FINAL ARGUMENT ON BEHALF OF

THE CLEAN ENERGY ASSOCIATION OF BRITISH COLUMBIA

Re: BRITISH COLUMBIA HYDRO and POWER AUTHORITY

Transmission Service Market Reference-Priced Rates Application

Project No. 1599053

April 8, 2020

BC HYDRO Transmission Service

Market-Reference Priced Rates Application

Final Argument of CEABC

I. EXECUTIVE SUMMARY

The Clean Energy Association of B.C. (*"CEABC"*) supports BC Hydro's Market Reference-Priced Rates Application (*"Application"*) on the basis that it provides a significant benefit to both participating and non-participating ratepayers, by alleviating BC Hydro's potential for surplus energy during the freshet period.

The original application included two proposed rates:

- **RS 1892** – a proposal to make the **Freshet Rate** into a permanent rate, since it has now been tested on a pilot basis during the 2016 through 2019 freshet seasons; and
- **RS 1893** – the **Incremental Energy Pilot Rate**, a proposal to make a similar rate available on a year-round basis, for a

Since the RS 1893 rate has now been given an interim approval by the British Columbia Utilities Commission (*"BCUC"*), CEABC's comments will be focused on the RS 1892 Freshet Rate.

The principle points that CEABC will make in this submission are:

A. The Freshet Pilot Rate attracted a reasonable number of the eligible participants and enabled them to achieve a significant saving.

B. The Freshet Pilot Rate achieved incremental energy sales for BC Hydro, which contributed significant benefits for the non-participating ratepayers.

C. The apparent Revenue loss in 2019 should not be considered a serious risk, or an obstacle to continuing the Freshet Rate on a permanent basis. This loss was due to very special circumstances which are unlikely to be repeated.

D. Additional submissions.

II. GENERAL COMMENTARY.

A. The Freshet Pilot Rate attracted a reasonable number of the eligible participants and enabled them to achieve a significant saving.

BC Hydro has stated that: *"Approximately 30 per cent of eligible customers, across a broad range of industries and locations across the province, participated in the Freshet Rate pilot."*[1] In addition, BC Hydro provided the following table showing the number of participating sites from each industry segment over the pilot period from 2016 to 2019, and anticipated for the upcoming 2020-freshet season:[2]

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

Apparently, the decline in intended participation for the 2020 year (Year 5) can be explained due to 5 sites that are presently shut down (likely pulp and paper or mining), and16 customers who have elected to take service under the pilot RS 1893 (which operates essentially the same during the freshet months, but allows for incremental purchases over the balance of the year as well, albeit at a $7/MWh adder instead of $3/MWh).

BC Hydro, also provided the following estimation of the savings achieved by the participants during the first 3 years of the Freshet Pilot Rate:[3]

Table 7 Estimated Participant Customer Benefit

Estimate of unit and total electricity cost reduction	Year 1 F2017	Year 2 F2018	Year 3 F2019	Total
Energy - estimated unit cost reduction				
Average RS 1892 energy charge (includes $3/MWh wheeling)	$ 24.88	$ 22.50	$ 26.31	
RS 1823 Tier 1 energy charge	$ 39.81	$ 41.20	$ 42.44	
Electricity price reduction vs RS 1823 Tier 1 $/MWh	$ 14.93	$ 18.70	$ 16.13	
Total RS 1823 energy volume (MWh)	139,064	168,400	150,383	
Estimated energy cost reduction	$ 2,076,138	$ 3,148,608	$ 2,425,430	$ 7,650,175
Demand - estimated unit cost reduction				
Total RS 1892 energy sales (MWh)	139,064	168,400	150,383	
Total number of hours during Freshet Period (hrs)	2,208	2,208	2,208	
Average incremental demand at unity power factor (kVA)	62,982	76,268	68,108	
RS 1823 demand charge ($/kVA)	7.634	7.901	8.138	
Estimated demand cost reduction	$ 480,804	$ 602,594	$ 554,265	$ 1,637,663
Total estimated electricity cost reduction*	$ 2,556,942	$ 3,751,202	$ 2,979,694	$ 9,287,838
** excludes rate rider and taxes*				

