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May 31, 2019

VIA ELECTRONIC MAIL

British Columbia Utilities Commission
6th Floor, 900 Howe Street
Vancouver, B.C. V6Z 2N3

Attention: Patrick Wruck, Commission Secretary and Manager, Regulatory Support

Dear Sirs/Mesdames:

Re: BC Hydro Electricity Purchase Agreement Renewals for Sechelt Creek Hydro, Brown Lake Hydro and Walden North Hydro ~ Project No. 1598969

We are counsel to the Commercial Energy Consumers Association of British Columbia (the "**CEC**"). Attached please find the CEC's second set of Information Requests with respect to the above-noted matter.

If you have any questions regarding the foregoing, please do not hesitate to contact the undersigned.

Yours truly,

OWEN BIRD LAW CORPORATION

Christopher P. Weafer

CPW/pmj
cc: CEC
cc: BC Hydro
cc: Registered Interveners

COMMERCIAL ENERGY CONSUMERS ASSOCIATION OF BRITISH COLUMBIA ("CEC")

INTERVENER INFORMATION REQUEST NO. 2

BC Hydro Electricity Purchase Agreement Renewals for Sechelt Creek Hydro, Brown Lake Hydro and Walden North Hydro Project No. 1598969

May 31, 2019

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24. Reference: https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/electricity-alternative-energy/electricity/bc-hydro-review/bch19-158-ipp_report_february_11_2019.pdf

24.1 Please confirm that the Zapped Report is included in the Evidentiary Record.

25. Reference: Zapped Report page 72

The only available solution to the financial impacts described comes when the EPAs associated with IPP projects generating Intermittent energy mature and BC Hydro has an opportunity to renew them. Energy has only one value and that is the market rate it can be traded at, the Mid-C rate. The financial issues described in this report will continue if Zapped: A Review of BC Hydro's Purchase of Power from Independent Power Producers | 73 BC Hydro adopts an EPA renewal strategy for IPP projects generating Intermittent energy at any price other than the existing Mid-C market rate.

25.1 Please comment on the above excerpt.

25.2 Please provide the Powerex (BC Hydro sales revenue) net average market sale price for sale of surplus power, excluding any freshet driven sales, and provide the top of range price and the bottom of range price for the same. Please provide confidentially if necessary.

26. Reference: Zapped Report pages 69 and pages 72 and 73

BC Hydro has no obligation to this investor and certainly no obligation to pay more than the power is worth to ensure the future viability of the investment. The current renewal strategy (that has been used on the first set of renewals) considers an IPP's cost of service, including rate of return. This approach will not deliver energy to ratepayers at its real market value. BC Hydro is a Commercial Crown corporation and should do nothing more or less than act in a commercial manner. Any offer of a renewal rate that is negotiated based on the IPPs cost of service and a rate of return, rather than the market value of the energy produced, is a non-commercial act; it is somewhat equivalent to a guarantee of future profit for the out of province investor who now owns the project. BC Hydro should establish one reasonable commercial proposition, define that proposition in

appropriate detail and present it as the only commercial offer BC Hydro will make to investors holding a maturing IPP generating Intermittent energy. The reasonable commercial proposal should acknowledge that if any Intermittent generation facility cannot make a profit being paid the full market value of the energy it produces, it is by definition not viable and should cease operations. The commercial proposal (Commercial Proposal) for the renewal of IPPs generating Intermittent energy should be along the following lines: The IPP energy is in the BC Hydro system, so transmission costs within BC are moot. BC Hydro should offer to buy the Firm energy at the appropriate Mid-C price for Firm energy (can consider a term price providing the term is no longer than the term of the EPA), and the Intermittent and non-Firm energy at the Mid-C spot price. Term of the EPA should be in the range of 5-10 years. All of this would need to consider how the resources would fit into BC Hydro long-term Resource Plan.

