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February 27, 2018

Mr. Patrick Wruck  
Commission Secretary and Manager  
Regulatory Support  
British Columbia Utilities Commission  
Suite 410, 900 Howe Street  
Vancouver, BC V6Z 2N3

Dear Mr. Wruck:

**RE: British Columbia Utilities Commission (BCUC or Commission)  
British Columbia Hydro and Power Authority (BC Hydro)  
Electricity Purchase Agreement (EPA) Extension – Armstrong Wood Waste  
Co-Generation and NWE Williams Lake Wood Waste Facilities**

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BC Hydro writes to file with the Commission two energy supply contracts in accordance with section 71 of the *Utilities Commission Act (UCA)*:

- An agreement dated November 17, 2017, between BC Hydro and Tolko Industries Ltd. (**Tolko**) that amends and extends a 2009 electricity purchase agreement (**Tolko Armstrong Extension Agreement**) for its wood waste co-generating facility near Armstrong, B.C. (**Armstrong Co-Gen Facility**); and
- An agreement dated December 29, 2017, between BC Hydro and Atlantic Power Preferred Equity Ltd. (**Atlantic Power**) that amends and extends a 1990 electricity purchase agreement (**NWE Extension Agreement**) for its wood waste generating facility near Williams Lake, B.C. (**NWE Williams Lake Facility**).

These agreements (collectively referred to as **Extension Agreements**) are “energy supply contracts” under Part 5 of the *UCA*. Under section 1.1.2 of the British Columbia Utilities Commission Rules for Energy Supply Contracts for Electricity (the **Rules**), adopted by Commission Order No. G-61-12, energy supply contracts shall be filed with the Commission within 60 days of the entry of the contract. On January 5, 2018, BC Hydro requested an extension, up to February 27, 2018, to file the Tolko Armstrong Extension Agreement so that both the Tolko Armstrong Extension Agreement and NWE Extension Agreement can be filed together. On January 12, 2018, the Commission granted BC Hydro’s extension request.

In this filing (**Filing**), BC Hydro requests an order from the Commission under section 71 of the *UCA* that the Tolko Armstrong Extension Agreement is in the public interest and is accepted for filing. A similar order is also requested for the NWE Extension Agreement. A copy of the draft form of requested Order is attached as Appendix A. At the same time

of, or soon after, this Filing, BC Hydro will provide a notice of this Filing to the registered interveners in BC Hydro's most recent revenue requirements application in accordance with section 1.1.2 of the Rules.

A copy of the Tolko Armstrong Extension Agreement is provided as Appendix B. The Tolko Armstrong 2009 EPA, a correction letter dated November 18, 2009 and a notice of modification to hourly firm energy amount, dated February 26, 2010, are provided as Appendix C1, C2, and C3 respectively, in the confidential version of the Filing. For ease of review and reference, we also include a blacklined version showing the amendments made to the Tolko Armstrong 2009 EPA (which does not incorporate the corrections and modifications made in 2009 and 2010, respectively, as these changes have been superceded by the Tolko Armstrong Extension Agreement amendments). This black-line is provided as Appendix D.

A copy of the NWE Extension Agreement is provided as Appendix E. The NWE EPA dated June 30, 1990, and the amending agreements dated April 25, 1991 and October 18, 1999, are provided as Appendix F1, F2, and F3 respectively, in the confidential version of the Filing. For ease of review and reference, the black-lined version provided as Appendix G shows the amendments made by the NWE Extension Agreement to a consolidated version of NWE EPA (i.e., consolidated version incorporates the amendments made as of April 25, 1991 and October 18, 1999). The NWE Curtailment Agreement is also provided as Appendix H in the confidential version of this Filing.

The appendices also include relevant excerpts from BC Hydro's Integrated Resource Plan and the British Columbia's Energy Objectives as Appendix I and J, respectively.

BC Hydro acknowledges the correspondence from William J. Andrews, dated February 16, 2018, with respect to the NWE Extension Agreement. Mr. Andrews inquired whether the rail ties would be used as fuel source during the extension period. As noted on Page 16 of the application, in the NWE Extension Agreement, Atlantic Power has contractually committed not to use railway ties as a fuel supply source during the period that the NWE Extension Agreement is in effect.

### **Confidentiality**

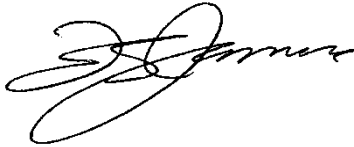
BC Hydro is of the view that key or specific commercial terms and conditions relating to the Extension Agreements, such as the pricing information and cost-effectiveness benchmarks, are commercially sensitive and the public disclosure of such information will harm BC Hydro's negotiating position with respect to further electricity purchase agreements. Certain information in this Filing and the Extension Agreements are also considered commercially sensitive to the independent power producers. BC Hydro has thus redacted commercially sensitive information from the public version of the Filing. BC Hydro has also redacted in their entirety the Tolko Armstrong Extension Agreement (Appendix B), the Tolko Armstrong EPA and amendments (Appendix C1, C2, and C3), and the blackline version of the Tolko Armstrong EPA (Appendix D). Similarly, the NWE

Extension Agreement (Appendix E), NWE EPA and amending agreements (Appendix F1, F2, and F3), and the consolidated blackline version of the NWE EPA (Appendix G), and the NWE Curtailment Agreement (Appendix H) are redacted in their entirety. As provided by section 42 of the B.C. *Administrative Tribunals Act* and Part IV of the British Columbia Utilities Commission's Rules of Practice and Procedure, and consistent with the Commission's previous practice, BC Hydro requests that the Commission keep the above noted information confidential as it is commercially sensitive to BC Hydro, and the counter-parties, and if publicly disclosed may compromise BC Hydro's negotiating position with respect to other EPAs.

Acknowledging the interest of Mr. Andrews with respect to the NWE Extension Agreement, BC Hydro confirms that it would not object to providing the confidential version of the NWE Extension Agreement to Mr. Andrews upon Mr. Andrews executing and submitting to the Commission a confidentiality declaration and undertaking form.

For further information, please contact Geoff Higgins at 604-623-4121 or by email at [bchydroregulatorygroup@bchydro.com](mailto:bchydroregulatorygroup@bchydro.com).

Yours sincerely,



Fred James  
Chief Regulatory Officer

cu/rh

Enclosure

Copy to: BCUC Project No. 3698869 (F2017 to F2019 Revenue Requirements Application) Registered Intervener Distribution List.