[1] BC Hydro Final Written Submission, page 4, paragraph 17.
[2] Exhibit B-6. Response to BCUC Pre-filed Question 1.0 for SRP
[3] Exhibit B-1, Appendix D, Freshet Pilot Final Evaluation Report – Dec. 2018, page 22 of 296

With regard to the 2019 year, the following table from the Year 4 Evaluation Report shows the total amount of incremental energy purchased under the Freshet Rate (RS 1892) over the 4-year period:[4]

Table 2 Comparison of RS 1892 Energy Sales and Gross Revenue Year 1, Year 2, Year 3 and Year 4

	Year 1 (2016)	Year 2 (2017)	Year 3 (2018)	Year 4 (2019)
Number of Participant Sites	39	44	45	37
RS 1892 energy sales (MWh)	139,064	168,399	150,383	111,468
Average incremental load[3] (MW/hr)	63.0	76.3	68.1	50.5
Average unit cost of market-priced energy[4] ($/MWh)	$21.88	$19.50	$23.81	$24.27
RS 1892 energy revenue ($ million)	3.0	3.3	3.6	2.7
Plus $3/MWh wheeling rate x energy volume ($ million)	0.4	0.5	0.4	0.3
Plus 5 per cent deferral account rate rider ($ million)	0.2	0.2	0.2	0
Total RS 1892 gross revenue ($ million)	3.6	4.0	4.2	3.0
Average total unit cost of market-priced energy including wheeling rate and rate rider, excluding taxes[5] ($/MWh)	26.12	23.63	28.15	27.27

In Table 14 below (from the Year 3 Evaluation Report), BC Hydro compared RS 1823 Tier 1 energy prices to the RS 1892 energy prices during HLH and LLH periods from 2016 to 2018:[5]

Table 14 Average RS 1892 Energy Price by Freshet Month in $CAD/MWh compared to RS 1823 Tier 1 Energy Price

Freshet Month	Ave. RS 1892 HLH energy price C$/MWh	Ave. RS 1892 LLH energy price C$/MWh	RS 1823 Tier 1 energy price C$/MWh
May-18	$ 13.74	$ (0.30)	$ 42.44
Jun-18	$ 19.91	$ 5.57	$ 42.44
Jul-18	$ 84.18	$ 39.82	$ 42.44
May-17	$ 20.35	$ 2.68	$ 41.20
Jun-17	$ 18.50	$ 1.05	$ 41.20
Jul-17	$ 36.10	$ 26.92	$ 41.20
May-16	$ 17.80	$ 13.09	$ 39.81
Jun-16	$ 26.01	$ 18.15	$ 39.81
Jul-16	$ 38.38	$ 27.92	$ 39.81

This data indicates there was a considerable benefit to the Freshet Pilot Rate during the months of May and June each year, but that benefit was greatly reduced or even eliminated in July (e.g. HLH in July 2018 shows no benefit).

[4] Exhibit B-1, Appendix E, Evaluation Report for Year Four, page 7 of 21
[5] Exhibit B-1, Appendix D, Freshet Rate Pilot Final Evaluation Report – Dec. 2018, page 51 of 296

In addition, Table 15, from the same report, shows the average energy prices actually paid under RS 1892 (including the $3/MWh wheeling adder), vs. the regular transmission service rates under RS 1823.[6]

Table 15 Average Actual RS 1892 Energy Prices Paid Compared to RS 1823 Energy Prices

