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May 1, 2018

VIA ELECTRONIC MAIL

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

Dear Sirs/Mesdames:

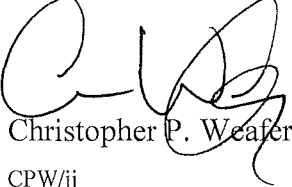
**Re: British Columbia Hydro and Power Authority Electricity Purchase Agreement
Extension Applications for Armstrong Wood Waste Co-Generation and NWE
Williams Lake Wood Waste Facilities**

We are counsel to the Commercial Energy Consumers Association of British Columbia (the "CEC"). Attached please find the CEC's first 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/jj
cc: CEC
cc: BC Hydro
cc: Registered Interveners

**COMMERCIAL ENERGY CONSUMERS ASSOCIATION
OF BRITISH COLUMBIA**

INFORMATION REQUEST NO. 1

**British Columbia Hydro and Power Authority Electricity Purchase Agreement
Extension Applications for Armstrong Wood Waste Co-Generation and NWE
Williams Lake Wood Waste Facilities**

May 1, 2018

1. Reference: Exhibit B-1, Page 3 & Page 4

- 23 • Pursuant to the Extension Agreements, BC Hydro is buying essentially the
24 same electricity product from the same generating facilities. The EPAs are
25 amended with lower prices (with no increased purchase obligations on
26 BC Hydro) during the extension period. In addition, there are enhancements to
1 certain terms to the benefit of BC Hydro (e.g., BC Hydro turn-down rights,
2 simplified energy pricing structures). Turn-down rights enable BC Hydro to
3 reduce its energy purchase obligations under an EPA; and the turn-down price
4 is the cost to BC Hydro for having the generator's capacity available to supply
5 energy if and when requested by BC Hydro during a turn-down period;

- 1.1 Please provide the % by which the energy prices are lower than before for these EPAs and the weighted average percentage lower where the prices may vary over time and for different amounts, over the period of the EPA extension.
- 1.2 Please provide the % by which the average volumes are expected to be lower than before for these EPAs, over the period of the extension.

2. Reference: Exhibit B-1, Page 4

- 6 • BC Hydro is in the process of developing a biomass energy strategy for
7 biomass facilities with expiring EPAs. The Armstrong Co-Gen Facility and NWE
8 Williams Lake Facility have historically provided reliable and steady generation
9 pursuant to their respective EPAs. The purpose of the Extension Agreements is
10 to enable these projects to continue operations and to preserve for BC Hydro
11 the option to enter into a longer-term cost-effective EPA to serve future needs
12 and avoid less cost-effective alternatives. In the absence of the Extension
13 Agreements, there is a risk these facilities will no longer be available in the
14 future; and

- 2.1 Please provide the expected useful life for each of these facilities from the date of the extensions requested before substantial rebuild of the facilities may be required.
- 2.2 Please provide the anticipated period of time that BC Hydro will have its existing surplus and the period of time that BC Hydro will have a surplus caused by the completion of the Site C project under BC Hydro's LRB for the 2017-2019 RRA.

3. Reference: Exhibit B-1, Page 4

- 15 • These short-term extensions are a bridging mechanism and during the
16 extension period the Biomass Facilities continue to provide energy and capacity
17 from clean or renewable resources, as well as contribute to the reliability of our
18 system.

- 3.1 Please confirm that BC Hydro would expect to lose money on a cash flow basis during the extension period and please quantify the expected loss if a market value for the energy and capacity is assumed to be \$35/MWh.

4. Reference: Exhibit B-1, Page 6

5 As noted above, unlike hydroelectric facilities, biomass generating facilities must
6 source and contract for fuel supply. To ensure we are providing energy from clean or
7 renewable resources at the best value to our customers, BC Hydro, in consultation
8 with government, is developing a longer term energy strategy for biomass that will
9 take into consideration fuel supply availability and cost-effectiveness. To aid in the
10 development of this strategy, a biomass fibre study is being undertaken on behalf of
11 BC Hydro to assess the supply and demand of forest based biomass by type (e.g.,
12 hog fuel, wood chips, roadside logging residues) and the availability of such biomass
13 for electricity generation on a regional basis within the province. The study is
14 expected to be completed in 2018 and will help inform forecasts for electricity
15 generation that can be supported by available cost-effective forest based biomass
16 by type.

- 4.1 Please discuss whether or not BC Hydro, in developing information to inform the longer-term energy strategy for biomass, will be examining other potential values for the biomass other than being used for power supply to BC Hydro.
- 4.2 Does BC Hydro expect to consult on the development of this information with ratepayer groups that would have an interest in the strategy and the potential for over supply losses? Please explain.