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**Armstrong Wood Waste Cogeneration Plant  
and NWE Williams Lake Wood Waste  
Electricity Purchase Agreement  
Extension Agreements**

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**PUBLIC**

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## Appendices

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- Appendix A Draft Order
- Appendix B Tolko Armstrong Extension Agreement
- Appendix C Tolko Armstrong EPA
- Appendix D Tolko Armstrong EPA (consolidated with amendment table) Blackline showing Extension Agreement Amendments
- Appendix E NWE Extension Agreement
- Appendix F NWE EPA and Amending Agreements
- Appendix G NWE EPA (consolidated with prior amendments) Blackline showing Extension Agreement Amendments
- Appendix H NWE Curtailment Agreement
- Appendix I 2013 Integrated Resource Plan Excerpts
- Appendix J British Columbia's Energy Objectives

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## 1 Introduction and Approval Sought

2 BC Hydro, pursuant to section 71 of the *Utilities Commission Act (UCA)*, applies for  
3 acceptance by the British Columbia Utilities Commission (**BCUC** or **Commission**) of  
4 the following two agreements:

- 5 • An agreement dated November 17, 2017, between BC Hydro and Tolko  
6 Industries Ltd. (**Tolko**) that amends and extends a 2009 electricity purchase  
7 agreement (**Tolko Armstrong Extension Agreement**) for its wood waste  
8 co-generating facility near Armstrong, B.C. (**Armstrong Co-Gen Facility**) until  
9 June 30, 2019 (or September 30, 2019 if BC Hydro exercises its option to  
10 extend the end date); and
- 11 • An agreement dated December 29, 2017, between BC Hydro and Atlantic  
12 Power Preferred Equity Ltd. (**Atlantic Power**) that amends and extends a 1990  
13 electricity purchase agreement <sup>1</sup> (**NWE Extension Agreement**) for its wood  
14 waste generating facility near Williams Lake, B.C. (**NWE Williams Lake**  
15 **Facility**) until June 30, 2019 (or September 30, 2019 if BC Hydro exercises its  
16 option to extend the end date).

17 The two agreements that are the subject of this filing (**Filing**) are referred to as  
18 “Extension Agreements” collectively and each project’s existing electricity purchase  
19 agreement (prior to the Extension Agreement amendments) is referred to,  
20 respectively, as the “**Tolko Armstrong EPA**” and the “**NWE EPA**”. The Armstrong  
21 Co-Gen Facility and the NWE Williams Lake Facility are referred to collectively as  
22 the “**Biomass Facilities**”. The description of the two Biomass Facilities and the  
23 associated EPAs, including the regulatory history of each respective EPA, is in

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<sup>1</sup> The 1990 EPA was between BC Hydro and NW Energy (Williams Lake) Corp.; thus, the independent power producer’s facility has traditionally been referred to as the “NWE Williams Lake WW” project. For this Filing and for consistency of reference, BC Hydro continues to refer to this facility as the NWE Williams Lake facility or project.

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1 section [4](#) below. The key commercial terms of the Extension Agreements, including  
2 the amendments made concurrently with the extension, are detailed in section [5](#)  
3 below.

4 The Extension Agreements are short-term extensions to each facility's existing EPA.  
5 The Tolko Armstrong EPA was to expire on November 20, 2017 and the NWE EPA  
6 was to expire on April 1, 2018.

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

16 For both the Tolko Armstrong Extension Agreement and the NWE Extension  
17 Agreement, the energy prices will be lower for BC Hydro than that under the existing  
18 EPAs. However, the energy prices are above BC Hydro's opportunity cost, as  
19 discussed in section [6.1](#) below, and hence the procurement of this energy is not  
20 itself cost-effective. The extensions of these EPAs act as bridging mechanisms until  
21 a biomass energy strategy is developed and adopted, which will enable BC Hydro to  
22 make decisions on longer-term biomass EPA renewals. The purpose of the  
23 Extension Agreements is to manage risk in relation to BC Hydro's long-term need for  
24 energy and capacity. These short-term extensions allow the Biomass Facilities to  
25 continue to operate and provide energy and capacity from clean or renewable  
26 resources contributing to the reliability of our system. The reasons for the Extension  
27 Agreements are further set forth in section [3](#) of this Filing.



1 Each Extension Agreement is an “energy supply contract” under Part 5 of the *UCA*.  
2 BC Hydro requests an order from the BCUC under section 71 of the *UCA* that the  
3 Tolko Armstrong Extension Agreement is in the public interest and is accepted for  
4 filing. A similar order is also requested for the NWE Extension Agreement. A copy of  
5 the draft form of requested Order is attached as Appendix A. The commercial terms  
6 of the Extension Agreements are commercially sensitive and confidential.  
7 Accordingly, copies of the Extension Agreements are attached as Appendix B and  
8 Appendix E to the confidential version of this Filing for the BCUC only.

## 9 **2 Notice of Filing and Regulatory Review**

10 Concurrent with this Filing, BC Hydro will provide notice to Tolko and Atlantic Power  
11 and the registered interveners in BC Hydro’s most recent revenue requirements  
12 application in accordance with section 1.1.2 of the British Columbia Utilities  
13 Commission Rules for Energy Supply Contracts for Electricity (**Rules**), adopted by  
14 Commission Order No. G-61-12. This Filing fulfils the filing obligations of all parties  
15 to the Extension Agreements under section 1.1.3 of the Rules.

16 BC Hydro believes that the BCUC can issue the requested Order without a hearing  
17 as the information contained in this Filing provides all the information necessary for  
18 the BCUC to determine that the Extension Agreements are in the public interest in  
19 accordance with the criteria set out in section 71 of the *UCA*, including:

- 20 • The Filing, together with appendices, provides the information necessary for the  
21 Commission to determine that the Tolko Armstrong Extension Agreement and  
22 NWE Extension Agreement are each in the public interest;
- 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;

- 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
- 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.

19 The Extension Agreements contain a condition requiring BCUC acceptance by a  
20 certain date. Under the NWE Extension Agreement the BCUC acceptance date is  
21 June 27, 2018; the Tolko Armstrong Extension Agreement originally included  
22 May 16, 2018 as the BCUC acceptance date, but this date has been extended, in  
23 accordance with the terms of the agreement, to June 27, 2018. BC Hydro  
24 respectfully requests that any review process be completed within a timeframe that  
25 accommodates the deadlines.

26 A public version of this Filing is being provided to registered interveners who  
27 participated in BC Hydro's most recent Revenue Requirement Application.

1 BC Hydro observes that recently in other section 71 filings BCUC staff have  
2 submitted questions to BC Hydro in relation to these section 71 filings. For this  
3 Filing, in the interest of providing greater transparency to interested parties and for  
4 regulatory efficiency purposes, we request that if the BCUC staff have questions, the  
5 timetable for BC Hydro's response to the questions permits interested parties to  
6 consider BC Hydro's response in preparing their comments on whether the filed  
7 EPAs should be accepted without a hearing. We suggest that prior to the deadline  
8 placed on interested parties to provide comments to the BCUC that such interested  
9 parties be provided: 1) a notice of any BCUC staff questions, 2) copies of  
10 BC Hydro's response to the questions, to the extent such responses are not  
11 confidential, and 3) time to consider BC Hydro's response to the questions with  
12 respect to providing any comments they may have on the Filing.

### 13 **3 Biomass EPAs**

#### 14 **3.1 Current Status and Pending Development**

15 BC Hydro has 19 electricity purchase agreements related to biomass facilities, nine  
16 of which are due to expire by the end of fiscal 2024 (including the EPAs with Tolko  
17 and Atlantic Power)<sup>2</sup>. Biomass EPAs account for 17 per cent, or 2,294 GWhs, of  
18 BC Hydro's annual energy delivery volumes from independent power producers  
19 (**IPPs**) for fiscal year 2017.

20 For the 2013 Integrated Resources Plan (**2013 IRP**), BC Hydro estimated  
21 50 per cent of the aggregate contracted energy and capacity volumes under expiring  
22 biomass EPAs would be renewed. Generally for IPP renewals, BC Hydro's renewal  
23 assumptions are estimates of the likelihood of being able to renew contracts, at  
24 mutually agreeable pricing that is cost effective for BC Hydro, considering that a  
25 number of existing projects' generating facilities could be 20 years or older at the

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<sup>2</sup> Of the nine Biomass EPAs that are due to expire by the end of fiscal 2024, two have Seller extension rights and BC Hydro expects that these extension rights will be exercised by the Sellers.

