

REQUESTOR NAME: **BC Sustainable Energy Association, Sierra Club BC, and Rail Ties Be Wise**

INFORMATION REQUEST ROUND NO: 1

TO: **BC Hydro**

DATE: **May 1, 2018**

PROJECT NO: **n/a**

APPLICATION NAME: **BC Hydro Electricity Purchase Agreement Extension Applications for Armstrong Wood Waste Co-Generation and NWE Williams Lake Wood Waste Facilities**

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**1.0 Topic: Longer term energy strategy for biomass facilities**  
**Reference: Exhibit B-1, pp.2, 6**

“Unlike hydroelectric facilities, biomass facilities must source and contract for fuel supply. To ensure we are providing energy from clean or renewable resources at the best value to our customers, BC Hydro, in consultation with government, is developing a longer term energy strategy for biomass facilities that will take into consideration fuel supply availability and cost-effectiveness. At this time, BC Hydro is targeting to have a strategy in relation to the potential procurement of biomass energy completed and implemented by June 2019. It is the timing of the implementation of this strategy that has helped inform the duration of the short term extensions.” [p.2, underline added]

“...To aid in the development of this strategy, a biomass fibre study is being undertaken on behalf of BC Hydro to assess the supply and demand of forest based biomass by type (e.g., hog fuel, wood chips, roadside logging residues) and the availability of such biomass for electricity generation on a regional basis within the province. The study is expected to be completed in 2018 and will help inform forecasts for electricity generation that can be supported by available cost-effective forest based biomass by type.” [p.6, underline added]

“BC Hydro intends to have the strategy completed in time to inform the broader set of pending biomass EPAs that are due to expire and for such strategy to feed into the development of BC Hydro’s next Integrated Resource Plan.” [p.6, underline added]

- 1.1 When BC Hydro says the energy strategy for biomass facilities will be completed and implemented by June 2019 is the implementation limited to the Armstrong and NWE biomass facilities?
- 1.2 Please confirm, or otherwise explain, that when BC Hydro says the energy strategy for biomass facilities strategy will be completed in time to inform the broader set of pending biomass EPAs that are due to expire, and to allow the strategy to feed into the development of BC Hydro’s next Integrated Resource Plan, this refers to the biomass EPAs that are due to expire by the end of F2024?
- 1.3 Is the idea that the energy strategy for biomass facilities will inform the possible long-term renewal of the Tolko and NWE biomass EPAs during the June to September 2019 period, and that the strategy will also feed into the development of the next IRP in time for the next IRP to be applied

to the potential long-term renewal of the biomass EPAs set to expire by the end of F2024?

- 1.4 Please confirm, or otherwise explain, that BC Hydro's expectation is that the next IRP will not be finalized in time for it to be applied to the potential long-term renewal of the Tolko and NWE EPAs in the June to September 2019 period.
- 1.5 Does BC Hydro contemplate further short-term extensions of the Armstrong and NWE EPAs if completion of the energy strategy for biomass facilities is not completed by September 2019?
  - 1.5.1 If so, would BC Hydro commit to ensuring that any such further short-term EPA extensions do not allow the use of retired rail ties as fuel?
- 1.6 Does, or will, the biomass fibre study include a public input component?
- 1.7 Does, or will, the longer term energy strategy for biomass facilities include a public input component?

**2.0 Topic: Longer term energy strategy for biomass facilities**  
**Reference: Exhibit B-1, page 2**

"BC Hydro, in consultation with government, is developing a longer term energy strategy for biomass facilities that will take into consideration fuel supply availability and cost-effectiveness "

"The extensions of these EPAs act as bridging mechanisms until a biomass energy strategy is developed and adopted, which will enable BC Hydro to make decisions on longer-term biomass EPA renewals."

- 2.1 Please describe in more detail the longer term energy strategy for biomass facilities. What key parameters are being used to evaluate biomass energy?
- 2.2 Does the scope of the energy strategy for biomass facilities include creosote- and pentachlorophenol-treated rail ties as a fuel source?
- 2.3 By whom, and by what process, will the energy strategy for biomass facilities be approved?
- 2.4 Does BC Hydro anticipate that the energy strategy for biomass facilities might be the subject of a government directive or a prescribed undertaking to reduce GHG emissions under s. 18 of the *Clean Energy Act*?

**3.0 Topic: Purpose**  
**Reference: Exhibit B-1, p.4; Exhibit A-2, BCUC IR 5.1**

"The purpose of the Extension Agreements is to manage risk in relation to BC Hydro's long-term need for energy and capacity." [p.2]

“...The purpose of the Extension Agreements is to enable these projects to continue operations and to preserve for BC Hydro the option to enter into a longer-term cost-effective EPA to serve future needs and avoid less cost-effective alternatives. In the absence of the Extension Agreements, there is a risk these facilities will no longer be available in the future.”

On pages 7-8, BC Hydro discusses factors, some of which are specific to the Armstrong and NWE facilities, considered in relation to the value of preserving the optionality of these facilities.

- 3.1 Has BC Hydro selected the Armstrong and NWE biomass woodwaste facilities for EPA extensions to preserve future long-term cost-effective EPA options because these two facilities happen to have expiring EPAs? Or, have the Armstrong and NWE facilities been selected for EPA extensions taking into account how these facilities compare with other woodwaste biomass facilities whose EPAs may expire soon?

