BC Hydro
Power smart

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January 26, 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: Project No. 1598933
British Columbia Utilities Commission (BCUC or Commission)
British Columbia Hydro and Power Authority (BC Hydro)
Waneta 2017 Transaction Application

BC Hydro writes in accordance with BCUC Order No G-15-18 (Exhibit A-10), submitting its responses to Round 1 Information Requests (IR) as follows:

Exhibit B-8	Responses to BCUC (Public Version)
Exhibit B-8-1	Responses to BCUC (Confidential Version)
Exhibit B-9	Responses to Interveners (Public Version)
Exhibit B-9-1	Responses to Interveners (Confidential Version)
Exhibit B-10	Responses to BCUC Confidential (Confidential Version)
Exhibit B-11	Waneta Valuation Model (Confidential)

BC Hydro is filing a number of IR responses and/or attachments to responses confidentially with the Commission. 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 or in Exhibit B-7. BC Hydro seeks this confidential treatment pursuant to section 42 of the *Administrative Tribunals Act* and section 1 of the Commission's Confidential Filings Practice Directive.

Waneta Valuation Model - Quantitative Analysis in Response to Commission and Intervener IRs

Included as Exhibit B-10 is an updated working version of the Waneta Valuation Model. An unredacted confidential version of the Waneta Valuation Model developed to support

the Waneta 2017 Business Case was filed as part of Exhibit B-1-2. An unredacted public version of the model was filed as part of Exhibit B-7. The version of the model filed under cover of this letter includes a quantitative analysis in response to a number of Commission and intervener IRs as follows:

BCUC	1.6.3; 1.6.5.1; 1.6.5.2; 1.6.5.3; 1.11.1.2; 1.12.1; 1.16.1; 1.16.7; 1.18.2; 1.19.2; 1.19.4; 1.19.8; 1.22.2; 1.23.6; 1.24.1; 1.25.1; 1.30.1; 1.30.2; 1.32.1; 1.33.2; 1.33.5; and 1.50.2.1.2
CEC	1.34.2; 1.34.3; 1.37.5; and 1.45.1

BC Hydro developed a total of 220 new scenarios in the updated working version of the Waneta Valuation Model to respond to the IRs listed above. In addition, 94 new scenarios were attached to responses to IRs, resulting in a total of 314 new scenarios. In the end, and as described in the relevant IR responses, the range of valuation resulting from the additional sensitivity scenarios was not materially different than the range presented in the Waneta 2017 Business Case. That is, the additional analysis confirms that the Waneta 2017 Transaction is cost-effective and a sound investment.

BC Hydro notes the following by way of explanation with respect to the version of the Waneta Valuation Model attached. Firstly, it has been modified to include additional functionality for sensitivity analysis requested; secondly, it corrects for some errors that have been identified that will be more fully described in the errata to the Application to be filed next week as described further below.

BC Hydro has also identified which scenarios have been prepared in response to which IRs in row 16 of the Scenarios worksheet of the model. To use the spreadsheet to view a specific scenario, enter the scenario number from row 18 of the Scenarios worksheet into cell C4. Please note, however, that in some cases information provided in IRs was calculated in response to other scenarios, either in IR responses or Waneta 2017 Business Case tables. In such cases duplicate scenarios were not included in the Scenarios sheet.

Finally, BC Hydro notes that, while we have modified the Waneta Valuation Model to improve usability, the model was originally developed for internal purposes and not with ease-of-use as an objective. We continue to caution against making modifications to the model or attempting additional sensitivity analysis, and cannot commit to proving responsive answers to questions that are based on additional sensitivity models that BC Hydro did not develop.

Additional Filings

As of today, the terms of the Transmission Agreements have been settled between BC Hydro and Teck. BC Hydro expects to be able to file the finalized agreements early next week.

Of the approximate 1,000 Round 1 IRs BC Hydro received in this proceeding, BC Hydro is filing 724 of them under cover of this letter. The majority of the remaining IRs relate to the Transmission Agreements and will be filed with them. A number of the remaining IRs are outstanding due to the need for third-party reviews and/or consents. They will also be filed next week with the Transmission Agreements. Finally, next weeks' filing will also include the following:

- A comprehensive errata filing;
- The risk register referred to in the Application; and
- As explanation of the Transmission Agreements by reference to the Transmission Agreement Term Sheet.

BC Hydro is mindful that next week's filings represents a slight delay to the schedule. However BC Hydro notes that the Transmission Agreements will be filed well before IR No. 2 (February 19 and 22) and therefore subject to the information request process, as intended. To minimize any inconvenience, BC Hydro will be filing both the outstanding IRs as one package, as well as a consolidated package of all round 1 IRs.