1 expiration of their original EPA. Moreover, for biomass, our estimate for these  
2 renewals was further informed by our understanding of the reduced long-term  
3 certainty of available biomass fuel supply. These assumptions were made using the  
4 information available at the time.

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.

17 As informed by the fibre study and in consideration of other factors, such as  
18 provincial government policies and potential benefits to BC Hydro's ratepayers,  
19 BC Hydro is targeting to complete and implement by June 2019 a strategy for  
20 biomass energy which will also examine the potential renewal of expiring EPAs.  
21 BC Hydro intends to have the strategy completed in time to inform the broader set of  
22 pending biomass EPAs that are due to expire and for such strategy to feed into the  
23 development of BC Hydro's next Integrated Resource Plan.

### 24 **3.2 Benefits of Existing Biomass Resources**

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

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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.

6 The EPA with Tolko was to expire on November 20, 2017 and the EPA with Atlantic  
7 Power was to expire on April 1, 2018. The Extension Agreements with Tolko and  
8 Atlantic Power are a bridging mechanism, pending the completion of the biomass  
9 energy strategy, to preserve the option to enter into a longer-term cost-effective EPA  
10 in the near future.

11 Preserving this optionality for maintaining potentially cost-effective resource options  
12 for our long-term needs takes into consideration the following factors:

- 13 • Both the Armstrong Co-Gen Facility and the NWE Williams Lake Facility  
14 provide steady and predictable generation output, as they are standalone  
15 generators. In addition, both of these facilities have demonstrated the ability to  
16 provide consistent generation output and are highly reliable resources;
- 17 • Biomass projects are desirable generation resources for BC Hydro's IPP  
18 portfolio as they offer both capacity and energy, as well as contribute to the  
19 reliability of our system. That is, they are available to generate anytime they are  
20 called upon while intermittent resources cannot provide such assurance.  
21 Intermittent resources are generally backed up by capacity resources to meet  
22 system demand;
- 23 • Forest based biomass is a clean or renewable resource. These facilities can  
24 provide support to British Columbia's energy objective of generating at least

1 93 per cent of the electricity in British Columbia from clean or renewable  
2 resources;<sup>3</sup>

- 3 • Both of these biomass projects are existing facilities and most of the initial  
4 capital investment by the IPPs should have been recovered in their original  
5 contracts. Thus, BC Hydro expects that it will be possible to negotiate cost  
6 effective longer-term agreements for these projects subject to the results of the  
7 biomass fibre study. In addition, the use of existing facilities is expected to  
8 create less of a footprint on the environment, and thus less of an impact to  
9 third-parties, as compared to the construction of new greenfield projects;
- 10 • If the Armstrong Co-Gen Facility and the NWE Williams Lake Facility were to  
11 shut down at this time because it is not economic for them to continue  
12 operating, there is a risk that these resources will not be available later to  
13 BC Hydro which could limit BC Hydro to less cost-effective resource options for  
14 serving future needs. Moreover, a potentially non-reversible outcome of a  
15 shutdown is that the local economies would be impacted by direct and indirect  
16 job losses, loss of local economic benefits and loss of tax revenues for the  
17 communities. Atlantic Power employs about 35 people at its plant, while Tolko  
18 employs about 28 people directly related to its co-generation facility;
- 19 • Without the NWE Extension Agreement, it is BC Hydro's understanding that the  
20 NWE Williams Lake Facility will likely shut down and there would be immediate  
21 wood waste disposal issues in the region of the province around Williams Lake;  
22 and
- 23 • Without the Tolko Armstrong Extension Agreement, it is BC Hydro's  
24 understanding that Tolko would operate the Armstrong Co-Gen Facility  
25 differently and may have to deal with a wood waste disposal problem from its  
26 mill operations.

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<sup>3</sup> British Columbia's energy objectives are set out in section 2 of the *Clean Energy Act*.

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.

## 5 **4 Facility Descriptions and Associated EPAs**

### 6 **4.1 The Armstrong Co-Gen Facility and its EPA**

7 The Armstrong Co-Gen Facility is located near the city of Armstrong, B.C. and is  
8 owned and operated by Tolko. It is a 20.4 MW co-generation facility, which produces  
9 steam for the operation of a sawmill, planer, and plywood facility on the same site.  
10 Although the co-generating facility and the mill facilities are thermally (i.e., steam)  
11 connected, they are not electrically connected and the generator has its own  
12 separate interconnection to the BC Hydro system. The Armstrong Co-Gen Facility  
13 has the capability to produce approximately 163 GWh per year and has been in  
14 operation since 2003.

15 The first EPA for the Armstrong Co-Gen Facility was in 2003 under BC Hydro's  
16 Customer-Based Generation call for power. This EPA was replaced with the existing  
17 Tolko Armstrong EPA<sup>4</sup> in 2009, attached as Appendix C, which included:

- 18 • An eight year term, starting from November 2009;
- 19 • Firm hourly energy delivery obligation of [REDACTED] MWh ([REDACTED] GWh/year);
- 20 • Firm energy price of [REDACTED]/MWh (\$2017), as adjusted for time of delivery,  
21 with annual escalation at B.C. CPI for [REDACTED] per cent of the price; and
- 22 • Right for BC Hydro to request turn-down of the generation output, up to  
23 [REDACTED] MWh/h from [REDACTED] at a price of [REDACTED] MWh (\$2017) for

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<sup>4</sup> The Tolko Armstrong EPA is dated August 13, 2009, as corrected by letter dated November 18, 2009, and as modified by the exercise of an election as set out in the letter dated February 26, 2010.

1 electricity that could have been generated if not for an order from BC Hydro to  
2 not generate.

3 The existing 2009 EPA was accepted by Commission Order No. E-17-09.

#### 4 **4.2 The NWE Williams Lake Facility and its EPA**

5 The NWE Williams Lake Facility, located near Williams Lake, B.C., is a 68 MW  
6 generating facility which commenced operations in 1993. This stand-alone facility  
7 was originally built to displace beehive burners, being used by local sawmills in the  
8 region, and which were causing air quality issues. The NWE Williams Lake Facility  
9 continues to use wood waste residue from local sawmills and has the capability to  
10 produce approximately 545 GWh per year.

11 The key terms of the NWE EPA (as amended)<sup>5</sup>, attached as Appendix F, were  
12 originally executed in 1990 and, as amended, included:

- 13 • A 25-year term, starting from April 1993;
- 14 • Firm annual energy delivery obligation of [REDACTED] GWh (in a normal year);
- 15 • Energy price based on cost of service model, which includes various  
16 components, such as firm energy, operation and maintenance, fuel and  
17 applicable taxes. For energy delivered in the past year, i.e., 2017, this  
18 translated to about [REDACTED]/MWh (\$2017);
- 19 • Fuel costs incurred by the NWE Williams Lake Facility to be borne by  
20 BC Hydro; and
- 21 • Option for BC Hydro to extend the EPA for [REDACTED]<sup>6</sup>

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<sup>5</sup> The NWE EPA is dated June 30, 1990, as amended by agreements dated April 25, 1991 and October 18, 1999. NWE EPA and the amending agreements are attached as Appendix F.

<sup>6</sup> This option was not exercised by BC Hydro because we are still in the process of developing a biomass energy strategy for those biomass EPAs that are expiring.