5. Reference: Exhibit B-1, Page 6 & 7

25 BC Hydro has been renewing contracts with hydro IPPs at prices lower than the
26 prices under the original contracts, recognizing that those producers with existing
27 projects would have likely recovered most of their initial capital costs over their
1 original contract terms. These long-term hydro EPA renewals are being achieved at
2 cost-effective energy prices. Similarly, BC Hydro expects that longer-term EPA
3 renewals can potentially be achieved with existing biomass projects but, as
4 mentioned above, BC Hydro is in the process of conducting a biomass fibre study to
5 inform our longer term outlook for these types of projects.

- 5.1 In general, should the sentence “These long-term hydro EPA renewals are being achieved at cost-effective energy prices.” be interpreted as expecting no losses on sale of the surplus to the Mid C electricity markets? Please explain.
- 5.2 In general, should the cost-effectiveness be interpreted as being based on BC Hydro’s/ABB forecast of market prices or some other assumption and if another assumption please provide the assumption?

6. Reference: Exhibit B-1, Page 9

1 Preserving the option to enter into longer-term EPAs with these Biomass Facilities
2 was considered within the broader context of section 71(2.21) of the *UCA* and as set
3 forth in section 7 below, BC Hydro believes that the Extension Agreements support
4 those criteria.

6.1 Would it be logical to say that in bridging, BC Hydro is not primarily preserving an option to enter into longer-term EPAs but is planning to make a better decision about which biomass facilities to enter into longer term EPA's and at what prices, flexibility and reliability of supply than if BC Hydro entered into a set of biomass facility EPA's for the long term before it has developed a more comprehensive and robust information base and decision framework.

6.2 Would the appropriate test of this application be a more cost-effective biomass supply for the future than decisions made without that comprehensive information?

6.3 Please discuss, potentially in quantitative terms, the net benefits of the bridging decision as opposed to the type of decision that would be a likely alternative with the greater uncertainty related to a poorer base of information.

6.4 Can the benefits of an improved decision on these projects be demonstrated to outweigh the costs of additional losses on acquiring biomass energy which will be surplus for the period?

6.4.1 If so, please show how this is demonstrated and do so with quantitative estimates.

6.5 Please confirm that bridging to a better decision is beneficial to the biomass facility owners versus some of the potential alternatives.

6.5.1 If so, did BC Hydro ask the owner's of those facilities to invest in the bridging for their benefit or was the only consideration having BC Hydro customers invest in the bridging decision for their potential benefits?

7. Reference: Exhibit B-1, Page 19 & 20

6 However, if compared to the pricing benchmarks applicable when there is a forecast
7 need for energy supply (i.e., Greenfield IPPs and DSM and EPA Renewals
8 Reference Price), the energy prices under the Extension Agreements would be
9 cost-effective (assuming BC Hydro can achieve pricing at that time that is similar to
10 what it has achieved today and all else being equal). Accordingly, BC Hydro believes
11 that preserving the option to enter into longer-term EPAs with these facilities in the

- 1 near future, when a biomass energy strategy is developed, enables BC Hydro to
- 2 mitigate the risk of exposure to higher cost resource options in the future. BC Hydro
- 3 believes these Extension Agreements align to the key principle of reducing
- 4 near-term costs while maintaining cost-effective options for long-term need, as set
- 5 out in Recommended Action 4 of the approved IRP.

7.1 BC Hydro's characterization of its longer-term benchmarks include Greenfield energy \$104/MWh and BC Hydro's DSM and EPA renewals at \$89/MWh. Would BC Hydro's bridging decision change if the future price for energy was shown to be substantially lower than these benchmarks? Please explain.

7.1.1 At what price for future energy would BC Hydro say that bridging would not be cost-effective?

7.2 Given that one of the arguments for the biomass facilities is that the capacity capabilities of these facilities can be valuable to BC Hydro, why does BC Hydro not use a future cost for capacity as one of the benchmarks?

7.2.1 If BC Hydro agrees that capacity is an important value in the decision making, please provide the capacity benchmarks for the decision as well, preferably in \$/kW-year and with a translation to \$/MWh equivalent approximation.

8. Reference: Exhibit B-1, Page 20

11 *Potential Shut Down of the Generator*

- 12 Absent the Extension Agreement, it is BC Hydro's understanding that Tolko would
- 13 likely not immediately shut down the co-generation facility completely because
- 14 steam is required for the adjacent mill site. However, Tolko has indicated they would
- 15 operate differently without an Extension Agreement and would investigate lower cost
- 16 alternatives to produce their steam requirements. In addition, Tolko may have to
- 17 deal with a wood waste disposal problem from its mill operations.

8.1 Did BC Hydro investigate this Tolko alternative to determine at what price Tolko would provide an option for future opportunity to contract for biomass supply?