Consistent with previous practice, BC Hydro requests that any concerns regarding the adequacy of the IR responses, confidentially concerns, or other issues, be addressed to Jeff Christian at 604-631-9115 or by email at jchristian@lawsonlundell.com.

For further information, please contact Geoff Higgins at 604-623-4121 or by email at bchydroregulatorygroup@bchydro.com.

Yours sincerely,

(for) Fred James
Chief Regulatory Officer

st/af

1.0 Reference: Exhibit B-1, page 1-2, lines 9-11

The Application states: "Teck's smelter load at Trail can be supplied, on average, by Teck's two-thirds interest in the generation from Waneta."

1.1.1 How is Teck's smelter load supplied when Teck's two-thirds interest in the generation from Waneta is unable to fully meet the load requirements (i.e., from whom does Teck acquire its electricity needs and via what transmission lines)?

RESPONSE:

BC Hydro currently has no obligation to supply Teck's smelter load when Teck's two-thirds ownership of Waneta is unable to fully meet their load requirements, and this will not change with the anticipated BC Hydro purchase. It is Teck's responsibility to acquire market power to fill any generation deficit that may arise from time to time. This will generally consist of a purchase of wholesale power delivered by the vendor to the B.C. – U.S. border and then transmitted to the smelter via Teck's Line 71 and the related transmission rights. This does not preclude the possibility that Teck could potentially purchase the required market power from either of FortisBC and/or another third-party on an as- agreed basis.

2.0 Reference: Exhibit B-1, page 1-4 (lines 61-12) and page 2-15, Figure 2-3

1.2.1 Please clarify who currently owns and how the proposed transaction will affect the ownership of the following transmission lines set out in Figure 2-3:

a) Line 18
b) The Line connecting the Emerald Switching Station to the Teck Smelter.

RESPONSE:

Line 18 is owned by FortisBC. The line connecting the Emerald Switching Station to the Teck smelter is owned by Teck. The Waneta 2017 Transaction would not change the ownership of either of these lines.

3.0 Reference: Exhibit B-1, page 1-15 (Footnote #35)

The footnote states: "Note: BC Hydro will be purchasing the Transmission Assets for $20 million (dollars at the time of purchase) at the end of the Lease Period or at its election following a material breach by Teck. If the Transmission Assets are enhanced or added to, the price will be adjusted to reflect additional costs incurred by Teck and the relative use of the assets."

1.3.2 Please explain how "the relative use of the assets" would impact any adjustment to the purchase price.

RESPONSE:

The "relative use of the assets" concept will result in an adjustment to the purchase price based on Teck's usage of the assets during the Lease Period. For example, the more that Teck uses the assets, the more that the purchase price will be discounted to reflect this usage.

4.0 Reference: Exhibit B-1, pages 1-17 to 1-19

1.4.1 With respect to Section 1.5.3.1, will BC Hydro incur any finance or amortization expense in fiscal 2019 as a result of the transaction? If yes, will these incremental costs be captured in deferral accounts?

RESPONSE:

Please refer to BC Hydro's response to BCUC IR 1.57.4.

4.0 Reference: Exhibit B-1, pages 1-17 to 1-19

1.4.2 With respect to Section 1.5.3.2 and the proposed treatment of Teck's portion of the water rentals, please confirm that the effect of BC Hydro's proposal is that Teck's share of actual water rental costs will be fully expensed in the year incurred and the offsetting revenues from Teck will be fully recognized in the year received.

RESPONSE:

Confirmed.

5.0 Reference: Exhibit B-1, page 2-6 (lines 4-6) and page 3-11 (lines 12-17)

1.5.1 How do dam safety expectations that the dam and water passage assets are currently operated and maintained to differ from BC Hydro's dam safety expectations?

RESPONSE:

There are no differences in regulatory expectations and requirements. However, in general, BC Hydro believes that in order to adequately address dam safety concerns, it must do more than simply meet regulatory expectations and requirements, and thus BC Hydro strives to be a leader in dam safety, and follows 'leading utility' practice. Please refer to BC Hydro's response to BCOAPO IR 1.5.2 regarding BC Hydro's approach to leading utility practice .

5.0 Reference: Exhibit B-1, page 2-6 (lines 4-6) and page 3-11 (lines 12-17)

1.5.2 How will the determination be made as to whether a future dam upgrade is required to meet existing safety standards (for which the costs would presumably be shared between Teck and BC Hydro) or to meet BC Hydro's safety standards (for which the costs will be entirely BC Hydro's)?