1 In parallel with the NWE EPA, BC Hydro also entered into a Curtailment Agreement  
2 (attached as Appendix H) with Atlantic Power in January 2012 for the purpose of  
3 BC Hydro avoiding high fuel costs under the EPA. The Curtailment Agreement did  
4 not amend the EPA but was a separate commercial arrangement whereby BC Hydro  
5 acquired a separate right to curtail output from the facility. Since the implementation  
6 of the Curtailment Agreement, the output of the facility has been historically curtailed  
7 [REDACTED] to [REDACTED] months each year when energy is not needed by BC Hydro.

8 Ministerial Order M-22-9801-A1 exempts BC Hydro and persons selling power to  
9 BC Hydro from section 71 of the *UCA* with respect to EPAs entered into on or before  
10 September 30, 2001. The NWE EPA and its amendments were entered into before  
11 September 30, 2001 and are exempt from section 71 in accordance with Ministerial  
12 Order M-22-9801-A1.

13 It is BC Hydro's view that the NWE Extension Agreement (entered into in  
14 December 2017) falls outside the terms of the exemption provided by Ministerial  
15 Order M-22-9801-A1 and, for this reason, BC Hydro has filed the Extension  
16 Agreement for acceptance pursuant to section 71 of the *UCA*.

## 17 **5 Extension Agreements**

18 BC Hydro is seeking Commission acceptance of each Extension Agreement. The  
19 following is a description of key commercial terms of the Tolko Armstrong Extension  
20 Agreement and the NWE Extension Agreement, which includes amendments to  
21 each EPA.

### 22 **5.1 Tolko Armstrong Extension Agreement Amendments**

23 The key commercial terms of the Tolko Armstrong Extension Agreement that have  
24 amended the existing EPA are summarized in [Table 1](#).

1  
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**Table 1 Key Commercial Terms of the Tolko Armstrong Extension Agreement**

Commercial Term	Section of the Extension Agreement	Section of the EPA amended or replaced	Amendment
Seller	Page 1	Page 1	Tolko Industries Ltd.
Effective Date of Extension Agreement	3	N/A	November 21, 2017
End Date of extension period and EPA	3(b)(ii)	2.1	(i) June 30, 2019, or (ii) September 30, 2019 in the event BC Hydro exercises its option to extend the end date
Maximum Delivered Energy Amount	3(f)	7.5	(i) █████ GWh (for approximately a 19-month period, if end date is June 30, 2019), or (ii) █████ GWh (for approximately a 22-month period, if end date is September 30, 2019)
Maximum Deemed Turn-down Amount <sup>7</sup>	3(h)(xi)	7.10(i)	(i) █████ GWh (for approximately a 19-month period, if end date if June 30, 2019), or (ii) █████ GWh (for approximately a 22-month period, if end date is September 30, 2019)
Delivered Energy Price	3(t)(ii) and 3(u)(iii)	Appendix 3, ss.1.1(ii), 1.1(f) and 2.2	█████/MWh (2017\$) as adjusted for time of delivery, with █████ per cent of the price escalating at B.C. CPI
Deemed Turn-down Price	3(h)(viii) and 3(u)(iii)	7.10(e)(i) and Appendix 3, ss.1.1(f) and 2.2	█████/MWh (2017\$), with █████ per cent of the price escalating at B.C. CPI

3 [Table 2](#) below compares the energy price of the Tolko Armstrong EPA (prior to the  
4 Extension Agreement) with that of the Tolko Armstrong Extension Agreement.

<sup>7</sup> Deemed turn-down energy is energy that could have been delivered by the facility if not for a request from BC Hydro to not generate.

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**Table 2 Energy Price Comparison of Tolko  
Armstrong EPA**

	<b>EPA (prior to the Extension Agreement)</b>	<b>Extension Agreement</b>
Delivered Energy Price (\$2017/MWh) <sup>8</sup>	█████ <sup>9</sup>	█████
Deemed Turn-down Price (\$2017/MWh)	█████	█████
Annual Escalation	█████ per cent (B.C. CPI)	█████ per cent (B.C. CPI)

3  
4

BC Hydro also notes the following changes were made to the EPA for the purpose of simplifying the terms and conditions during the short-term extension period:

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- Hourly firm energy and non-firm energy prices are replaced with one delivered energy price;
- BC Hydro's energy costs are capped by setting limits on the maximum delivered energy and deemed turn-down energy amounts. The total energy volumes during the extension period are essentially the same on an annual basis as they are under the EPA without the Extension Agreement amendments (i.e., █████ GWh/year);
- The turn-down period was changed to █████. However, BC Hydro's turn-down rights on a volume-basis were enhanced by: █████  
█████  
█████  
█████ and

<sup>8</sup> The Delivered Energy Price is adjusted in accordance with a time of delivery table as provided under the EPA.

<sup>9</sup> This is the Firm Energy Price per the EPA.

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- [Redacted]

5 **5.2 NWE Extension Agreement Amendments**

6 The key commercial terms of the NWE Extension Agreement that have amended the  
7 existing EPA are summarized in [Table 3](#) below.

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2

**Table 3 Key Commercial Terms of the NWE Extension Agreement**

Commercial Term	Section of Extension Agreement	Section of the EPA amended or replaced	Amendment
Seller	Page 1	Page 1	Atlantic Power Preferred Equity Ltd.
Effective Date of Extension Agreement	3	N/A	April 2, 2018
End Date of extension period and EPA	3(d)(ii)	3.1	(i) June 30, 2019, or (ii) September 30, 2019 in the event BC Hydro exercises its option to extend the end date
Maximum Generation Amount	3(c)(x)	1 – added new definition of “Maximum Generation Amount”	(i) █████ GWh (for approximately a 15-month period, if end date is June 30, 2019), or (ii) █████ GWh (for approximately a 18-month period, if end date is September 30, 2019)
Maximum Deemed Turn-Down Amount	3(c)(ix)	1 – added new definition of “Maximum Deemed Turn-Down Energy Amount”	(i) █████ GWh (for approximately a 15-month period, if end date is June 30, 2019), or (ii) █████ GWh (for approximately a 18-month period, if end date is September 30, 2019)
Delivered Energy Price	3(c)(v)	1 – added new definition of “Delivered Energy Price”	█████ MWh (2017\$) with █████ per cent of the price escalating at B.C. CPI
Deemed Turn-down Price	3(c)(vii)	1 – added new definition of “Deemed Turn-down Price”	█████ MWh (2017\$) with █████ per cent of the price escalating at B.C. CPI

3 [Table 4](#) below compares the energy price of the NWE EPA (prior to the Extension  
4 Agreement) with that of the NWE Extension Agreement.

