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Utilities Commission

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July 19, 2018

Sent via eFile

BC HYDRO ELECTRICITY PURCHASE AGREEMENT EXTENSION APPLICATIONS EXHIBIT A-7
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Mr. Fred James
Chief Regulatory Officer
Regulatory & Rates Group
British Columbia Hydro and Power Authority
16th Floor – 333 Dunsmuir Street
Vancouver, BC V6B 5R3
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**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 –
Panel Information Request No. 1**

Dear Mr. James:

Further to British Columbia Utilities Commission Order G-123-18, amending the regulatory timetable with respect to the above-noted application, enclosed please find BCUC Panel Information Request No. 1. In accordance with the regulatory timetable, please file your responses on or before Monday, July 30, 2018.

Sincerely,

Original signed by

Patrick Wruck
Commission Secretary

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Enclosure



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

PANEL INFORMATION REQUEST NO. 1 TO BC HYDRO

- 1.0 Reference: RATEPAYER IMPACT**
Exhibit B-1, Application, Section 6.1, p. 19; Exhibit B-3, BCUC IR 12.1;
Exhibit B-5, Confidential BCUC IR 2.2.1

In the Application, British Columbia Hydro and Power Authority (BC Hydro) states that “...the energy purchased under the Extension Agreements is not by itself cost effective over the extension periods, particularly because BC Hydro does not need the energy during these short-term extensions...”

BC Hydro provided the potential impact on ratepayers from the Tolko Armstrong and NWE Williams Lake electricity purchase agreement (EPA) extensions in response to British Columbia Utilities Commission (BCUC) information requests (IRs).

- 1.1 Please confirm, or otherwise explain, that the nominal net extension cost (PV \$2017) to ratepayers on each of the EPA extensions as provided in response to Confidential BCUC IR 2.2.1 is the total impact to ratepayers from the respective EPA extensions.
- 1.2 Please provide the ratepayer impact in terms of percentage increase to rates, all else being equal, from: i) the NWE Williams Lake EPA extension; ii) Tolko Armstrong EPA extension; and iii) both EPA extensions combined.
- 1.3 Please discuss and quantify the EPA extensions’ energy price required in order for the cost of the EPA extensions to have a net zero impact on BC Hydro’s revenue requirement, and therefore a net zero impact to ratepayers. Using the inputs used in response to Confidential BCUC IR 2.2.1, please calculate the energy price under the following scenarios: i) all deemed turn-down energy is priced at \$0/MWh; and ii) all deemed turn-down energy is priced at the energy price. Please explain and justify all assumptions.
 - 1.3.1 Please provide the above calculation in an excel spreadsheet, and submit it on a confidential basis if necessary.
- 1.4 Please discuss whether BC Hydro considers it possible to enter into an EPA extension with either Armstrong Power or Tolko Industries Ltd. (Tolko) at the energy prices provided in response to the IR above.
- 1.5 Please compare the impact to BC Hydro’s consolidated net revenue, and therefore ratepayer impact, of: i) the EPA extensions priced at the Mid-C market price; and ii) Powerex Corp. purchases of the same volume of energy as the EPA Extensions from the Tolko and Armstrong Power at the Mid-C market price.

2.0 Reference: OPTION VALUE
Exhibit B-1, pp. 19–20; Exhibit B-5, Confidential BCUC IR 2.2.2;
BC Hydro Waneta 2017 Transaction Application, Exhibit B-1, Appendix N, p. 27;
Exhibit B-18, BCUC IR 92.3

BC Hydro states in its Application that “...preserving the option to enter into longer-term EPAs with these facilities in the near future, when a biomass energy strategy is developed, enables BC Hydro to mitigate the risk of exposure to higher cost resource options in the future.”

In response to Confidential BCUC IR 2.2.2, BC Hydro “...provides BC Hydro’s Opportunity Cost for a 10-Year EPA renewal period and a 20-Year EPA renewal period with the assumption that the renewals are designed to recover the cost of each short-term extension. BC Hydro also notes the values shown below are calculated using BC Hydro’s long-run marginal cost for energy and capacity.”