RESPONSE:

Regulations for dam safety do not refer to design standards or expectations. Rather than specific 'standards' for dams and large water retaining structures, expectations are laid in the Dam Safety Guidelines, as published by the Canadian Dam Association and other associations internationally. "Good utility practice" attempts to meet minimum regulatory requirements and expectations.

BC Hydro strives to follow "leading utility practice", where risks are actively managed regardless of regulation, in the belief that simply following regulation is not sufficient to address dam safety. Rather, it is important to understand what can be reasonably accomplished to improve safety. To do so requires a willingness to champion the development and implementation of new monitoring, evaluation tools and methodologies, and to undertake proactive investigations of potential issues, while constantly reviewing what' leading practice' actually entails. It also requires investments on the basis of achieving as large an increment of safety as is practicable. In general, the result is a lower risk tolerance level than "good utility practice".

In some cases, it does not take significant extra effort to provide additional levels of safety; in others, it can be unreasonable to even 'reach the bar' as defined by some organizations. All of BC Hydro's investment decisions for dam safety are made in this risk-informed environment, prioritized across the entire fleet of dams, which will include Waneta.

5.0 Reference: Exhibit B-1, page 2-6 (lines 4-6) and page 3-11 (lines 12-17)

1.5.3 If an upgrade would have been required to meet existing standards but the upgrade actually made is based on BC Hydro's safety standards, how will the costs of the upgrade be apportioned?

RESPONSE:

BC Hydro assumes this IR is referring to an upgrade that is required to meet standards under the COPOA, but the upgrade is done to a higher standard at BC Hydro's request.

In such a case the cost of the upgrade will be divided into two portions:

A. The "base" cost of the upgrade that would have been required to meet standards under the COPOA; and

B. The incremental cost above the base cost that is due to BC Hydro's higher standards.

Costs in Category A above would be apportioned according to the terms of the COPOA.

- **If the upgrade is less than $5 million or identified in Schedule C to the COPOA, Teck is responsible for two-thirds of the cost while BC Hydro is responsible for one-thirds of the cost.**

- **If the upgrade is greater than $5 million and not identified in Schedule C to the COPOA, BC Hydro is responsible for one-third of the costs plus BC Hydro's Share of Extraordinary Refurbishment Costs as defined in Section 1.1 (q) of the COPOA. Teck is responsible for Teck's Share of Extraordinary Refurbishment Costs as defined in Section 1.1 (jjjjjjj) of the COPOA.**

Costs in Category B are solely the responsibility of BC Hydro.

6.0 Reference: Exhibit B-1, pages 1-4 to 1-5 and 2-9 (lines 14-19)

1.6.1 Why does BC Hydro become responsible for one-third of the costs of operating and maintaining Line 71 after January 1, 2036 when it will not be purchasing the asset until at least 2038 (and potentially not until 2048)?

RESPONSE:

As part of the COA, continued under the COPOA, BC Hydro is responsible for one-third of the costs of operating and maintaining Line 71 as of January 1, 2036 (the earliest possible termination of the CPA). No other Transmission Assets are subject to this obligation.

6.0 Reference: Exhibit B-1, pages 1-4 to 1-5 and 2-9 (lines 14-19)

1.6.2 Does this provision regarding the payment of operating and maintenance costs after January 1, 2036 apply only to Line 71 or also to the other Transmission assets BC Hydro will eventually be acquiring (e.g., lines 14-17)?

RESPONSE:

Please refer to BC Hydro's response to BCOAPO IR 1.6.1.

7.0 Reference: Exhibit B-1, page 3-3 (lines 11-15)

1.7.1 Please explain why BC Hydro was not able to deliver an election pursuant to section 16.1 of the Income Tax Act.

RESPONSE:

One of the requirements to make an election under section 16.1 of the *Income Tax Act* is that the lessor is not tax exempt. BC Hydro is a tax exempt Crown corporation and therefore unable to make the election.

9.0 Reference: Exhibit B-1, page 3-20 (lines 13-18) and page 3-21 (lines12-21)

1.9.2 Under the current arrangements, how does BC Hydro gain full access to its share of Waneta when it is not being used to serve smelter load, given that the Waneta capacity exceeds the capacity of Line 71?

RESPONSE:

Under the current arrangements, which are defined by the terms of the COA, BC Hydro has up to 246MW of first priority transmission rights on Line 71. These rights are sufficient to ensure that BC Hydro can fully transport its current share of Waneta generation to the BC Hydro system, regardless of the status of the smelter load. BC Hydro's share of Waneta generation is not used to serve the smelter load; it is Teck that serves the smelter load.