1 **Table 4 Energy Price Comparison of NWE EPA**

	<b>EPA (prior to the Extension Agreement)</b>	<b>Extension Agreement</b>
Delivered Energy Price (\$2017/MWh)	█ <sup>10</sup>	█
Deemed Turn-down Price (\$2017/MWh)	N/A <sup>11</sup>	█
Annual Escalation	N/A <sup>12</sup>	█ per cent (B.C. CPI)

2 BC Hydro also notes the following changes were made to the EPA for the purpose of  
 3 simplifying the terms and conditions during the short-term extension period:

- 4 • Formulaic pricing structure, based on a cost of service model, replaced with a  
 5 delivered energy price. The NWE EPA was based on a complicated pricing  
 6 structure specifying a monthly amount for up to six different components of the  
 7 energy price. The Extension Agreement simplifies this pricing structure to a  
 8 delivered energy price and a deemed turn-down energy price at █/MWh and  
 9 █/MWh, respectively;
- 10 • BC Hydro’s energy costs are capped by setting limits on the maximum  
 11 delivered energy and deemed turn-down energy amounts. The total energy  
 12 volumes during the extension period are essentially the same on an annual  
 13 basis as they are under the EPA without the Extension Agreement  
 14 amendments (i.e., █ GWh/year comprising of █ GWh/year firm annual  
 15 energy delivery obligation, plus delivery of surplus energy);
- 16 • A turn-down provision was included in the Extension Agreement, which was not  
 17 part of the NWE EPA. This new provision is consistent with BC Hydro’s current  
 18 contracting standards and meant that the more complicated Curtailment  
 19 Agreement between BC Hydro and Atlantic Power Preferred Equity Ltd. dated

<sup>10</sup> EPA energy price was based on a cost of service model, in 2017 this was approximately \$█/MWh (\$2017).  
<sup>11</sup> Deemed Turn-Down terms were not included in the EPA prior to the amendments introduced by the Extension Agreement. However, there was a separate Curtailment Agreement that provided certain turn-down rights to BC Hydro.  
<sup>12</sup> Some of the components of the six-part pricing structure included escalation, while other did not.

1 January 1, 2012 was no longer needed. Hence, the Curtailment Agreement has  
2 been terminated. Under the Extension Agreement, if delivered energy is not  
3 delivered as required then deemed turn-down energy is reduced accordingly;  
4 and

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

## 8 **6 Cost Effectiveness and Risk Assessment**

### 9 **6.1 Cost Effectiveness Assessment**

10 The energy prices for delivered energy and for deemed turn-down energy in each of  
11 the Extension Agreements were negotiated prices whereby the starting point for the  
12 negotiations was based on each respective facility's estimated operating and  
13 maintenance costs, including fuel costs, for the duration of the extension period. For  
14 these short-term extensions the energy prices are likely indicative of each IPP's cost  
15 of service but excluding any capital cost recovery.

16 The pricing benchmarks considered in evaluating the cost-effectiveness of the  
17 energy procured under an EPA are explained below, followed by a table that shows  
18 the energy prices under the Extension Agreements and referenced benchmark  
19 prices used when BC Hydro has evaluated long-term EPAs.

- 20 • IPP's Opportunity Cost – will generally reflect market prices for energy and  
21 capacity; BC Hydro is using, as a proxy, the Mid-C electricity spot market value

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<sup>13</sup> 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.

- 
- 1 less costs for losses and wheeling to Mid-C (referred to as the BC Border Sell  
2 Price<sup>14</sup>);
- 3 • IPP's Cost of Service – is based on forecasted operating and maintenance  
4 (O&M) costs, including fuel costs, but excludes sustaining capital costs and  
5 recovery of embedded capital cost for the duration of the extension period;  
6 these O&M costs were compared to industry standards to test whether the  
7 IPP's information is within industry standards; and
  - 8 • BC Hydro's Opportunity Cost – reflects an upper limit for the levelized value of  
9 the electricity to the BC Hydro system over the term of the extension period. As  
10 the term of these Extension Agreements is prior to fiscal [REDACTED] when BC Hydro  
11 does not have a need for energy, this value is based on the BC Border Sell  
12 Price.

---

<sup>14</sup> This is adjusted for time of delivery and losses to the Lower Mainland.



1 **Table 5 Pricing Benchmarks**

Benchmarks	Levelized Price (2017\$/MWh)	
	Tolko	Atlantic Power
Delivered Energy Price (\$2017)	█ <sup>5</sup>	█
IPP's Opportunity Cost (based on B.C. Border Sell Price) <sup>16</sup>	█	█
IPP's Estimated Cost of Service <sup>17</sup>	█	█
BC Hydro's Opportunity Cost <sup>18</sup> █	█	█
Greenfield IPPs <sup>19</sup> (based on forecasted need for energy no earlier than F2034)	104	104
Demand Side Management (DSM) and EPA Renewals Reference Price (based on forecasted need from F2022 to F2033) <sup>20</sup>	89	89

2 As indicated in [Table 5](#) above, the energy purchased under the Extension  
3 Agreements is not by itself cost effective over the extension periods, particularly  
4 because BC Hydro does not need the energy during these short-term extensions,  
5 and thus BC Hydro's opportunity cost is solely based on the short-term market price.  
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

<sup>15</sup> The Delivered Energy Price is adjusted in accordance with a time of delivery table as provided under the EPA.  
<sup>16</sup> This is adjusted for project-specific product characteristics such as time of delivery and losses to the Lower Mainland, and in this case it includes energy and capacity.  
<sup>17</sup> This estimate excludes return on embedded and sustaining capital and any debt carrying costs.  
<sup>18</sup> This is adjusted for project-specific product characteristics such as time of delivery, losses to the Lower Mainland, and in this case it includes energy and capacity.  
<sup>19</sup> Long-run marginal cost, adjusted for project-specific product characteristics such as time of delivery and losses to the Lower Mainland.  
<sup>20</sup> Long-run marginal cost, adjusted for project-specific product characteristics such as time of delivery and losses to the Lower Mainland.

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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.

## 6 **6.2 Risk Assessment**

7 BC Hydro has made an assessment of the major risks for not entering, and also  
8 entering, into the Extension Agreements. The assessment and mitigation measures,  
9 if applicable, are discussed below.

### 10 **6.2.1 Tolko Armstrong Extension Agreement**

#### 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.

#### 18 *Technical*

19 Generation output from the Armstrong Co-Gen Facility has been relatively consistent  
20 over the years, which suggests that the facility is well maintained. BC Hydro believes  
21 the facility should be able to continue with its current operation over the long-term  
22 given its track record. It is reasonable to assume the facilities will be properly  
23 maintained with the short term extension such that the facilities will continue to be a  
24 long-term resource option to BC Hydro.

1 *Financial*

2 The Extension Agreement limits and reduces BC Hydro's financial exposure, as  
3 follows:

- 4 • BC Hydro has placed limits on the purchase of delivered and deemed  
5 turn-down energy;
- 6 • In the event that the Armstrong Co-Gen Facility cannot deliver the energy  
7 pursuant to the Extension Agreement, Tolko will not get any payment from  
8 BC Hydro for energy not delivered; and

- 9 • [REDACTED]  
10 [REDACTED]

11 *Permitting/Environmental*

12 Tolko has the necessary permits to allow the facility to continue to operate over the  
13 extension period.<sup>21</sup>

14 **6.2.2 NWE Extension Agreement**

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.

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<sup>21</sup> Please also refer to footnote 13 in relation to the potential renewal of a long-term EPA.

1 *Technical*

2 Generation output from the NWE Williams Lake Facility has been relatively  
3 consistent over the years, which suggests that the facility is well maintained.  
4 BC Hydro believes the facility should be able to continue with its current operation  
5 over the long-term given its track record. It is reasonable to assume the facilities will  
6 be properly maintained with the short term extension such that the facilities will  
7 continue to be a long-term resource option to BC Hydro.