Average Energy Charges by Rate Schedule	F2017	F2018	F2019
	C$/MWh	C$/MWh	C$/MWh
Aggregate average RS 1892 energy charge	$ 24.88	$ 22.50	$ 26.31
Average RS 1892 HLH energy charge	$ 28.83	$ 25.74	$ 34.50
Average RS 1892 LLH energy charge	$ 19.53	$ 10.72	$ 12.28
RS 1823 Tier 1 energy charge	$ 39.81	$ 41.20	$ 42.44
RS 1823 Tier 2 energy charge	$ 89.20	$ 92.32	$ 95.09
RS 1823 Energy Charge A	$ 44.75	$ 46.31	$ 47.70

With regard to the 2019 year, Table 4 from the Year 4 Evaluation Report shows that participants achieved an approximate saving of $18/MWh by buying their incremental energy under the RS 1892 Freshet Rate vs. what they would have paid under their normal RS 1823 Tier 1 rate ($45.35/MWh):[7]

Table 4 RS 1823 and RS 1892 energy prices (May to July 2019

Energy Prices by Rate Schedule	Year 4 (F2020)
	C$/MWh
Average RS 1892 energy price (includes wheeling rate)	$ 27.27
RS 1823 Tier 1 energy price	$ 45.35
RS 1823 Tier 2 energy price	$ 101.60
RS 1823 Energy Charge Part A price	$ 50.98
Energy price differential vs RS 1823 Tier 1	**$ 18.08**

On total purchases of 111 GWh, that amounts to approximately $2 million split between the 37 participating customers. That is not a huge saving, relative to their total costs, but it is a significant benefit – and one which certainly merits continuing in future years and, if possible, expanding to even more customers.

[6] Exhibit B-1, Appendix D, Freshet Rate Pilot Final Evaluation Report – Dec. 2018, page 52 of 296
[7] Exhibit B-1, Appendix E, Evaluation Report for Year Four, page 11 of 21

B. The Freshet Pilot Rate achieved incremental energy sales for BC Hydro, which contributed significant benefits for the non-participating ratepayers.

As indicated in line 2 of Table 2 above, BC Hydro achieved incremental sales of approximately 569 GWh over the past 4 years, through sales under the Freshet Pilot Rate. These incremental sales achieved a revenue gain of approximately $5.8 million over this period (which has accrued to the non-participating ratepayers), as shown in Table 5, taken from the Year 4 report:[8]

Table 5 RS 1892 Monthly Ratepayer Impact by Marginal Resource for Years 1 - 4

Year 1 (2016)	Forced Export	Market Import	System Basin	Revenue gain (loss)
May	$ 61	$ (6)	$ 481	$ 536
June	$ -	$ -	$ 806	$ 806
July	$ -	$ -	$ 917	$ 917
	$ 61	**$ (6)**	**$ 2,204**	**$ 2,259**
Year 2 (2017)	**Forced Export**	**Market Import**	**System Basin**	**Revenue gain (loss)**
May	$ 56	$ (93)	$ 424	$ 387
June	$ 117	$ (55)	$ 402	$ 464
July	$ 38	$ -	$ 1,305	$ 1,343
	$ 211	**$ (148)**	**$ 2,131**	**$ 2,194**
Year 3 (2018)	**Forced Export**	**Market Import**	**System Basin**	**Revenue gain (loss)**
May	$ 205	$ (78)	$ -	$ 127
June	$ 170	$ (77)	$ 50	$ 143
July	$ 65	$ (4)	$ 1,541	$ 1,602
	$ 440	**$ (159)**	**$ 1,591**	**$ 1,872**
Year 4 (2019)	**Forced Export**	**Market Import**	**System Basin**	**Revenue gain (loss)**
May	$ 45	$ (107)	$ (275)	$ (337)
June	$ 65	$ (91)	$ (55)	$ (81)
July	$ -	$ (94)	$ (31)	$ (125)
	$ 110	**$ (292)**	**$ (361)**	**$ (543)**
Totals	**$ 822**	**$ (605)**	**$ 5,565**	**$ 5,782**

BC Hydro also calculated an "Adjusted Ratepayer Benefit", to include deductions for implementation costs and certain load shifting occurrences that could be viewed as potentially detrimental to the benefits derived by the non-participating ratepayers. These adjustments are shown as deductions in Table 12, below:[9]