9.0 Reference: Exhibit B-1, page 3-20 (lines 13-18) and page 3-21 (lines12-21)

1.9.3 How much of Waneta's capacity can be delivered to the BC Hydro system via these alternative arrangements and what are the limiting factors?

RESPONSE:

The capacity of Line 71 is 370 MW which is approximately 120 MW less than the full capacity of Waneta. After the Lease Period, in the infrequent hours where the smelter load is low and Waneta is generating near full output, BC Hydro may need to acquire additional transmission capacity to ensure delivery of the entire output of Waneta generation. This could be done via the purchase of transmission rights on the FortisBC system via Lines 62, 77 and 79 (either under FortisBC's OATT or the exercise of existing options held by Teck under the Transmission Facilities Agreement). Under that agreement up to 150 MW of the transfer capability on each of Lines 62, 77 and 79 may be acquired and made available to BC Hydro. The 150 MW transfer capacity is a contract limit and not a physical limit.

10.0 Reference: Exhibit B-1, pages 4-4 and 4-8
Appendix N, page 14

1.10.1 What is BC Hydro's current F2019 interest rate forecast?

RESPONSE:

As provided by the Ministry of Finance on January 2, 2018, the current Canadian long term interest rate for fiscal 2019, applicable to 10-year borrowings, is 3.17 per cent.

Please also refer to BC Hydro's response to BCUC IR 1.23.2, which contains a table showing the calculation of the 3.4 per cent blended rate used in the analysis of the Waneta 2017 Transaction, based on forecast interest rates provided by the Ministry of Finance on May 30, 2017.

BC Hydro has recalculated this blended rate in the table below, based on forecast interest rates provided by the Ministry of Finance on January 2, 2018. This results in a reduction in the estimated blended rate from 3.4 per cent to 3.3 per cent (rounded).

	Rate (Fiscal 2019) (%)	Amount ($M)	Weighted Rate (%)
10 Year Province of BC Bond	**3.17**	**550**	**1.41**
30 Year Province of BC Bond	**3.77**	**550**	**1.67**
Commercial Paper	**1.58**	**140**	**0.18**
Total		**1,240**	**3.26**

12.0 Reference: Exhibit B-1, page 4-14

1.12.1 In Section 4.4.2, please clarify what "base case" is used to determine the incremental benefit (i.e., does the base case assume that the current arrangements established per the Waneta 2010 Transaction would continue (with the new owner-Fortis Inc.) for the 40 year period used in the analysis?).

RESPONSE:

The incremental benefit is calculated as compared to a case in which the Waneta 2017 Transaction does not occur and the Waneta Assets remain with Teck. Potential alternative scenarios where the Waneta Assets are purchased by an entity other than BC Hydro are addressed in the analysis of the no-go scenario in the Waneta 2017 Business Case (see section 4.3 of Appendix N to Exhibit B-1).

12.0 Reference: Exhibit B-1, page 4-14

1.12.2 Why does BC Hydro consider this to be a reasonable assumption?

RESPONSE:

Utilization of a base case equivalent to the status quo is common practice.

Note that BC Hydro believes that if the Waneta 2017 Transaction does not proceed, one of the two following outcomes is most likely to occur within the following 12 months:

- **Teck will sell the Waneta Assets to a buyer other than BC Hydro, including potentially Fortis Inc; and**
- **Teck will not sell the Waneta Assets to any buyer.**

As discussed in BC Hydro's response to BCOAPO IR 1.12.1, both of these scenarios were considered in the Waneta 2017 Business Case.

Note that in regard to a potential sale to a third-party, such a transaction would not be subject to BC Hydro's ROFO rights if it occurred within 12 months of the Waneta 2017 Transaction terminating.

13.0 Reference: Exhibit B-1, pages 4-14 and 4-15

1.13.1 On page 4-14 (lines 25-26) reference is made to the NPV results "where BC Hydro is in surplus and market prices are at the conservative "extrapolated" level" (emphasis added). On page 4-15 (lines 17-18 and 25-26) references are made to NPV results with "LRB in surplus and low "extrapolated" market prices" (emphasis added). Are these references all referring to the same scenario? If not, what are the differences?

RESPONSE:

These references refer to the same scenario.

13.0 Reference: Exhibit B-1, pages 4-14 and 4-15

1.13.2 Please confirm that the $54 M decrease referenced (page 4-15, lines 15-18) as the impact of early termination of the Lease is incremental to the $29 M previously referenced on page 4-14 (lines 25-27) such that the overall impact would be negative NPV of $25 M (i.e., $29 M - $54M).

RESPONSE:

Confirmed. For reference, the impact of early termination due to default as well as the value transfer due to the extension option is consolidated in Table 8 to the Waneta 2017 Business Case (see Appendix N to Exhibit B-1).

