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March 25, 2020

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: Project No. 1599053
British Columbia Utilities Commission (BCUC or Commission)
British Columbia Hydro and Power Authority (BC Hydro)
Transmission Service Market Reference-Priced Rates Application – Freshet
Rate Component
Responses to BCUC Pre-filed Questions for Streamlined Review Process,
BCUC Staff and Interveners Information Request No. 2**

BC Hydro writes in response to Exhibit A-5 to provide its responses to the BCUC pre-filed questions for the Streamlined Review Process (**SRP**) and in compliance with BCUC Order No. G-49-20 (Exhibit A-6) to provide its responses to Round 2 information requests as follows:

Exhibit B-6	Responses to BCUC Pre-filed Questions for SRP
Exhibit B-6-1	Responses to BCUC Pre-filed Questions for SRP (Confidential Version)
Exhibit B-7	Responses to BCUC Staff Information Request No. 2
Exhibit B-8	Responses to Interveners Information Request No. 2

BC Hydro is filing our response to BCUC Pre-filed Question No. 3 confidentially with the BCUC. BC Hydro confirms that in each instance, an explanation for the request for confidential treatment is provided in the public version of the IR response. BC Hydro seeks this confidential treatment pursuant to section 42 of the *Administrative Tribunals Act* and Part 4 of the BCUC's Rules of Practice and Procedure.

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British Columbia Utilities Commission
Transmission Service Market Reference-Priced Rates Application – Freshet Rate
Component
Responses to BCUC Pre-filed Questions for Streamlined Review Process, BCUC Staff
and Interveners Information Request No. 2

For further information, please contact Anthea Jubb at 604-623-3545 or by email at bchydroregulatorygroup@bchydro.com.

Yours sincerely,



Fred James
Chief Regulatory Officer

jc/ma

Enclosure

British Columbia Utilities Commission Questions for Streamlined Review Process Information Request No. 1.0 Dated: March 2, 2020 British Columbia Hydro & Power Authority Response issued March 18, 2020	Page 1 of 1
British Columbia Hydro & Power Authority Transmission Service Market Reference-Priced Rates Application	Exhibit: B-6

1.0 To date, how many customers have given notice to BC Hydro to enroll for the 2020 freshet period? How does the 2020 freshet period enrollment compare to the average historical participation?

RESPONSE:

BC Hydro has received notice from 24 participant sites in accordance with Special Condition 2 of RS 1892 to enrol for the 2020 freshet period. This compares with actual customer participation for each of the four years of the Freshet Rate Pilot as shown in the table below.

Freshet Rate (RS 1892) participant customer sites					
Industry	Year 1	Year 2	Year 3	Year 4	Year 5
Pulp and Paper	9	9	8	8	1
Solid wood	12	12	12	11	11
Oil and Gas	6	6	6	4	4
Chemicals	3	4	4	3	2
Mining	6	10	13	9	3
Cement	1	1	1	1	1
Other	2	2	1	1	2
Total	39	44	45	37	24

BC Hydro considers that the number of RS 1892 customer participant sites for 2020 is lower than average historical participation for the following reasons:

- **Sixteen customer sites have provided notice to take service under the Incremental Energy Rate Pilot (RS 1893) instead of RS 1892;**
- **The recent downturn in the forestry sector has reduced the number of customer sites that would be able to participate and consume incremental energy;**
- **Nine customer participant sites from previous years have opted not to participate in Year 5 (of which five of these sites are presently shutdown); and**
- **Year 5 includes two new customer participant sites for which 2020 will be their first year of participation under RS 1892.**

British Columbia Utilities Commission Questions for Streamlined Review Process Information Request No. 2.0 Dated: March 2, 2020 British Columbia Hydro & Power Authority Response issued March 18, 2020	Page 1 of 1
British Columbia Hydro & Power Authority Transmission Service Market Reference-Priced Rates Application	Exhibit: B-6

2.0 In response to BCUC information request (IR) 1.9.4, BC Hydro provides its rationale for not curtailing customers for economic reasons. How will all other BC Hydro ratepayers be protected in the absence of curtailment for economic reasons? What are the benefits (and to whom would they accrue) if the curtailment criteria include economic reasons?

RESPONSE:

BC Hydro’s view is that the assessment of ratepayer risk for RS 1892 service should be based on the results across entire freshet periods, and across multiple freshet periods, rather than, for example, the results for a specific hour or day where the provision of RS 1892 might result in a deemed economic loss.