In the BC Hydro Waneta 2017 Transaction Application (Waneta Application), the option to extend the lease was valued as a 10-year European call option.

In response to BCUC IR 92.3 in the Waneta Application, BC Hydro stated that the Black-Scholes model is “...the global standard for option pricing and is relatively easy to build and update given the formulaic structure...”

- 2.1 Please elaborate on and provide the calculation, inputs and assumptions used in BC Hydro’s calculation of BC Hydro’s opportunity cost for a 10-year EPA renewal period and a 20-Year EPA renewal period as provided in response to Confidential BCUC IR 2.2.2.
- 2.2 For a 10-year and 20-year EPA renewal with Armstrong Power and Tolko, respectively, please provide the unit energy price adder (\$/MWh) to the EPA renewal energy price that would be required in order to recover the cost of the option for each EPA short-term extension from the hypothetical EPA renewal. Please use the same assumptions on the hypothetical EPA renewal as those provided in response to Confidential BCUC IR 2.2.2.
- 2.3 Please discuss in detail whether, and if so how, the Black-Scholes model is appropriate to determine the EPA renewal price necessary to recover the option premium (i.e. the cost of the EPA extension), given the evidence already submitted and the calculations, inputs and assumptions provided in IR 2.1 above.
 - 2.3.1 Please calculate the renewal price associated with the option to extend each of the Tolko and Armstrong EPAs assuming: i) a 10-year EPA; and ii) a 20-year EPA. Please state and explain any additional assumptions used in addition to those stated in response to IR 2.3 above.
 - 2.3.2 Please discuss and interpret any difference between the EPA renewal price calculated using the Black-Scholes model, and BC Hydro’s opportunity cost after account for the cost of the option as provided in response to Confidential BCUC IR 2.2.2.

3.0 Reference: PUBLIC INTEREST
Utilities Commission Act (UCA), Section 71; Exhibit B-3, BCUC IR 1.0, 10.2

Section 71 of the UCA states under subsection 2.21 that “ In determining under subsection (2) whether an energy supply contract filed by the authority is in the public interest, the commission, in addition to considering the interests of persons in British Columbia who receive or may receive service from the authority, must consider [factors a) through g)].”

BC Hydro provided its analysis of whether, and how, the EPA extensions support each of British Columbia's energy objectives. In response to BCUC IR 10.2, BC Hydro explains the potential impact and alternatives to the Tolko and Armstrong Power if the EPA extensions are not executed.

BC Hydro also states in response to BCUC IR 10.2 that "In terms of selling power to another party (other than BC Hydro), Tolko [and Armstrong Power believe] it is unlikely [they] would pursue this option as it has determined it is not cost-effective to do so given current market price forecasts."

- 3.1 Please elaborate on all options available to Armstrong Power and Tolko in the short term and in the long term, respectively, to sell to another party, including options such as entering into an energy sales agreement with another party and selling the energy to Alberta or Mid-C. In response to this IR, please consult with Armstrong Power and Tolko if necessary.
 - 3.1.1 Please explain any obstacles for Armstrong Power and Tolko to pursue the options mentioned above, such as market access, access to the transmission system or a lack of a willing buyer for a supply contract.
- 3.2 With reference to the anticipated ratepayer impact from the EPA extensions and the potential impact if BC Hydro does not enter into the EPA extensions, please elaborate on the pros and cons of the EPA extensions, further discuss whether the EPA extensions are in the public interest and provide the criteria and respective weighting on each criteria against which BC Hydro evaluates public interest.
 - 3.2.1 Please discuss, in BC Hydro's view, to what extent should any risks associated with an Independent Power Producer's investment, including those related to cash flow uncertainty and changing market environment, be transferred to BC Hydro ratepayers.