[8] Exhibit B-1, Appendix E, Evaluation Report for Year Four, page 18 of 21 (pdf 444 of 512)
[9] Exhibit B-1, Appendix D, Freshet Pilot Final Evaluation Report – Dec. 2018, page 41 of 296

Table 12 Estimate of Adjusted Ratepayer Benefit by Year

Ratepayer Benefit - Adjustment Description	Year 1 ($,000)	Year 2 ($,000)	Year 3 ($,000)	Total ($,000)
Preliminary ratepayer benefit	$ 2,259	$ 2,194	$ 1,872	**$ 6,325**
Less implementation costs	$ (115)	$ (30)	$ (60)	**$ (205)**
Less customer-reported load shift impact	$ (32)	$ -	$ (50)	**$ (82)**
Less unexplained load variance impact	$ -	$ -	$ -	**$ -**
Less natural load growth impact	$ (470)	$ (340)	$ (450)	**$ (1,260)**
Less RS 1880 replacement service impact	$ (233)	$ (820)	$ -	**$ (1,053)**
Adjusted Ratepayer Benefit	**$ 1,409**	**$ 1,004**	**$ 1,312**	**$ 3,725**
**actuals for Year 1 and Year 2; forecast for Year 3*				

A few comments are in order regarding the deductions shown in this table.

Implementation costs -- These include items like rate design, stakeholder engagement and evaluation report preparation, which can be expected to be reduced by half or more going forward.

Customer-reported load shift impact – This derives from customers who might have rescheduled plant maintenance from the freshet period to some other period, so as to take advantage of the cheaper energy price. As a result, they may not use any more energy over the whole year. The negative impact of this appears to be very minor and should not be considered consequential. The vast majority of customers are treating the Freshet Rate as an incentive to increase total energy usage but to focus that increase during the freshet period.

Natural load growth impact – This refers to customers who may have increased their load during the freshet period, but also increased their load at other times of the year. BC Hydro presumes this means that the customer's freshet purchases were not the result of the RS 1892 incentive rate, but were simply because of the growth of the customer's business, and would have happened anyway, even without the incentive rate. However, there is no guaranty that this presumption is true. It is merely a hypothesis. It' is also possible that the RS 1892 incentive was the trigger that prompted the customer to grow its business. At any rate, BC Hydro's ratepayers are better off for having the load growth in both categories. There is no actual loss to the ratepayers relative to the prior revenues from this customer. The presumed loss is merely relative to some hypothetical potential revenue gain as calculated using the higher RS 1823 rate. This gain may or may not have occurred in the absence of the Freshet Rate.

RS 1880 replacement service impact – This refers to customers who experienced a forced outage of their own self-generation. Since they could have taken service under RS 1880, at a much higher price, BC Hydro views this as another cost to ratepayers. However, once again, it is only a loss when considered relative to the hypothetical gain that BC Hydro could have made due to the customer's unfortunate outage. It is not a loss of sales relative to the normal sales to that customer. Normally, that customer would have been using

his own self-generation. Because of the outage, BC Hydro actually gains both sales and profits. Calling this a "cost" is purely hypothetical.

Accordingly, CEABC asserts that the true benefit derived by ratepayers over the 3- year period depicted in Table 12 is over $6 million, as shown in the top line, rather than the $3.7 million shown in the bottom line. That $6 million is the benefit relative to the actual prior revenue status, rather than to some hypothetical status that never existed.

Nonetheless, regardless of which way these deductions are interpreted, there is a significant net benefit accruing to the non-participating ratepayers in general, in addition to the substantial benefit derived by the participating customers. The Freshet Rate therefore provides a significant gain for everyone.

C. The apparent revenue loss in 2019 should not be considered a serious risk, or an obstacle to continuing the Freshet Rate on a permanent basis. This loss was due to very special circumstances which are unlikely to be repeated.