13.0 Reference: Exhibit B-1, pages 4-14 and 4-15

1.13.3 Please confirm that the $291 M and $6 M decreases referenced (page 4-15, lines 23-26) as the impact of Teck exercising its 10-year lease extension option is incremental to the $1.071 B and $29 M referenced on page 4-14.

RESPONSE:

Confirmed. For reference, the impact of early termination due to default as well as the value transfer due to the extension option is consolidated in Table 8 to the Waneta 2017 Business Case (see Appendix N to Exhibit B-1).

15.0 Reference: Exhibit B-1. Page 4-11
Appendix N, pages 18-20

1.15.1 Please explain why the detailed projection of the Extrapolated Market Price is considered confidential (Page 4-11, Figure 4-2 and Appendix N, Figure 3).

RESPONSE:

Please refer to BC Hydro's letter of January 17, 2018 (Exhibit B-7) for a description of the information redacted in BC Hydro's previous submissions and the rationale for these redactions.

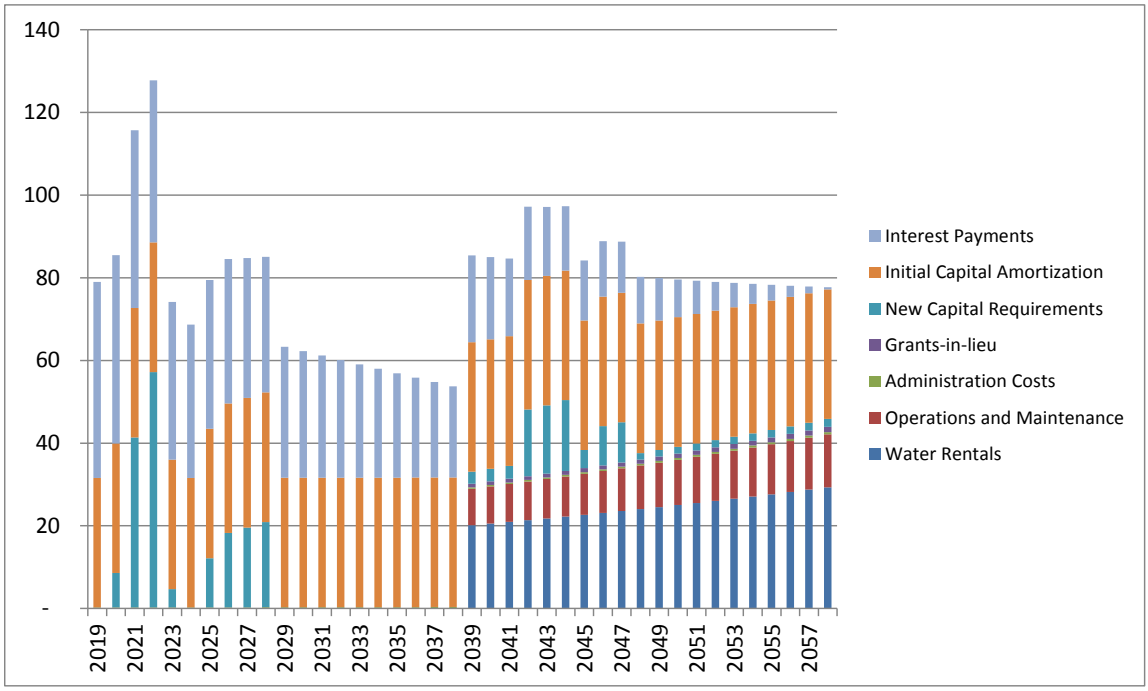
16.0 Reference: Exhibit B-1, page 4-16
Appendix N, pages 15 and 46-47

1.16.1 With respect to Appendix N, Figure 1, please revise the figure so as to show the cost of service in each year in millions of dollars.

RESPONSE:

Please see the graph below.

Operational Cost of Service for Two-thirds interest in Waneta ($ millions, nominal)



16.0 Reference: Exhibit B-1, page 4-16
Appendix N, pages 15 and 46-47

1.16.2 Please provide the NPV of the revenue requirement impact for the various risk scenarios set out on page 45 of Appendix N (using both a 6% and a 3.4% discount rate).

RESPONSE:

Please refer to the table below. We have also included the base unrisked NPV for the LRMC-clean and ABB forecast scenarios as provided in Table 19 of Appendix N for comparison purposes. All discount rates referenced are for nominal dollars.