8.1.1 If so can BC Hydro explain what its analysis of this as an option concluded and support that with the analysis.

9. Reference: Exhibit B-1, Page 21

15 *Potential Shut Down of the Generator*

16 BC Hydro believes that absent the Extension Agreement, the NWE Williams Lake
17 Facility will likely shut down because the sole purpose of this facility is to generate
18 electricity for sale and the cost of service for this facility is estimated to be higher
19 than the IPP's opportunity cost during the extension period. Moreover, the NWE
20 Williams Lake Facility was originally built to displace beehive burners which were
21 being used by local sawmills in the region and causing air quality issues. If the NWE
22 Williams Lake Facility were to be shut down, it is BC Hydro's understanding there
23 would be immediate wood waste disposal issues in this particular region of the
24 province.

9.1 Who is it that BC Hydro understands would bear the consequences of a wood waste disposal issue in this region?

9.2 How did/does BC Hydro assess the solution to the wood waste issue and if assessed please provide BC Hydro's quantitative assessment of the resolution of the wood waste issue.

10. Reference: Exhibit B-1, Page 23

1 Section 71(2.21) of the *UCA* first requires the BCUC to consider the interests of
2 persons in British Columbia who receive or may receive service from BC Hydro in
3 the future. Second, the BCUC must consider factors contained in the *Clean Energy*
4 *Act*, including (a) British Columbia's energy objectives as set out in section 2 of the
5 *Clean Energy Act*²²; (b) an applicable Government-approved Integrated Resource
6 Plan (IRP); and (c) the extent to which an EPA is consistent with the 93 per cent
7 target for clean or renewable electricity generation.

10.1 Please describe the trade-offs in the bridging decision with respect to these factors the Commission is to assess and provide the appropriate quantitative tradeoff values BC Hydro recommends the Commission use for this bridging decision.

11. Reference: Exhibit B-1, Page 23

10 BC Hydro from clean or renewable resources. The Extension Agreements provide
11 BC Hydro with certainty that these resources will remain as long-term options for
12 BC Hydro until such time as BC Hydro is able to decide on a long-term contract
13 based on results of the biomass fibre study underway and the biomass energy
14 strategy currently under development.

11.1 Did BC Hydro consider any other methods of obtaining long-term options for the biomass energy facilities other than bridging and acquiring the power supply in the short term?

11.1.1 If so, please explain what options were examined and provide the analysis BC Hydro used to exclude them from consideration and instead adopt energy purchase as the bridging option.

12. Reference: Exhibit B-1, Page 25

(f) the price and availability of any other form of energy that could be used instead of the energy referred to in paragraph (d)	Please see <u>Table 5</u> , above for referenced price benchmarks in relation to both Extension Agreements. As noted previously, BC Hydro is in a supply surplus during the extension period and the purpose of these Extension Agreements is not to fulfill need at this time, but to preserve optionality of potentially cost-effective resources when the biomass energy strategy is developed.
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12.1 Did BC Hydro consider the alternative future option of additional DSM as was done under the Site C inquiry alternative analysis to demonstrate or did BC Hydro restrict its analysis of DSM to the \$89 price benchmark?

12.2 Is the \$89 price benchmark an average cost of additional DSM or is it more typical of the marginal cost of DSM?

12.2.1 Please back up the answer with quantitative evidence?

12.3 Did BC Hydro consider the benchmark of a price for acquiring an option on power supply in the future and if so has it presented an opportunity to these IPP owners and the private sector market to provide bids on optionality of supply in the future?

12.3.1 If not, why has BC Hydro not explored future supply optionality as a commercial mechanism?

12.3.2 Has BC Hydro explored the integrated energy and capacity planning benefits of options on future supply as opposed to over acquisition and losses on disposal of surplus as a means of owning options for future supply?

13. Reference: Exhibit B-1, Appendix I, Page 1 of 3

6 The combined Independent Power Producer (IPP) supply and targeted DSM results
7 in BC Hydro having an adequate energy supply until F2028 and adequate capacity
8 supply until F2019, as shown in section 4.2.6. BC Hydro is undertaking time-critical
9 actions over the next few months to prudently manage the costs of the energy
10 resources that it has acquired, committed to or planned to target over the next
11 five years. These actions include negotiating agreements to defer commercial
12 operation date (COD), downsize or terminate pre-COD EPAs. Based on the EPA
13 actions, BC Hydro expects to achieve an energy supply reduction of contracted
14 energy by F2021 of roughly 1,800 GWh/year, translating into a reduction in
15 attrition-adjusted forecasted firm energy supply of about 160 GWh/year by F2021.

- 13.1 In assessing the most recent IRP does BC Hydro acknowledge that the Commission must also consider any and all evidence that it views as relevant in interpreting the weight to be given to the most recent IRP?