42) Recommendations

A. EPA Renewals

BC Hydro should offer the Commercial Proposal (or some variation thereto), as the only offer it will make to IPP investors. The Commercial Proposal should feature an offer to either: a. buy all energy at the appropriate Mid-C market rate, or b. have the investor trade its energy directly in the market, which is currently an option. Cost of shaping, firming and line losses are to the account of the investor. If the investor believes the project is not commercially viable, BC Hydro should offer to buy the assets for a small fraction of their original cost. If the project is not commercially viable and the asset sale offer is not acceptable to the investor, BC Hydro should allow the project to fail and the province should enforce remediation obligations

26.1 Please comment on the above recommendation and why BC Hydro is not following this line of reasoning.

26.2 If BC Hydro is taking into account the value of energy from these IPPs as a future resource in BC Hydro's long term resource planning, please provide BC Hydro's quantitative evaluation of the value of acquiring energy under renewal before it is needed for domestic customers.

27. Reference: Exhibit B-7, CEC 1.1.2

1.0 Reference: Exhibit B-1, page 5

- The levelized prices of $[redacted], $[redacted] and $[redacted] (all in 2017$) over the term of the Sechelt Creek, Brown Lake, and Walden North EPA renewals, respectively, compare favourably to BC Hydro's opportunity cost of $[redacted] $[redacted] and $[redacted] (all in 2017$), for each facility respectively;

1.1.2 Please explain whether the comparison to BC Hydro's opportunity costs is the only test that is appropriate.

RESPONSE:

BC Hydro's opportunity cost is not the only cost-effectiveness benchmark considered by BC Hydro. As provided in our Application, BC Hydro's opportunity cost was viewed as the upper benchmark of cost-effectiveness and was, at the time, considered to be our avoided cost. In evaluating the EPA price, BC Hydro also took into consideration the IPP's opportunity cost (i.e., based on the BC Border Sell Price) as a cost-effectiveness benchmark. In addition, BC Hydro considered EPA renewal prices against an estimate of the IPP's cost of service (including a rate of return).

This approach is consistent with the Commission's determination, as provided in the Alcan decision, where the Commission in its evaluation of whether the 2007 Alcan EPA was in the public interest agreed that the value of the 2007 Alcan EPA lies somewhere between BC Hydro's avoided cost and Alcan's opportunity cost (see page 107 of the Commission's decision accompanying Order E-3-08).

27.1 Please confirm, or otherwise explain, that the Planning View of the Load Resource Balance drives the need for resource acquisitions such as IPP contract renewals.

27.2 Please confirm that for BC Hydro a deficit in the middle gap scenario of the Load Resource Balance creates the requirement to add energy and/or capacity depending on the circumstance.

27.3 Please confirm, or otherwise explain, that BC Hydro interprets the self-sufficiency requirement in the Clean Energy Act to mean that it must acquire clean energy from within BC, at any point at which the Planning Load Resource Balance – middle - registers a deficit.

27.4 Please confirm, or otherwise explain, that a modification to the self-sufficiency requirement (such as the use of self-sufficiency averaging over a period of time or a reduction in the % of self-sufficiency) could significantly diminish the economic value of

the IPP energy to BC Hydro as a consequence of changes in timing of the need for energy supply.

28. Reference: Exhibit B-7, CEC 1.1.1 and page 1.3.1 and Exhibit B-1, page 7

1.1.1 Please explain how the levelized prices over the term of each facility compares to their alternative opportunities.

RESPONSE:

Each IPP's alternative opportunity is reflected in its opportunity cost. For each of the facilities, the IPP's opportunity cost is lower than the levelized price over the term of its respective EPA.

Please also refer to BC Hydro's response to BCUC CONF IR 1.2.1.

1.3.1 Please explain what opportunity any of these EPA renewals would have in the alternative to renewing with BC Hydro that would enable them to receive $85/MWh.

RESPONSE:

Estimates for each of the IPP's opportunity costs is as provided on pages 12, 20 and 31 the Application. BC Hydro is not aware of an alternative that would allow the IPPs to receive $85/MWh. The Application does not suggest that there is such an alternative.