Present Value of Revenue Requirement Benefits – Risk Scenarios ($ million present value to fiscal 2018)

Scenario	NPV Benefits (6% discount rate)	NPV Benefits (3.4% discount rate)
Lease period of 20 years, then valued at LRMC-clean	1,502	3,032
Default in year 10, then valued at LRMC-clean	2,000	3,788
Lease extended for 10 years, then valued at LRMC-clean	946	1,992
Lease period of 20 years, then valued at ABB market prices	570	1,087
Default in year 10, then valued at ABB market prices	606	1,143
Lease extended for 10 years, then valued at ABB market prices	569	1,087

17.0 Reference: Exhibit B-1, page 4-17

1.17.1 What is the basis for choosing 4% and 8% as the discount rate assumptions for the sensitivity analyses?

RESPONSE:

BC Hydro business case evaluation standard practice utilizes sensitivity analysis at +/- 2 per cent of the nominal base discount rate resulting in lower and upper discount rates of 4 per cent and 8 per cent for sensitivity purposes respectively.

17.0 Reference: Exhibit B-1, page 4-17

1.17.2 Under what conditions might a 4% or 8% discount rate be appropriate?

RESPONSE:

Changes to the inputs of the discount rate methodology shown in section 4.1.2 of the Application could justify using a higher or lower discount rate.

1.0 Topic: Need

Reference: Exhibit B-1, section 4.6, Alternative Analysis, p. 4-11

In considering whether to issue the Reply Notice BC Hydro considered among other things that "as a Crown corporation and an agent of the government, load-serving obligations could be imposed on it in the future that it does not currently have and that would not necessarily be imposed upon non-Crown utilities." [p. 4-19, pdf p. 111]

1.1.1 Please elaborate on the load-serving obligations that BC Hydro says could be imposed on it in the future that would not necessarily be imposed on non-Crown utilities. Provide any past examples. Do these future load-serving obligations include low-carbon electrification? Is this a reference to a requirement to serve the Teck smelter load?

RESPONSE:

The words from the application that are the subject of this IR refer to the likelihood that BC Hydro, relative to a non-crown utility, could in the future be obliged to serve Teck. They reflect that BC Hydro was created to serve broad provincial energy and public policy objectives, and has been regularly employed for those purposes by the B.C. Government since its creation, in ways that non-crown utilities are not.

2.0 Topic: Energy Objectives

Reference: Exhibit B-1, p. 4-22, pdf p. 114; Exhibit B1-1, p. 3; Exhibit A-4, BCUC IR 46.1

BC energy objective s. 2(e) of the Clean Energy Act is to "(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 per cent."

BC Hydro states that "The Waneta 2017 Transaction neither serves nor impedes this objective. That is, the Waneta 2017 Transaction will have no effect on the relative priorities of resources, including demand-side measures, in BC Hydro's future resource planning."

On page 3 of the Application, BC Hydro states:

"From BC Hydro's perspective the Waneta 2017 Transaction is in essence, and has been analyzed as, a commercial transaction. Regardless of BC Hydro's load-resource balance at the end of the lease period, the transaction is expected to provide a positive financial benefit to BC Hydro's ratepayers. Because it arises through the exercise by BC Hydro of its ROFO following upon a competitive sale process undertaken by Teck, ratepayers and the Commission can be assured that the transaction price reflects market value. In all respects, the Waneta 2017 Transaction is cost-effective and in the public interest." [underline added]

BCUC IR 46.1 asks BC Hydro whether obtaining a further 2/3 interest in Waneta may reduce the need for pursuing further DSM and/or reducing the need for other forms of supply.

1.2.1 If not provided in the response to BCUC IR 46.1, please provide an analysis of the impact of completion of the Waneta 2017 Transaction, compared to non-completion of the Waneta 2017 Transaction, on BC Hydro's future load and future need for demand-side and supply-side resources in each of the Lease Period and the Post-Lease Period.

RESPONSE:

Please refer to BC Hydro's response to BCUC IR 1.46.1.

2.0 Topic: Energy Objectives

Reference: Exhibit B-1, p. 4-22, pdf p. 114; Exhibit B1-1, p. 3; Exhibit A-4, BCUC IR 46.1

BC energy objective s. 2(e) of the Clean Energy Act is to "(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 per cent."

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On page 3 of the Application, BC Hydro states:

"From BC Hydro's perspective the Waneta 2017 Transaction is in essence, and has been analyzed as, a commercial transaction. Regardless of BC Hydro's load-resource balance at the end of the lease period, the transaction is expected to provide a positive financial benefit to BC Hydro's ratepayers. Because it arises through the exercise by BC Hydro of its ROFO following upon a competitive sale process undertaken by Teck, ratepayers and the Commission can be assured that the transaction price reflects market value. In all respects, the Waneta 2017 Transaction is cost-effective and in the public interest." [underline added]

BCUC IR 46.1 asks BC Hydro whether obtaining a further 2/3 interest in Waneta may reduce the need for pursuing further DSM and/or reducing the need for other forms of supply.