In Table 5 (cited previously), BC Hydro estimated that the Freshet Pilot Rate achieved net revenue gains for ratepayers totalling $6.4 million during the first 3 years, but lost approximately $0.5 million in year 4.

Most of this apparent loss (as well as most of the gains in years 1 to 3) resulted from sales during the periods described as "System Basin". Despite this apparent loss in Year 4 (2019), the Freshet Pilot Rate should be viewed as an overall success for both the participant customers and all other ratepayers.

The columns in Table 5 correspond to the three "Conditions" which BC Hydro uses to categorize its system status during every HLH and every LLH block of time during the 3-month freshet period. Regardless of which System Condition is designated by BC Hydro, the selling price to the RS 1892 customers remains the same, namely Mid-C plus $3. What differs between the Conditions is the supply cost of the energy, which varies from Mid-C minus $7 for avoided forced exports,[10] to Mid-C plus $7 for the landed cost of market imports, to the System Marginal Value if the energy is supplied from BC Hydro basin generation.

These System Conditions are described in the Final Evaluation Report,[11] and summarized below:

- **Condition 1, "Forced Export"**, also referred to as "Minimum Generation with Exports." This is a system condition in which BC Hydro cannot reduce generation any further, but has insufficient load to use all the energy. It is forced to either export or spill. Spilling water is very unlikely,

[10] $7/MWh is the approximate amount of U.S. wheeling charge plus losses.
[11] Exhibit B-1, Appendix D, Freshet Pilot Final Evaluation Report – Dec. 2018, page 23 of 296

unless the export market would yield a negative amount after wheeling and losses.

Profit or loss on avoided Forced Exports? If BC Hydro can supply incremental RS 1892 energy by avoiding Forced Exports, that will always provide a profit of approximately $10/MWh (the $3 adder plus the $7 saved on the avoided wheeling and losses).

- **Condition 2, "Market Import"**, also referred to as "Minimum Generation with Imports." This is a system condition in which BC Hydro minimizes its generation in order to import the maximum amount of available low priced energy that the transmission capacity will allow. It requires three ingredients: sufficient energy available on the market, at attractive prices, and adequate transmission capacity to import the energy. If, for some reason, one of these ingredients is absent, then BC Hydro will be forced to turn on its discretionary generation and the condition will be classed as Condition 3.

  Profit or loss on Market Imports? Supplying incremental RS 1892 energy from Market Imports will always result in a loss of about $4/MWh (the $3 adder does not compensate for the $7 cost of wheeling and losses).

- **Condition 3, "System Basin"**, also referred to as "Higher Basin Generation on the Margin." This is a system condition in which BC Hydro may either choose to, or be forced to, supply incremental energy load by operating discretionary generation from the system storage dams.

  BC Hydro may choose this option in preference to Condition 2, Market Imports, if the value it has set for the energy in system storage (the System Marginal Value, "SMV") is less than the cost of imports (including wheeling and losses). **Profit or loss?** There will be a profit for the ratepayers (as was the case in years 1 to 3). The exact amount of the profit will depend on how much the SMV is <u>below</u> the RS 1892 price of Mid-C plus $3.

  Alternatively, BC Hydro may be forced into this alternative even if system storage is more highly priced than the imports, if either import energy or import transmission is unavailable. **Profit or loss?** In this case there will likely be a loss for the ratepayers (which was predominant the situation in year 4). The exact amount of the loss will depend on how much the SMV has been set <u>above</u> the RS 1892 price of Mid-C plus $3.

Profits and losses summarized:

Sales under Condition 1 will always show a profit of about $10/MWh.

Sales under Condition 2 will always show a loss of about $4/MWh.

Sales under Condition 3 may show a profit or a loss, which depends on how high or low the System Marginal Value has been set, relative to the RS 1892 price of Mid-C plus $3.