8 *Financial*

9 The Extension Agreement limits and reduces BC Hydro's financial exposure, as  
10 follows:

- 11 • BC Hydro has placed limits on the purchase of delivered and deemed  
12 turn-down energy;
- 13 • In the event that the facility cannot deliver the energy, Atlantic Power will not  
14 get any payment from BC Hydro for energy not delivered; and

15 • 

16 

17 *Permitting/Environmental*

18 Atlantic Power has the necessary permits to allow the plant to continue to operate  
19 over the short-term extension.

20 **7 Extension Agreements In the Public Interest**

21 Section 71(2.21) of the *UCA* describes what the BCUC must consider when  
22 assessing whether or not an energy supply contract filed by BC Hydro is in the  
23 public interest. The Extension Agreements are energy supply contracts as defined  
24 under Part 5 of the *UCA*.

---

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*<sup>22</sup>; (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.

8 As discussed above, the Extension Agreements are a short term bridging  
9 mechanism that allows both facilities to continue to operate and provide electricity to  
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.

15 [Table 6](#) summarizes how the Extension Agreements support British Columbia's  
16 energy objectives and fulfil other criteria listed under section 71(2.21)(a) through (g)  
17 of the *UCA*.

---

<sup>22</sup> British Columbia's energy objectives, as set out in section 2 of the *Clean Energy Act*, are provided in Appendix J of this Filing.

1  
 2

**Table 6**      **Section 71(2.21) Criteria Consideration  
for the Extension Agreements**

<b>Section 71(2.21) factors</b>	<b>Explanation</b>
(a) British Columbia's energy objectives under the <i>Clean Energy Act</i>	<p>The Extension Agreements support the following four main objectives of British Columbia's energy objectives:</p> <p>The Armstrong Co-Gen Facility and the NWE Williams Lake Facility are both stand-alone biomass facilities and, during the extension period, will continue to generate electricity from clean or renewable resources. The Extension Agreements enable BC Hydro to continue to have supply from clean and renewable resources. (Section 2(d) of the CEA)</p> <p>The Armstrong Co-Gen Facility has been providing electricity to BC Hydro since 2003 and the NWE Williams Lake Facility has been providing electricity to BC Hydro since 1993. The continued operation of these facilities will facilitate the optimization of existing assets. (Section 2(m) of the CEA)</p> <p>The continued operation of these Biomass Facilities will likely have the benefit of job retention at both of these facilities. As explained above, absent the Extension Agreement, the Armstrong Co-Gen Facility may not immediately shut down due to the need for steam related to the operations of the adjacent mill facilities located on the same site. However, the sole purpose of the NWE Williams Lake Facility is to generate electricity and it would likely be shut down absent the Extension Agreement. (Section 2(k) of the CEA)</p> <p>The continued operation of these biomass facilities will reduce wood waste by encouraging the use of biomass for electricity generation. (Section 2(j) of the CEA)</p>
(b) an applicable integrated resource plan approved under section 4 of the <a href="#">Clean Energy Act</a>	<p>Recommended Action 4 of the 2013 Integrated Resource Plan calls for optimization of existing portfolio of IPP resources. The Armstrong Co-Gen Facility has been part of the BC Hydro resource stack since 2003 and the NWE Williams Lake Facility has been part of the BC Hydro resource stack since 1993. The Extension Agreements enable BC Hydro to continue to use these existing IPP resources.</p>
(c) the extent to which the energy supply contract is consistent with the requirements under section 19 of the <a href="#">Clean Energy Act</a>	<p>The Extension Agreements ensure that the Tolko Co-Gen Facility and the NWE Williams Lake Facility will continue to operate and generate electricity using clean or renewable sources, which helps to meet the target of generating at least 93 per cent of the electricity in British Columbia from clean or renewable resources.</p>

Section 71(2.21) factors	Explanation
(d) the quantity of the energy to be supplied under the contract	<p>The maximum generation under the Tolko Armstrong Extension Agreement is █████ GWh (if the end date for the Extension Agreement is September 30, 2019).</p> <p>The maximum generation under the NWE Extension Agreement is █████ GWh (if the end date for the Extension Agreement is September 30, 2019).</p>
(e) the availability of supplies of the energy referred to in paragraph (d)	<p>The Armstrong Co-Gen Facility has been generating and supplying electricity to BC Hydro since 2003; and the NWE Williams Lake Facility has been generating and supplying electricity to BC Hydro since 1993. As discussed in sections <a href="#">6.2.1</a> and <a href="#">6.2.2</a> above, respectively, the facilities are expected to be capable of continued reliable operation over the extension period.</p>
(f) the price and availability of any other form of energy that could be used instead of the energy referred to in paragraph (d)	<p>Please see <a href="#">Table 5</a> 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.</p>
(g) in the case only of an energy supply contract that is entered into by a public utility, the price of the energy referred to in paragraph (d)	<p>For the Armstrong Co-Gen Facility, the price for delivered energy is \$█████/MWh (2017\$), and the price for deemed turn-down energy is \$█████/MWh (2017\$).</p> <p>For the NWE Williams Lake Facility, the delivered energy price is \$█████/MWh (2017\$), and the deemed turn-down energy price is \$█████/MWh (2017\$).</p>

1 **8 First Nations**

2 The Armstrong Co-Gen Facility is within the consultative boundaries of the Adams  
 3 Lake Indian Band, Lower Similkameen Indian Band, Neskonlith Indian Band,  
 4 Okanagan Indian Band, Okanagan Nation Alliance, Penticton Indian Band, Splots'in  
 5 First Nation, and Upper Nicola Indian Band.

6 The NWE Williams Lake Facility is within the consultative boundaries of the  
 7 Neskonlith Indian Band, Toosey Indian Band, Tsilhqot'in National Government  
 8 (Engagement Zone A, which is not the Aboriginal title lands), and Williams Lake  
 9 Indian Band.

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1 The decision required in section [1](#) of this Filing does not require BC Hydro or, to the  
2 best of BC Hydro's knowledge, Tolko or Atlantic Power to construct any new  
3 facilities, upgrade any existing facilities, increase the energy output or other  
4 operations of the existing facilities, or require any further or new Crown  
5 permits/authorizations during the term of the Extension Agreements.

6 BC Hydro therefore respectfully submits that the decision requested in section [1](#) of  
7 this Filing does not have any incremental impact on asserted Aboriginal rights and  
8 title, and therefore it does not trigger the duty to consult First Nations.



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**Armstrong Wood Waste Cogeneration Plant  
and NWE Williams Lake Wood Waste  
Electricity Purchase Agreement  
Extension Agreements**

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**Appendix A**

**Draft Order**



**ORDER NUMBER**

**E-xx-xx**

IN THE MATTER OF

the *Utilities Commission Act*, RSBC 1996, Chapter 473

and

British Columbia Hydro and Power Authority  
Filing for Acceptance of Extension Electricity Purchase Agreement between:  
BC Hydro and Tolko Industries Ltd.  
BC Hydro and Atlantic Power Preferred Equity Ltd.