1.2.2 Please address whether the results of the analysis are sensitive to whether in the counterfactual scenario the 2/3 Interest is held by Teck, or sold to a third party and leased-back under terms equivalent to the Fortis Transaction.

RESPONSE:

The counterfactual scenario is reviewed as the no-go scenario in section 4.3 of the Waneta 2017 Business Case. Please also refer to BC Hydro's response to BCUC IR 1.46.1.

3.0 Topic: Energy Objectives

Reference: Exhibit B-1, p. 4-23, pdf p. 115

BC energy objective s. 2(e) of the *Clean Energy Act* is to "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."

BC Hydro states that "The "heritage assets" include BC Hydro's interest in Waneta (section 1 of the *Clean Energy Act*) and so the Waneta 2017 Transaction serves this provincial energy objective."

Section 1 of the *Clean Energy Act* defines "heritage assets" as meaning, among other things, "(b) the authority's interests in the generation and storage assets identified in Schedule 1 of this Act..." Schedule 1, Heritage Assets, states "Those generation and storage assets commonly known as the following:... Waneta."

1.3.1 In BC Hydro's view, does section 1 of the *Clean Energy Act* mean that the 2/3 Interest in Waneta will become a Heritage Asset immediately upon completion of the Waneta 2017 Transaction or upon commencement of the post-Lease period?

RESPONSE:

The two-thirds interest in Waneta BC Hydro is acquiring under the Waneta 2017 Transaction will become a "heritage asset" upon completion of the Waneta 2017 Transaction. Please also refer to BC Hydro's response to BCUC IR 1.61.4.

3.0 Topic: Energy Objectives

Reference: Exhibit B-1, p. 4-23, pdf p. 115

BC energy objective s. 2(e) of the *Clean Energy Act* is to "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."

BC Hydro states that "The "heritage assets" include BC Hydro's interest in Waneta (section 1 of the *Clean Energy Act*) and so the Waneta 2017 Transaction serves this provincial energy objective."

Section 1 of the *Clean Energy Act* defines "heritage assets" as meaning, among other things, "(b) the authority's interests in the generation and storage assets identified in Schedule 1 of this Act..." Schedule 1, Heritage Assets, states "Those generation and storage assets commonly known as the following:... Waneta."

1.3.2 In BC Hydro's view, what is the rationale for Waneta being listed as a Heritage Asset?

RESPONSE:

BC Hydro does not know why the *Clean Energy Act* was drafted so that its interest in Waneta is a "heritage asset". However, one can reasonably infer that the public policy objectives that prompted the establishment of "heritage assets" and the restrictions on their disposition by BC Hydro were as applicable to BC Hydro's interest in Waneta as it was to other BC Hydro assets that are "heritage assets".

4.0 Topic: Energy Objectives

Reference: Exhibit B-1, p. 4-23, pdf p. 115

Regarding the B.C. energy objective to reduce B.C. GHG emissions, BC Hydro states:

"Completion of the transaction will serve this objective insofar as it decreases the likelihood of Waneta being decommissioned if and when it is no longer needed by Teck to serve the Trail smelter load and is thus available to displace more GHG-intense resources."

1.4.3 Is it BC Hydro's view that the availability of Waneta to displace more-GHG-intensive resources, due to Waneta not being decommissioned, is a valid consideration (a) whether or not the smelter continues to operate, and (b) whether or not BC Hydro serves the smelter load?

RESPONSE:

Yes. It is BC Hydro's view that the availability of Waneta to displace more GHG-intensive resources is valid whether or not BC Hydro is serving the smelter load, although the magnitude of displacement is affected by the possibility of BC Hydro serving the smelter.

In the post-Lease Period there is expected to be approximately 48 GWh/year of additional energy available to BC Hydro from Waneta over what is expected to be required to serve the smelter that could displace more GHG-intensive resources even should BC Hydro serve the smelter with Waneta electricity.

Regarding the 48 GWh, please refer to BC Hydro's response to BCUC IR 1.28.1

5.0 Topic: Waneta 2010 Transaction

Reference: Exhibit B-1, BC Hydro cover letter October 30, 2017, p. 2, pdf p. 2

"On February 3, 2010 the Commission approved BC Hydro's acquisition of an undivided one-third interest in the Waneta dam from Teck on the basis, in part, that it was in the public interest.[1] That transaction, referred to as the "**Waneta 2010 Transaction**", closed on March 5, 2010."