- IPP's Opportunity Cost – will generally reflect market prices; BC Hydro is using, as a proxy, the Mid-C electricity spot market value less costs for losses and wheeling to Mid-C (referred to as the BC Border sell price[6]);

28.1 Please comment on whether or not BC Hydro considers the potential for the self-sufficiency requirement in the Clean Energy Act to be reversed and/or modified to some extent as a possible scenario when it is renewing its IPP agreements.

28.1.1 If yes, please explain how BC Hydro factors this consideration into its planning.

28.1.2 If not, please explain why not.

28.2 Do all the IPPs have a reasonable opportunity to sell their energy into the market?

28.2.1 If no, please elaborate on the restrictions or other factors that reduce or eliminate the individual IPP's opportunities to sell into the market.

28.3 In addition to the higher price, what if any benefits do the IPPs receive by selling to BC Hydro vis-a-vis an alternative?

28.4 What, if any, risks do the IPPs experience by selling to BC Hydro vis-a-vis an alternative? Please elaborate and quantify any risks where possible.

28.5 What, if any risk, do the IPPs experience if terminated and not renewed vs. selling to BC Hydro under the renewal. Please elaborate and quantify any risk where possible

29. Reference: Exhibit B-7, CEC 1.2.5

1.2.5 Does BC Hydro consider that it is in a favourable negotiating position with each of the IPPs? Please explain why or why not for each. Please provide the information confidentially if necessary.

RESPONSE:

Yes. With respect to IPPs on the integrated system, including the IPPs whose EPA renewals are the subject of this Application, in the current market environment (including the energy surplus) BC Hydro considers it has generally been in a favourable negotiating position. This has been the case particularly if an IPP is seeking a long-term agreement and does not wish to undertake the risks associated with selling electricity to someone else. However, BC Hydro notes that each bilateral negotiation is unique and that there can be additional factors which may influence the dynamics of the negotiations, such as relationships with First Nations and potential First Nations impacts, BC Hydro system considerations, and coordination of operations and water management issues.

29.1 Please identify the alternative customers that BC Hydro believes would be available to the IPPs.

29.2 Please elaborate on the risks that an IPP would face selling electricity to someone else.

30. Reference: Exhibit B-7, CEC 1.3.2 and CEC 1.10.3

a) Lowest cost

In the 2013 IRP, all of the EPAs that had expiry dates in fiscal 2014 through to fiscal 2033 were assumed to be agreements eligible for renewal. As existing contracts have been expiring, each IPP project has been individually assessed. If BC Hydro and the IPP could reach agreement on a contract that was cost-effective in consideration of our long term system needs, BC Energy Objectives in the *Clean Energy Act*, as well as other project attributes (described further below), then the EPA may have been renewed provided that the renewal costs could be managed within the applicable financial framework.

BC Hydro expectations have been that the EPA renewal portfolio as a whole would likely have the lowest cost relative to other potential clean or renewable greenfield supply options. The EPAs within the EPA renewal portfolio did not expire/terminate at the same time and it was not possible to identify, prior to each of the negotiations being completed, which EPAs would have had the lowest cost. For example, an existing EPA contract price was not expected to factor into an IPP's cost of service going forward. BC Hydro has not developed a process to identify the lowest cost contracts within the EPA renewal portfolio prior to entering into negotiations with specific IPP projects;

1.10.3 Please provide the range of industry practice for capital and O&M costs.

RESPONSE:

BC Hydro does not have a specific 'range of overall industry practice' for O&M costs and capital costs for IPP facilities. In conducting our reviews, we reference historical cost data received from the IPP, data received from other IPPs, benchmark studies on utilities' operations, reports from utilities' management consultants as well as any other publicly available information.

BC Hydro then reviews the forecasted capital and O&M costs submitted by the IPP for its facility and assesses the overall reasonableness of these assumptions given the above and the project-related risks, such as the age, condition, location, access, and other risks associated with the facility. Based on the information available to us, an assessment is ultimately made on whether the IPP's forecasted capital and O&M costs fall within acceptable industry practice.

30.1 Does BC Hydro have a maximum supply that it is willing to renew from its IPP renewal portfolio?

30.1.1 If yes, please provide.

30.1.2 If no, please explain why not.

30.2 Is the implication in the above two paragraphs that BC Hydro has not evaluated individual IPPs in the renewable portfolio against each other in order to maximize cost effectiveness?