The main objective of the Freshet Rate is to incentivize incremental load during the freshet season, so that BC Hydro can avoid Condition 1 (Forced Exports), and have more of Condition 2 (the acquisition of inexpensive imports).[12]

The profits and losses of the 3 Conditions are apparent when we look at the Revenue gains and losses calculated in Table 5.

Table 5 **RS 1892 Monthly Ratepayer Impact by Marginal Resource for Years 1 - 4**

Year 1 (2016)	Forced Export	Market Import	System Basin	Revenue gain (loss)
May	$ 61	$ (6)	$ 481	$ 536
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	$ 61	**$ (6)**	**$ 2,204**	**$ 2,259**
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July	$ -	$ (94)	$ (31)	$ (125)
	$ 110	**$ (292)**	**$ (361)**	**$ (543)**
Totals	**$ 822**	**$ (605)**	**$ 5,565**	**$ 5,782**

The "Forced Export" column always provides a profit of about $10/MWh, but the amount of GWh in this category is relatively small, because this condition occurred only about 13% of the total time over the 4-year period.[13]

Because the profit per MWh is fixed at $10, we can infer the number of GWh in each year was approximately: 6 GWh in 2016, 21 GWh in 2017, 44 GWh in 2018, and 11 GWh in 2019. Therefore, of the 4-year total of 569 GWh sold under RS 1892, only about 82 GWh (14%) was provided by avoiding forced exports.

The "Market Import" column always suffers a loss of about $4/MWh, but the amount of GWh sold under that Condition varied from less than 1 GWh (in 2016)

[12] Slide 27 of BC Hydro's October 11, 2018 Transmission Rate Design Workshop Presentation illustrates BC Hydro's need for this increased load. During the freshet months, domestic load is static, yet available energy surges due to heavy inflows. EPA energy increases by about 500 GWh/mo., (regardless of dry or wet years). However, BC Hydro's other system inflows typically add about 5,000 GWh of available energy in May and July, and about 8,000 GWh in June.

[13] Exhibit B-5, confirmed by BC Hydro in its response to BCOAPO IR 1.9.5

to about 70 GWh in 2019. BC Hydro states that: *"Condition 2 occurred approximately 29 per cent of the time"*[14]

Again, because the loss per MWh is fixed at approximately $4/MWh under Condition 2, we can infer the number of GWh in each year was approximately: 1 GWh in 2016, 37 GWh in 2017, 40 GWh in 2018, and 70 GWh in 2019. Therefore, of the 4-year total of 569 GWh sold under RS 1892, about 148 GWh (26%) was provided by acquiring inexpensive market imports.

All of the balance of the 569 GWh sold under RS 1892, about 339 GWh (60%), was supplied by operating BC Hydro's discretionary generation and taking the energy from the storage dams. This was sometimes at a profit ($5.9 million over years 1 to 3), and sometimes at a loss ($0.361 million in year 4).

The obvious question is: "Why did this loss occur in 2019, and is it likely to recur?" That must be the most serious concern if RS 1892 is to be adopted on a permanent basis.

Did this loss happen because 2019 was a low water year? CEABC believes that low water inflows may have been a contributing factor, but that factor was severely compounded by a number of other contributing factors.

For instance, 2016 was also a low water year,[15] but that year produced the highest of all the Condition 3 profits ($2.2 million).

To understand why the 2019 losses occurred, it should be noted that the gains and losses under Condition 3 are always relative to a hypothetical price, not to an actual out-of-pocket cost. Everything depends on how high BC Hydro has set its System Marginal Value, or SMV. But this SMV is a purely notional value. It is not the value used in BC Hydro's financial statements to place a value on the energy inventory. Yet it is the major factor in determining the gains and losses shown in the "System Basin" column of Table 5. If the SMV is set much lower than the landed cost of imports, then Condition 3 will be attractive and profitable. BC Hydro will willingly operate its discretionary generation to supply the incremental energy. This is exactly what happened in years 1 to 3.