In the absence of curtailment for economic reasons, ratepayers are protected by setting the energy charge adder (currently \$3/MWh) and energy price floor (currently \$0/MWh) to a level that is expected to result in benefits to ratepayers. Further, and as stated in BC Hydro’s response to MOVEUP IR 1.3.1, BC Hydro would be amenable to reviewing the rate after ten years to address potential future risks or changes that may arise.

BC Hydro’s Freshet Rate Pilot did not consider economic interruption as part of its rate objectives, design or pricing. No specific modeling, analysis or consultation was conducted during the Pilot to define the prospective pricing, criteria and implementation mechanics for an economic interruption provision.

BC Hydro considers that the proposed RS 1892 design and pricing in the Application reflects a balanced approach to risk as between ratepayers and participant customers. The transfer of additional risk to participant customers, such as through the inclusion of economic interruption criteria, will reduce the attractiveness of RS 1892 which, in turn, may lead to reduced participation. This, in turn, would diminish the proven effectiveness of RS 1892 to help BC Hydro mitigate freshet period over-supply and provide ratepayer benefits.

British Columbia Utilities Commission Questions for Streamlined Review Process Information Request No. 3.0 Dated: March 2, 2020 British Columbia Hydro & Power Authority Response issued March 18, 2020	Page 1 of 1
British Columbia Hydro & Power Authority Transmission Service Market Reference-Priced Rates Application	Exhibit: B-6

3.0 In response to BCUC IR 1.8.2, BC Hydro states that the 2019 year of the Freshet Rate Pilot had periods where the system was under marginal resource Condition 1: Minimum Generation with Exports approximately 10 per cent of the time, Condition 2: Minimum Generation with Imports approximately 60 per cent of the time, and Condition 3: Higher Basin Generation on the Margin approximately 30 per cent of the time. What was the split of such conditions during Years 1 to 3 of the Freshet Rate Pilot?

RESPONSE:

This response is being filed in confidence with the BCUC because it contains commercially sensitive information.

British Columbia Utilities Commission Questions for Streamlined Review Process Information Request No. 4.0 Dated: March 2, 2020 British Columbia Hydro & Power Authority Response issued March 25, 2020	Page 1 of 1
British Columbia Hydro & Power Authority Transmission Service Market Reference-Priced Rates Application	Exhibit: B-6

4.0 Recognizing the potential economic losses incurred by energy imports, in what ways can BC Hydro manage the potential economic losses in each year's freshet period (e.g. reduce energy imports to serve non-firm Freshet Rate, increase the energy adder, utilize BC Hydro generation resources, and/or other methods)?

RESPONSE:

In operations, service of RS 1892 load is not distinguished from service of all other customer load. BC Hydro does not attribute imports, exports or use of its generation resources to serve any particular load.

BC Hydro only assessed the use of imports or exports with respect to financial impacts of RS 1892 in the after-the-fact rate impact evaluation. For the purpose of the evaluation, BC Hydro determined, for each day, the marginal resource condition deemed to serve incremental RS 1892 load. This condition was then paired with the net daily volume of RS 1892 load and the applicable daily pricing to calculate the corresponding economic impact.

Reducing energy imports or using BC Hydro generation resources differently to serve load are not options to manage the potential for economic losses.

Under RS 1892, BC Hydro manages the risk of economic losses from market imports through the \$3/MWh energy charge adder and the \$0/MWh energy price floor as described below:

- Holding the Mid-C market energy price constant, BC Hydro will deem an economic loss for serving RS 1892 energy from market imports of approximately \$4/MWh. This represents the difference between the \$3/MWh energy charge adder collected (plus deferral account rate rider as applicable) and BC Hydro's cost of wheeling and 1.9 per cent transmission losses for delivery of market energy to the BC border of approximately \$7/MWh;¹ and
- On any day where the market price is negative, this \$4/MWh difference will be reduced by the difference between the actual (negative) market price and the \$0/MWh energy price floor under RS 1892.

BC Hydro considers the \$3/MWh energy charge adder and \$0/MWh energy price floor to be sufficient to manage the risk of economic losses over the entire freshet period and over multiple freshet periods.

¹ Based on average CAD/US exchange rate of 0.75.

British Columbia Utilities Commission Questions for Streamlined Review Process Information Request No. 5.0 Dated: March 2, 2020 British Columbia Hydro & Power Authority Response issued March 25, 2020	Page 1 of 1
British Columbia Hydro & Power Authority Transmission Service Market Reference-Priced Rates Application	Exhibit: B-6

- 5.0 In Year 4 (2019) of the Freshet Rate Pilot, BC Hydro initially decided to not offer the Freshet Rate because of low water conditions and the possibility of high Mid-C prices. In response to stakeholder request, BC Hydro nonetheless proceeded to offer the Freshet Rate. Year 4 resulted in a loss to BC Hydro. When BC Hydro predicts that there is a high probability of economic losses due to unfavorable conditions, should BC Hydro be precluded from offering the Freshet Rate or not? Why or why not?