**BEFORE:**

Commissioner  
Commissioner  
Commissioner

on Date

**ORDER**

**WHEREAS:**

- A. On February 27, 2018, British Columbia Hydro and Power Authority (BC Hydro), pursuant to section 71 of the *Utilities Commission Act (UCA)*, filed an application (Filing) with the British Columbia Utilities Commission (Commission), seeking the Commission's acceptance of two separate agreements (Extension Agreements) extending and amending two existing electricity purchase agreements, one between BC Hydro and Tolko Industries Ltd. (Tolko) for the Armstrong Co-Gen Facility, and the other between BC Hydro and Atlantic Power Preferred Equity Ltd. (Atlantic Power) for the NWE Williams Lake Facility. In the Filing, BC Hydro seeks an order from the Commission that each Extension Agreement is in the public interest and is accepted for filing;
- B. On February 27, 2018, BC Hydro filed both redacted and un-redacted copies of the Filing and advised the Commission that it provided a redacted copy of the Filing to interveners in the BC Hydro Fiscal 2017 to Fiscal 2019 Revenue Requirements proceeding. BC Hydro requests that the un-redacted version of the Filing, including the Extension Agreements, existing electricity purchase agreements (EPAs), amending agreements and the Curtailment Agreement for the NWE Williams Lake Facility, be held confidential as it contains information that is commercially sensitive and, the release of which, may harm BC Hydro's position in future EPA negotiations;
- C. By Order No. G-61-12 dated May 17, 2012, the Commission established "Rules for Energy Supply Contracts for Electricity" (Rules) to facilitate the Commission-review of energy supply contracts for electricity. As

stated in the Rules, an energy supply contract shall be filed the Commission within 60 days of the entry of the contract. On January 5, 2018, BC Hydro requested an extension of time, to February 27, 2018, to file the Extension Agreement with Tolko so that both the Tolko Armstrong Extension Agreement and the NWE Extension Agreement could be filed together pursuant to section 71 of the *UCA*. On January 12, 2018, the Commisison granted the extension request;

- D. On MMMM DD, 2018, the Commission issued letter L-xx-18, inviting submissions from interested parties regarding whether each of the Extension Agreement is in the public interest and if there is a need for a hearing; and
- E. The Commission reviewed the Filing in accordance with the criteria under section 71(2.21) of the *UCA* and requirements under the Rules, and considered submissions by BC Hydro and interested parties. The Commission finds that the Extension Agreement with Tolko and the Extension Agreement with Atlantic Power is each in the public interest and that a public hearing is not necessary for acceptance of each of the Extension Agreements.

**NOW THEREFORE** pursuant to section 71 of the *Utilities Commission Act* and the British Columbia Utilities Commission's Rules for Energy Supply Contracts for Electricity, the Commission orders as follows:

1. The Extension Agreement between BC Hydro and Tolko Industries Ltd. is in the public interest and is accepted for filing.
2. The Extension Agreement between BC Hydro and Atlantic Power Preferred Equity Ltd. is in the public interest and is accepted for filing.
3. The Commission will hold confidential the un-redacted version of the Filing on the basis that disclosure of commercially sensitive information may result in prejudice to BC Hydro's position in future electricity purchase agreement negotiations.

**DATED** at the City of Vancouver, in the Province of British Columbia, this (XX) day of (Month Year).

BY ORDER

(X. X. last name)  
Commissioner

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**Armstrong Wood Waste Cogeneration Plant  
and NWE Williams Lake Wood Waste  
Electricity Purchase Agreement  
Extension Agreements**

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**Appendix B**

**Tolko Armstrong Extension Agreement**

**PUBLIC**

**CONFIDENTIAL**

**FILED WITH BCUC  
ONLY**

**Armstrong Wood Waste Cogeneration Plant  
and NWE Williams Lake Wood Waste  
Electricity Purchase Agreement  
Extension Agreements**

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**Appendix C**

**Tolko Armstrong EPA**

**PUBLIC**

**Armstrong Wood Waste Cogeneration Plant  
and NWE Williams Lake Wood Waste  
Electricity Purchase Agreement  
Extension Agreements**

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**Appendix C-1**

**Tolko Armstrong EPA**

**PUBLIC**

**CONFIDENTIAL**

**FILED WITH BCUC  
ONLY**



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**Armstrong Wood Waste Cogeneration Plant  
and NWE Williams Lake Wood Waste  
Electricity Purchase Agreement  
Extension Agreements**

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**Appendix C-2**

**Tolko Armstrong EPA - 2009 Correction Letter**

**PUBLIC**

**CONFIDENTIAL**

**FILED WITH BCUC  
ONLY**

**Armstrong Wood Waste Cogeneration Plant  
and NWE Williams Lake Wood Waste  
Electricity Purchase Agreement  
Extension Agreements**

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**Appendix C-3**

**Tolko Armstrong EPA –  
Hourly Firm Energy Amount Amendment Table**

**PUBLIC**

**CONFIDENTIAL**

**FILED WITH BCUC  
ONLY**

**Armstrong Wood Waste Cogeneration Plant  
and NWE Williams Lake Wood Waste  
Electricity Purchase Agreement  
Extension Agreements**

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**Appendix D**

**Tolko Armstrong EPA  
(Consolidated with Amendment Table)  
Blackline showing Extension Agreement Amendments**

**PUBLIC**

**CONFIDENTIAL**

**FILED WITH BCUC  
ONLY**

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**Armstrong Wood Waste Cogeneration Plant  
and NWE Williams Lake Wood Waste  
Electricity Purchase Agreement  
Extension Agreements**

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**Appendix E**

**NWE Extension Agreement**

**PUBLIC**

**CONFIDENTIAL**

**FILED WITH BCUC  
ONLY**



**Armstrong Wood Waste Cogeneration Plant  
and NWE Williams Lake Wood Waste  
Electricity Purchase Agreement  
Extension Agreements**

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**Appendix F**

**NWE EPA and Amending Agreements**

**PUBLIC**

**Armstrong Wood Waste Cogeneration Plant  
and NWE Williams Lake Wood Waste  
Electricity Purchase Agreement  
Extension Agreements**

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**Appendix F-1**

**NWE EPA dated June 30, 1990**

**PUBLIC**

**CONFIDENTIAL**

**FILED WITH BCUC  
ONLY**

**Armstrong Wood Waste Cogeneration Plant  
and NWE Williams Lake Wood Waste  
Electricity Purchase Agreement  
Extension Agreements**

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**Appendix F-2**

**NWE EPA – Amending Agreement  
dated April 25, 1991**

**PUBLIC**

**CONFIDENTIAL**

**FILED WITH BCUC  
ONLY**

**Armstrong Wood Waste Cogeneration Plant  
and NWE Williams Lake Wood Waste  
Electricity Purchase Agreement  
Extension Agreements**

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**Appendix F-3**

**NWE EPA – Amending Agreement  
dated October 18, 1999**

**PUBLIC**

**CONFIDENTIAL**

**FILED WITH BCUC  
ONLY**

**Armstrong Wood Waste Cogeneration Plant  
and NWE Williams Lake Wood Waste  
Electricity Purchase Agreement  
Extension Agreements**

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**Appendix G**

**NWE EPA  
(Consolidated with Prior Amendments)**

**Blacklined Version of the NWE Extension Agreement Amendment (Showing the Changes between a Consolidated Version of the NWE EPA, as Amended by the April 25, 1991 Firm Energy Component Amendment and the October 19, 1999 Electricity Purchase Agreement Amending Agreement, and the Extension Agreement)**

**PUBLIC**



**CONFIDENTIAL**

**FILED WITH BCUC  
ONLY**

**Armstrong Wood Waste Cogeneration Plant  
and NWE Williams Lake Wood Waste  
Electricity Purchase Agreement  
Extension Agreements**

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**Appendix H**

**NWE Curtailment Agreement**

**PUBLIC**

**CONFIDENTIAL**

**FILED WITH BCUC  
ONLY**

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**Armstrong Wood Waste Cogeneration Plant  
and NWE Williams Lake Wood Waste  
Electricity Purchase Agreement  
Extension Agreements**

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**Appendix I**

**2013 Integrated Resource Plan Excerpts**

1 **9.2.4 Recommended Action 4: Optimize existing portfolio of IPP**  
2 **resources**

3 ***Optimize the current portfolio of IPP resources according to the key principle***  
4 ***of reducing near-term costs while maintaining cost-effective options for***  
5 ***long-term need.***

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.