However, in the case of the 2019 freshet season, the SMV was set much higher than the landed cost of imports. In May 2019, the losses under Condition 3 are shown as $275,000 (shown in Table 5) on sales of 11,896 MWh supplied under RS 1892.[16] This means that, on average over all the Condition 3 periods of May, 2019, the SMV must have been set at about $23/MWh higher than the RS 1892

[14] Ibid.
[15] Exhibit B-1, Appendix D, Figure 9 on page 186 of 296 shows freshet inflows 85% of normal
[16] Exhibit B-4, BCUC IR 1.8.2, Condition 3 sales were calculated from data in Attachment 1

price (Mid-C plus $3), or approximately $19/MWh higher than the landed cost of imports (Mid-C plus ~$7).

That high System Marginal Value was undoubtedly set in response to the fact that reservoirs were at an extremely low level and seasonal inflows were expected to also be low. Table 4-1, from the F20-F21 RRA, shows the reservoir levels at the start of the 2019 season were only 7,293 GWh, 2,500 below the previous year, which was already low:[17]

Table 4-1 End of Fiscal Year System Storage

GWh	F2017 RRA	F2017 Actual	F2018 RRA	F2018 Actual	F2019 RRA	F2019 Forecast	F2020 Plan	F2021 Plan
End of Period System Storage[122]	11,918	13,208	10,746	9,736	10,576	7,293	9,354	10,649

Nevertheless, even the high setting of the SMV need not have led to such large losses if BC Hydro had been able to import the energy to supply the RS 1892 loads. Ordinarily, if the SMV was above the landed cost of imports, BC Hydro would simply import the energy to supply the loads (and categorize that time period as Condition 2), rather than taking the energy from its storage dams.

However, in the 2019 freshet period, either that import energy was not available on the market, or the transmission lines were already at capacity,[18] so BC Hydro was forced to supply the energy from its storage dams.

It is not surprising that either the market energy or the intertie lines were exhausted because BC Hydro was already importing as much as it could. In the months from April to July, BC Hydro imported 2,250 GWh (41% of its annual imports of 5,488 GWh).[19] Since most of this was likely to come in the May-June period, when the prices would be expected to be lowest, it could probably have exhausted the available transmission capacity – thus forcing BC Hydro to use its discretionary generation in order to supply the incremental load under RS 1892.

One final chance circumstance also contributed to augmenting the loss in 2019. The Enbridge pipeline rupture caused a curtailment of available gas, which lasted through the spring season, limiting the supply of gas fired energy and elevating the price of the marginal energy available at Mid-C.

In summary, the reason CEABC believes there should be very little risk of a recurrence of the 2019 losses is that they were due to an unusual coincidental occurrence of at least four contributing factors:

- System Marginal Value was set much higher than the landed cost of imports

[17] BC Hydro F20-F21 RRA, Exhibit B-1, page 4-18, Table 4-1
[18] Exhibit B-8, these key reasons confirmed by BC Hydro in its response to CEABC IR 2.9.7
[19] Exhibit B-8, response to CEABC IR 2.10.2

- Reservoirs were at very low levels due to prior low inflows or high export sales
- Imports were already at levels which exhausted the market supply or the intertie capacity
- A severe gas pipeline limitation restricted the supply and raised the cost of marginal energy.

It is quite unlikely that such a combination of circumstances will recur in the future. If it did recur, BC Hydro should be able to manage its reservoirs in order to avoid the adverse consequences.

D. Additional Submissions.

BC Hydro has proposed a 10-year period before any further evaluation reports would be required for the RS 1892 rate. However, CEABC notes that the performance of the rate could be altered if BC Hydro experiences significant additional year-round load growth (such as through CleanBC's low-carbon electrification), and so a shorter period would be more appropriate. CEABC suggests a 5-year period for re-evaluation.

The BCUC has asked for comments on the possible scenario that a final decision cannot be reached before May 1. In that event, CEABC would support the granting of an interim approval, on a non-refundable basis, until the final order can be determined.

All of which is respectfully submitted.

April 8, 2020

Clean Energy Association of B.C.