30.2.1 If yes, when BC Hydro is renewing EPA's with a later renewal date does it incorporate the supply provided from earlier renewals so that it does not overcommit to supply? Please explain

30.3 Please confirm, or otherwise explain, that BC Hydro has the expectation that the EPA renewal portfolio as a whole would be cost effective relative to other potential clean or renewable greenfield supply options based on its understanding of and ability to estimate the costs of greenfield operations and the renewable portfolio supply operations. And please supply the quantitative evidence to support the conclusion.

30.4 Why is BC Hydro unable to make educated estimates as to the likely renewal prices of an individual IPP based on the cost and terms of the Utility's past agreements with the IPP, BC Hydro's understanding of interest rates, estimated fixed and variable costs, and other considerations. Please provide specifics as to the types of information that BC Hydro would be unable to make an estimate of and explain why an estimate is not possible.

31. Reference: Exhibit B-7, CEC 1.3.2

b) Greatest certainty of continued operation

As part of the EPA renewal process, BC Hydro requested that IPPs have a third-party engineering consultant prepare a condition assessment for the facility. BC Hydro reviewed the condition assessment and in some cases asked a second third-party consultant to review the condition assessment. In general, BC Hydro sought to confirm that the IPP facility was in good condition and had a good likelihood of continued operation based on the current condition, proposed facility plans, and term of the renewed EPA. BC Hydro did not compare each facility's assessment to other potential EPA renewals.

Sechelt Creek, Brown Lake and Walden North submitted condition assessments for their respective facilities. As stated in the Filing (sections 4.7(d), 5.7(d) and 6.7(d), respectively), all facilities were assessed to be in "satisfactory" or "good" condition with a good likelihood of continued operation over the term of each project's renewed EPA; and

31.1 'Greatest certainty of continued operation' implies to the CEC that the IPPs are evaluated against each other. Please comment.

31.2 Please provide any and all thresholds that the utility utilizes in accepting condition as adequate for renewal.

32. Reference: Exhibit B-7, CEC 1.16.4

1.16.4 Please provide quantitative context for size of risks faced by the IPP including:

a) Water rental and property tax increases
b) Equipment failure
c) Diversion restrictions
d) Reduced water flows

RESPONSE:

BC Hydro does not complete a risk assessment for all of the risks, and a quantification of those risks, that may arise for an IPP during the term of its EPA with BC Hydro. As discussed in the Application, risks associated with the IPP facility are borne by the IPP. If a risk materializes, then this risk is managed and assumed by the IPP.

Realization of a risk borne by the IPP does not affect the energy price included in the EPA. For these EPA renewals, if an IPP is unable to deliver energy as specified in the EPA, due to a risk materializing, BC Hydro is not obligated to pay the IPP.

32.1 Are there any penalties in favour of BC Hydro if the IPP is not able to deliver energy as specified? Please explain.

32.2 Are there any penalties in favour of the IPPs if BC Hydro is unable to accept the energy as specified in the EPA? Please explain.

33. Reference: Exhibit B-7, CEC 1.17.5

(d) Technical

A consulting firm retained by the Brown Lake IPP conducted a condition assessment of the Brown Lake facility and concluded that "all mechanical equipment that have been inspected and necessary for the operation of the power plant are in very good condition and all civil equipment that have been inspected and necessary for the operation of the power plant are in apparent good condition." The consultant's report further states that "proper operation of power plant can be assured for [redacted]". The Brown Lake IPP also provided a Long Term Operating Reliability Report that concluded "the Brown Lake Generating Station has a proven historical record of reliable operation which can be maintained through adherence to the preventive maintenance program, proactive repair to damaged mechanical equipment, replacement and refurbishment of aging electrical components, and modernization of the control and protection systems. If these conditions are maintained, similar levels of reliability can be achievable for an additional 40 years."