RESPONSE:

BC Hydro does not support a requirement that the Freshet Energy Rate be subject to suspension in the event of a high probability of economic losses, because of the additional costs such a process would impose on BC Hydro ratepayers. BC Hydro's view is that a more efficient and less costly process would be to review the Freshet Energy Rate at a fixed future date as discussed in BC Hydro's response to BCUC pre-filed Question No. 8.

Additional costs to ratepayers would arise from the consideration of whether to suspend service for a particular freshet period. The criteria and process to determine whether to suspend service would have to be implemented either by a predefined and generally accepted process, or through a BCUC proceeding. Absent these steps, the requirement to suspend service may be subject to controversy, customer complaints and reconsideration requests.

Developing and obtaining general acceptance of a predefined criteria and process for service suspension would require the identification of potential processes and criteria, analysis of their implementation costs and practicality, as well as customer and stakeholder consultation. Absent these steps, a process for service suspension may be impractical or costly to implement, and subject to complaints and controversy.

Undergoing a BCUC proceeding to assess in each year whether or not BC Hydro should be precluded from offering the Freshet Energy Rate service is another option to manage the potential for controversy associated with service suspension but would come at a cost to ratepayers. However such an approach would lack regulatory efficiency and result in additional legal and regulatory costs that would have to be recovered from BC Hydro ratepayers.

British Columbia Utilities Commission Questions for Streamlined Review Process Information Request No. 6.0 Dated: March 2, 2020 British Columbia Hydro & Power Authority Response issued March 25, 2020	Page 1 of 2
British Columbia Hydro & Power Authority Transmission Service Market Reference-Priced Rates Application	Exhibit: B-6

6.0 In response to BCSEA IR 1.5.2, BC Hydro submits that the subtraction of implementation costs, and verified load shifting costs, from the estimated revenue gains for the entire period of the Freshet Rate Pilot would have provided a more accurate indication of net financial impact. However, BC Hydro does not have verified estimates of load shifting for Year 3 and 4 of the pilot and has not provided actual implementation costs for Year 4. To the extent possible, what is BC Hydro's best estimate of load shifting and implementation costs, and what is the corresponding financial impact for each of Years 3 and 4?

RESPONSE:

BC Hydro has expanded Table 10 of Appendix D to the Application to show Pilot implementation costs by year. BC Hydro notes that Year 4 implementation costs include an estimate of legal and regulatory costs related to this proceeding.

Implementation Cost Description	Year 1	Year 2	Year 3	Year 4	Totals
Freshet rate design / regulatory proceedings*	\$ 40,000	\$ -	\$ -	\$ 66,000	\$ 106,000
Customer and stakeholder engagement	\$ 30,000	\$ 15,000	\$ 20,000	\$ 15,000	\$ 80,000
Billing	\$ 20,000	\$ 10,000	\$ 30,000	\$ 10,000	\$ 70,000
Evaluation report preparation	\$ 25,000	\$ 5,000	\$ 10,000	\$ -	\$ 40,000
Total	\$ 115,000	\$ 30,000	\$ 60,000	\$ 91,000	\$ 296,000
<i>* Estimated legal and regulatory costs (including PACA awards) for this proceeding</i>					

BC Hydro has expanded Table 12 of Appendix D to the Application to provide a revised estimate of adjusted ratepayer benefit using the information available to us, which includes: (i) implementation costs for each year; (ii) the results of BC Hydro's assessment of load shifting for Year 1 and Year 2; and (iii) a revised forecast of load shifting impacts for Year 3. BC Hydro considers the adjusted ratepayer benefit for the Pilot to be in the order of \$3.2 million, excluding any adjustment for Year 4 load shifting impacts which have not been forecast or assessed.

British Columbia Utilities Commission Questions for Streamlined Review Process Information Request No. 6.0 Dated: March 2, 2020 British Columbia Hydro & Power Authority Response issued March 25, 2020	Page 2 of 2
British Columbia Hydro & Power Authority Transmission Service Market Reference-Priced Rates Application	Exhibit: B-6

