping credit?
- 30.1 How will the shopping credit take into account "unforeseen circumstances that require immediate action"?
- 30.2 Would BC Hydro seek regulatory approval before making any change to the value of the shopping credit?
- iii. If yes, why would it be faster than getting approval for change in the 2nd tier rate?



- iv. If not, why is that not tantamount to BC Hydro being given rate-setting authority. Please explain?

Question 31

BC Hydro states at page 12 of Volume 2, line 1 "A stepped rate without a shopping credit, for all intents and purposes, allows direct access only for that portion of load served at the Tier Two Rate".

- 31.0 In a stepped rate environment, is it possible to only offer a shopping credit after a customer has displaced all of its Tier 2?

Question 32

- 32.0 Please Reference paragraph 1, Page 14, Section 5, Volume 2:

*As was emphasized above, multiple forms of the stepped rate design can be successfully implemented. Some designs offer more flexibility for customers, while others provide simplicity and certainty but require complicated access rules. E3 concludes in its report that no single rate design emerges as the obvious best choice. The choice among the designs ultimately requires a ranking by stakeholders of the relative importance of the stepped rate objectives, including, in particular, the objectives in the Energy Plan. **(Emphasis Added).***

Given the clear finding by the consultants and the Terms of Reference specification of stepped rates (paragraph 4(b)) why is BC Hydro not proceeding with the presentation of a firm stepped rate design proposal?