16 **9.2.4.1 Justification**

17 The energy and capacity LRBs depicted in section 4.4.2.6 after implementation of  
18 the DSM target and EPA renewal assumptions show:

- 19 ≠ There is an energy gap beginning in F2028 and a capacity gap beginning in  
20 F2019 without Expected LNG load
- 21 ≠ The corresponding energy and capacity gaps begin in F2022 and F2019,  
22 respectively, with Expected LNG load

23 BC Hydro identified three categories of potential EPA portfolio supply reductions:

- 24 1. Pre-COD EPAs where there is some ability to defer COD, downsize capacity or  
25 terminate the EPA
- 26 2. EPA renewals where contracts are coming to end of life
- 27 3. New EPAs

1 For all three categories, as described in section 4.2.5.1, projects were assessed  
2 based on cost, implementation risk, system benefits and economic development  
3 benefits.

#### 4 **9.2.4.2 Execution**

5 **Termination, Deferral or Downsizing of Pre-COD EPAs:** To date, BC Hydro has  
6 executed mutual agreements to terminate four EPAs, representing 147 MW in  
7 nameplate capacity and 980 GWh in total annual generation (prior to attrition  
8 adjustment). BC Hydro is in discussions with IPPs where development of pre-COD  
9 EPA projects has stalled, with the objective of obtaining mutual agreement to  
10 terminate these contracts.

11 BC Hydro is continuing to discuss options for deferral or downsizing of EPAs with  
12 developers, where feasible options exist.

13 **EPA Renewals:** As described in section 4.2.5.1, prior to this IRP BC Hydro  
14 assumed that no bioenergy EPAs would be renewed upon expiry due to pricing and  
15 fuel supply risks, and that all other EPAs would be renewed for the remainder of the  
16 planning horizon. For planning purposes, BC Hydro now assumes that about  
17 50 per cent of the bioenergy EPAs will be renewed, and about 75 per cent of the  
18 run-of-river hydroelectric EPAs that are up for renewal in the next five years will be  
19 renewed. These EPA renewal planning assumptions would result in about  
20 1,800 GWh/year of firm energy in F2021 and about 6,400 GWh/year of firm energy  
21 in F2033.

22 However, IPP projects will be individually assessed as EPAs come up for renewal.  
23 BC Hydro recognizes that EPAs can provide beneficial products such as voltage  
24 support, dependable capacity (valued using Revelstoke Unit 6 cost of capacity) and  
25 dispatchability. A recent example is BC Hydro's plan to exercise an option to extend  
26 the EPA term for the 120 MW McMahon Cogeneration natural gas-fired facility  
27 located near Taylor, B.C., provides cost-effective firm energy, dispatchability and  
28 capacity support to the local transmission system. Consultation with First Nations

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1 would be required where there are physical or operational changes to the projects  
2 triggered by the renewal.

3 By way of illustration, renewing about 2,000 GWh/year by F2021 would cost about  
4 \$2.5 billion (through to F2033 in as-spent dollars).

5 **New EPAs:** BC Hydro is continuing to negotiate in good faith with First Nations and  
6 other parties where there are agreements committing BC Hydro to negotiate EPAs.  
7 For further actions on new IPPs, see the Clean Energy Strategy Recommended  
8 Action 10 in section [9.2.10.2](#) on SOP and Net Metering.

### 9 **9.2.4.3 Future Approval Process**

10 BC Hydro anticipates that its management of the IPP EPA portfolio will be informed  
11 by the IRP review and approval process and through future RRA processes.

### 12 **9.2.5 Recommended Action 5: Investigate customer incentive** 13 **mechanisms**

14 *Investigate incentive-based pricing mechanisms over the short-term that could*  
15 *encourage potential new customers and existing industrial and commercial*  
16 *customers looking to establish new operations or expand existing operations*  
17 *in BC Hydro's service area.*

#### 18 **9.2.5.1 Justification**

19 Because domestic rates are higher than the price that can be obtained on the spot  
20 market, one potential strategy to get higher value for the available energy is to  
21 increase domestic demand. This is only worthwhile if the increased load is  
22 temporary and there is benefit in the initiative. Initiatives that boost demand over a  
23 longer timeframe will increase rates and revenue requirements once the additional  
24 electricity supplies are needed.

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**Armstrong Wood Waste Cogeneration Plant  
and NWE Williams Lake Wood Waste  
Electricity Purchase Agreement  
Extension Agreements**

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**Appendix J**

**British Columbia's Energy Objectives**



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## **British Columbia's Energy Objectives (taken from the *Clean Energy Act*)**

The following comprise British Columbia's energy objectives:

- (a) to achieve electricity self-sufficiency;
- (b) to take demand-side measures and to conserve energy, including the objective of the authority reducing its expected increase in demand for electricity by the year 2020 by at least 66%;
- (c) to generate at least 93% of the electricity in British Columbia from clean or renewable resources and to build the infrastructure necessary to transmit that electricity;
- (d) to use and foster the development in British Columbia of innovative technologies that support energy conservation and efficiency and the use of clean or renewable resources;
- (e) to ensure the authority's ratepayers receive the benefits of the heritage assets and to ensure the benefits of the heritage contract under the *BC Hydro Public Power Legacy and Heritage Contract Act* continue to accrue to the authority's ratepayers;
- (f) to ensure the authority's rates remain among the most competitive of rates charged by public utilities in North America;
- (g) to reduce BC greenhouse gas emissions
  - (i) by 2012 and for each subsequent calendar year to at least 6% less than the level of those emissions in 2007,
  - (ii) by 2016 and for each subsequent calendar year to at least 18% less than the level of those emissions in 2007,

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- (iii) by 2020 and for each subsequent calendar year to at least 33% less than the level of those emissions in 2007,
  - (iv) by 2050 and for each subsequent calendar year to at least 80% less than the level of those emissions in 2007, and
  - (v) by such other amounts as determined under the *Greenhouse Gas Reduction Targets Act*;
- (h) to encourage the switching from one kind of energy source or use to another that decreases greenhouse gas emissions in British Columbia;
  - (i) to encourage communities to reduce greenhouse gas emissions and use energy efficiently;
  - (j) to reduce waste by encouraging the use of waste heat, biogas and biomass;
  - (k) to encourage economic development and the creation and retention of jobs;
  - (l) to foster the development of first nation and rural communities through the use and development of clean or renewable resources;
  - (m) to maximize the value, including the incremental value of the resources being clean or renewable resources, of British Columbia's generation and transmission assets for the benefit of British Columbia;
  - (n) to be a net exporter of electricity from clean or renewable resources with the intention of benefiting all British Columbians and reducing greenhouse gas emissions in regions in which British Columbia trades electricity while protecting the interests of persons who receive or may receive service in British Columbia;
  - (o) to achieve British Columbia's energy objectives without the use of nuclear power;
  - (p) to ensure the commission, under the *Utilities Commission Act*, continues to regulate the authority with respect to domestic rates but not with respect to expenditures for export, except as provided by this Act.