Ratepayer Benefit - Adjustment Description	Year 1 (\$,000)	Year 2 (\$,000)	Year 3 (\$,000)	Year 4 (\$,000)	Total (\$,000)
Preliminary ratepayer benefit	\$ 2,259	\$ 2,194	\$ 1,872	\$ (543)	\$ 5,782
Less implementation costs	\$ (115)	\$ (30)	\$ (60)	\$ (91)	\$ (296)
Less customer-reported load shift impact	\$ (32)	\$ -	\$ -	\$ -	\$ (32)
Less unexplained load variance impact	\$ -	\$ -	\$ -	\$ -	\$ -
Less natural load growth impact	\$ (470)	\$ (340)	\$ (205)	\$ -	\$ (1,015)
Less RS 1880 replacement service impact	\$ (233)	\$ (820)	\$ (220)	\$ -	\$ (1,273)
Adjusted Ratepayer Benefit*	\$ 1,409	\$ 1,004	\$ 1,387	\$ (634)	\$ 3,166
<i>*actuals for Year 1 and Year 2; REVISED forecast for Year 3 load shifting; insufficient information available for Year 4</i>					

BC Hydro has revised its forecast of load shifting impacts for Year 3 based on the application of professional judgment to readily available information. However, this revised forecast was not prepared using the detailed six-step analysis methodology described in section 3.1.7 of Appendix D to the Application. That analysis is complex and time-consuming and was not possible to complete within the requested timeframe.

BC Hydro has insufficient data and information to prepare a forecast of load shifting impacts for Year 4 at this time. BC Hydro considers that there is insufficient evidence to support a conclusion that load shifting impacts from any prior year would be appropriate to apply to Year 4.

British Columbia Utilities Commission Questions for Streamlined Review Process Information Request No. 7.0 Dated: March 2, 2020 British Columbia Hydro & Power Authority Response issued March 25, 2020	Page 1 of 1
British Columbia Hydro & Power Authority Transmission Service Market Reference-Priced Rates Application	Exhibit: B-6

7.0 Please model and discuss scenarios of energy availability in the following scenarios: (i) favourable, (ii) normal, and (iii) unfavourable water conditions. For each of these scenarios, what is the likely financial impact on other ratepayers that flows from BC Hydro continuing to offer the Freshet Rate in each scenario?

RESPONSE:

To respond to this question, BC Hydro has defined the scenarios as follows:

- (i) Favourable water conditions are when annual inflows are at least 10 per cent higher (wetter) than average;
- (ii) Normal water conditions are when annual inflows are within +/-10 per cent of average; and
- (iii) Unfavourable water conditions are when annual inflows are at least 10 per cent lower (drier) than average.

Using the same modeling and assumptions as performed for BC Hydro's response to BCUC IR 1.7.1, over the 46 years of historical weather sequences used in the modeling, the expected annual financial impact on ratepayers is:

- (i) Favourable: \$547,000;
- (ii) Normal: \$34,000; and
- (iii) Unfavourable: -\$374,000.

BC Hydro notes that these conditions represent an average of expected annual outcomes only. Within each scenario, there can still be a range of outcomes. As the majority of inflow scenarios fall into the normal and favourable categories, BC Hydro considers that benefits to ratepayers will accrue when assessed over multiple years.

Further, BC Hydro notes that the modeled results are different from the actual results for the Pilot, whereby Year 1 (ratepayer impact of \$2,259,000), Year 2 (ratepayer impact of \$2,194,000) and Year 3 (ratepayer impact of \$1,872,000) would each be defined as 'normal' and Year 4 (ratepayer impact of -\$543,000) would be defined as 'unfavourable'. The model was intended to test reasonableness of the adder under a range of conditions. It was not primarily intended to provide a forecast of future revenues. Input assumptions to the model differ from the actual conditions of the past four years. As an example, the model assumed customer participation levels and incremental energy use to be approximately 50 per cent lower than was typically seen over the past four years. The model outcomes demonstrate that the adder results in positive net ratepayer benefits under most conditions.

British Columbia Utilities Commission Questions for Streamlined Review Process Information Request No. 8.0 Dated: March 2, 2020 British Columbia Hydro & Power Authority Response issued March 25, 2020	Page 1 of 1
British Columbia Hydro & Power Authority Transmission Service Market Reference-Priced Rates Application	Exhibit: B-6

8.0 In response to MoveUP IR 1.3.1, BC Hydro explains its proposal to not review the Freshet Rate earlier than ten years. How, if at all, will BC Hydro, BCUC and ratepayers ensure that the Freshet Rate remains economical for all ratepayers during this ten year period?

RESPONSE:

BC Hydro believes that a review in ten years time is a reasonable approach considering regulatory efficiency, ratepayer risk, and customer experience.

Undertaking more frequent reviews of the Freshet Energy Rate will result in costs that will have to be recovered from all ratepayers. A review in ten years is a reasonable period of time, given that BC Hydro’s energy surplus in a planning view is expected to last at least ten years, and that conditions experienced over the last four years are likely to be within the range of conditions observed in the near and medium term.