1.17.5 What party conducted the Long Term Operating Reliability Report?

RESPONSE:

The Brown Lake IPP owner, Innergex Renewable Energy Inc., prepared the Long Term Reliability Report. As this report was prepared by the IPP, it is not considered an independent third-party assessment. A copy of this report is attached on a confidential basis as it contains commercially sensitive material to the IPP.

33.1 The Brown Lake Long Term Reliability Report is not an independent third party assessment. How does BC Hydro factor this report into its decision-making? Does it weight it differently than an independent third party report? Please explain.

33.2 Please highlight any differences in what the Condition Assessment provided by the independent third party consultant determined and the Long Term Operating Reliability Report provided by Innergex. Please include significant differences in what they examined and differences in what they concluded, if any.

33.2.1 If there are any differences between the reports, did BC Hydro consider purchasing or requiring the IPP to provide an Independent Third Party Long Term Operating Reliability Report? Please explain.

34. Reference: Exhibit B-5, BCUC 1.3.4.1 and BCUC 1.5.1

RESPONSE:

BC Hydro has no records in relation to the original construction of the Sechelt Creek facility. The Sechelt Creek IPP has advised BC Hydro of the following:

- The Sechelt Creek facility was specifically designed, with input from shíshálh Nation, to minimize any negative environmental impacts and has received international recognition for sustainable development;

- If the facility were to be decommissioned, it is not expected to improve any potential historical negative environmental impacts and given that decommissioning would have a negative impact on the spawning channel, decommissioning is expected to have a negative environmental impact; and

- Any negative environmental impacts that resulted from the original construction of the facility were minimal and there are no environmental impacts from the original construction of the facility that have the potential to worsen with continued operation of the facility.

1.5.1 Does BC Hydro consider that salmon migration could be negatively affected if the Walden North EPA is not renewed, or that there could be other negative environmental impacts? Please explain.

RESPONSE:

As provided at the end of section 6.2 of the Application, if the Walden North EPA renewal is not accepted, the original EPA and the Forbearance Agreement will remain in effect in accordance with their respective terms. If there is no EPA with BC Hydro, the Diversion Agreement terminates. Without an EPA and Diversion Agreement, there are uncertainties regarding how the parties will manage water flows in relation to the diversion tunnel.

Water needs to be fed from Cayoosh Creek through the IPP's plant (which includes its diversion structure) to reach BC Hydro's Cayoosh Diversion Tunnel. The diversion structure is essentially the Walden North IPP's tailrace structure as shown on page 1 of Appendix G of the Application. This tailrace structure feeds into and connects to BC Hydro's Cayoosh Diversion Tunnel. Pursuant to the Diversion Agreement, the IPP built and maintains its diversion structure connecting to the tunnel. The Cayoosh Diversion Tunnel is owned and operated by BC Hydro and allows for the diversion of water from the Walden North IPP's tailrace to Seton Lake which is part of BC Hydro's Bridge River system.

If the diversion of water from Cayoosh Creek to Seton Lake is discontinued, salmon migration will be negatively affected. BC Hydro has conducted an analysis that showed the tunnel being opened (which allows water from the Cayoosh Creek to flow into Seton Lake) is critical in maintaining the dilution ratios that support salmon migration. Recent BC Hydro studies have shown that not maintaining the dilution ratio during the salmon migration period leads to a change in salmon migratory behaviour and a failure of salmon to successfully migrate to the Seton River and spawning areas.

The continuation of the Diversion Agreement enables BC Hydro to avoid the cost of an alternative diversion structure (in order to feed water into BC Hydro's diversion tunnel) if such a structure is required sometime in the future. Given the existing diversion structure is already in place and owned by the IPP, BC Hydro has not carried out an assessment of available options for building an alternative diversion structure at this time. We have also not considered the alternative of negotiating a new diversion agreement in the absence of an EPA and we do not have an estimate of what such an agreement might cost.

34.1 Is it fair to say that the First Nations IPP owners have their own significant interest in retaining the environmental benefits arising from the various IPP projects which have environmental considerations? Please explain why or why not.

34.1.1 If yes, would BC Hydro agree that the environmental benefits of continuing the various facilities can be expected to be of value to the First Nations IPP owners? Please explain why or why not.