**4.0 Topic: Retired rail ties**  
**Reference: Exhibit B-1, p.7**

“Forest based biomass is a clean or renewable resource. These facilities can provide support to British Columbia’s energy objective of generating at least 93 per cent of the electricity in British Columbia from clean or renewable resources.”

- 4.1 Please confirm that in BC Hydro’s view discarded coal-tar creosote treated railway ties are not a “clean or renewable resource” under the *Clean Energy Act*.
- 4.2 Please confirm, or otherwise explain, that none of BC Hydro’s existing woodwaste biomass EPAs relates to a biomass generation facility in which retired rail ties are currently being burned as fuel.
- 4.3 Does the Tolko Extension EPA restrict Tolko to using woodwaste fuel that is 100% a clean or renewable resource (and preclude using retired rail ties as a fuel source)? If not, please explain. For greater certainty, please confirm, or otherwise explain, that Tolko does not currently use retired rail ties as fuel in the Armstrong facility.
- 4.4 Please confirm, or otherwise explain, that the types of biomass, e.g., hog fuel, wood chips, roadside logging residues, to be examined in the biomass fibre study are limited to clean, renewable resources and do not include retired rail ties.

**5.0 Topic: NWE and retired rail ties**  
**Reference: Exhibit B-1, p.17**

“In section 3(m)(ii) of the Extension Agreement, Atlantic Power has contractually committed not to use railway ties as a fuel supply source during the term of the extension period.<sup>13</sup>

[Footnote 13] The use of railway ties as a fuel source at the NWE Williams Lake Facility was recently an issue before the BCUC. See Commission Letter L-28-17 and related filings. In anticipation of a long term renewal of the EPA, Atlantic Power applied to the Ministry of Environment to amend its air emissions permit to increase the allowable use of rail ties as a fuel source from 5 per cent to 50 per cent. This application was accepted and the permit was amended; however, the amendment to the air emissions permit is under appeal. As the outcome of the appeal was not known at the time the Extension Agreement was signed, Atlantic Power committed not to use any railway ties as fuel source during the period of the Extension Agreement.”

5.1 Please confirm, or otherwise explain, that under the terms of the NWE Extension Agreement Atlantic Power is not allowed to burn railway ties as a fuel source for the period of the Extension Agreement regardless of the outcome of the appeal of the air emissions permit amendment.

**6.0 Topic: NWE Williams Lake Facility, fuel costs**  
**Reference: Exhibit B-1, pp. 10, 11, 16**

Under the NWE EPA (as amended), fuel costs incurred by the NWE Williams Lake Facility are borne by BC Hydro. [p.10] The EPA had a formulaic pricing structure based on “a complicated pricing structure specifying a monthly amount for up to six different components of the energy price.” [p.16]

Under the separate Curtailment Agreement between BC Hydro and Atlantic Power entered into in January 2012, BC Hydro acquired a separate right to curtail output from the facility to avoid high fuel costs under the EPA. [p.11]

The subject NWE Extension Agreement replaces the cost of service pricing structure and the Curtailment Agreement with a delivered energy price and a deemed turn-down energy provision and price at [redacted]/MWh and [redacted]/MWh, respectively. In addition, “BC Hydro’s energy costs are capped by setting limits on the maximum delivered energy and deemed turn-down energy amounts.” [p.16]

6.1 Do the changes between the old EPA and Curtailment Agreement and the new Extension Agreement have the effect of transferring fuel availability risk from BC Hydro to Atlantic Power?

6.2 Is BC Hydro confident that Atlantic Power has secured fuel supply until the expiration of the NWE Extension Agreement?

6.3 For context, do any of BC Hydro’s other EPAs for power from woodwaste biomass facilities have a cost of service pricing model?

**7.0 Topic: Contribution to reliability of the BC Hydro system**  
**Reference: Exhibit B-1, page 7**

“Biomass projects are desirable generation resources for BC Hydro’s IPP portfolio as they offer both capacity and energy, as well as contribute to the reliability of our system. That is, they are available to generate anytime they are called upon while intermittent resources cannot provide such assurance.

Intermittent resources are generally backed up by capacity resources to meet system demand;” [underline added]

- 7.1 Does BC Hydro consider woodwaste biomass facilities in general, and the subject facilities in particular, to be dispatchable resources?
- 7.2 In BC Hydro’s view, can woodwaste biomass facilities in general, and the subject facilities in particular, help to integrate intermittent forms of renewable energy into the grid?
- 7.3 Does BC Hydro anticipate utilizing the NWE Williams Lake and Armstrong facilities as dispatchable facilities?

**8.0 Topic: Pricing Benchmarks**  
**Reference: Exhibit B-1, Table 5, p. 19**

Table 5 references “Demand Side Management (DSM) and EPA Renewals Reference Price (based on forecasted need from F2022 to F2033)<sup>20</sup>” at a levelized price of \$89/MWh (\$2017), characterized in footnote 20 as:

“Long-run marginal cost, adjusted for project-specific product characteristics such as time of delivery and losses to the Lower Mainland.”

- 8.1 Please compare the DSM and EPA Renewals Reference Price of \$89/MWh shown in Table 5 with the corresponding figure BC Hydro used in the F2017-F2019 RRA and explain any differences.