1.5.1 Please provide a high level summary of BC Hydro's most recent analysis of the Waneta 2010 Transaction.

RESPONSE:

The response to this IR is quoted from BC Hydro's Fiscal 2017 Annual Report to the BCUC pursuant to Directive 5(c)(iii) of Commission Order No. G-12-10.[1]

"The table below provides a comparison of the levelized unit cost of energy forecast (Filing Forecast) and the updated forecast levelized unit cost of energy (Fiscal 2017 Updated Forecast), updated to include actual expenditures up to the end of fiscal 2017 and forecast future expenditures.

Comparison of Unit Cost of Energy

	Levelized Unit Cost of Energy (Real 2009$)		
Discount Rate (%)	**Filing Forecast[1] ($/MWh)**	**F2017 Updated Forecast ($/MWh)**	**Difference ($/MWh)**
	1	**2**	**3 = 2 – 1**
8	**63.94**	**61.45**	**(2.49)**
10	**79.27**	**76.22**	**(3.05)**

[1] For reasons noted in the Fiscal 2010 Waneta Transaction Annual Report, the levelized unit cost estimates were revised from the figures cited in the Directive to $63.94/MWh and $79.27/MWh based on an 8 and 10 per cent discount rate, respectively. "

[1] Order No. G-12-10, Directive 5(c)(iii) "The cumulative and annual average levelized unit energy cost (in $/MWh) to BC Hydro as compared to $64.08/MWh based on an 8 per cent discount rate and $78.6/MWh at a 10 per cent discount rate as outlined in the Filing;"

5.0 Topic: Waneta 2010 Transaction

Reference: Exhibit B-1, BC Hydro cover letter October 30, 2017, p. 2, pdf p. 2

"On February 3, 2010 the Commission approved BC Hydro's acquisition of an undivided one-third interest in the Waneta dam from Teck on the basis, in part, that it was in the public interest.[1] That transaction, referred to as the "**Waneta 2010 Transaction**", closed on March 5, 2010."

1.5.2 At a high level, how does a current valuation of the Waneta 2010 Transaction compare to the valuation presented by BC Hydro in the 2009 Waneta Transaction proceeding?

RESPONSE:

Please refer to BC Hydro's response to BCSEA IR 1.5.1.

5.0 Topic: Waneta 2010 Transaction

Reference: Exhibit B-1, BC Hydro cover letter October 30, 2017, p. 2, pdf p. 2

"On February 3, 2010 the Commission approved BC Hydro's acquisition of an undivided one-third interest in the Waneta dam from Teck on the basis, in part, that it was in the public interest.[1] That transaction, referred to as the "**Waneta 2010 Transaction**", closed on March 5, 2010."

1.5.3 Please comment on whether the experience with the Waneta 2010 Transaction supports approval of the Waneta 2017 Transaction.

RESPONSE:

The Waneta 2010 Transaction is fundamentally different from the Waneta 2017 Transaction. Key differences include:

- **The Waneta 2010 Transaction was for an interest in generation assets where BC Hydro received the benefits of generation. The Waneta 2017 Transaction includes a 20-year lease with a 10-year extension option where Teck maintains the benefits of the generation. This Lease is inseparable from the valuation of the Waneta 2017 Transaction; and**

- **The Waneta 2010 Transaction included additional security and rights to protect BC Hydro as a minority owner of the Waneta Assets. Under the Waneta 2017 Transaction BC Hydro is the sole owner of the Waneta Assets, and thus there are different rights and security included in the Waneta 2017 Transaction; and**

- **Underlying market and BC Hydro system conditions are different.**

BC Hydro's experience leading up to the Waneta 2010 Transaction and since its acquisition of the undivided one-third interest in Waneta provides the following support for the Waneta 2017 Transaction:

- **BC Hydro has substantial knowledge and experience with the generation assets and this allows for reduced uncertainty and risk associated with the Waneta 2017 Transaction; and**

- **BC Hydro's experience with Teck regarding our existing share of Waneta has been of an effective working relationship, which we would expect to continue with the Waneta 2017 Transaction.**

BC Hydro notes that the value to BC Hydro and its ratepayers of its ROFO rights, were acquired as part of the Waneta 2010 Transaction; that value is crystallized through the Waneta 2017 Transaction.

Beyond the above items, given the differences in transaction structure, BC Hydro's experience with the Waneta 2010 Transaction has limited relevance to the approval of the Waneta 2017 Transaction.

6.0 Topic: Termination of Fortis Transaction

Reference: Exhibit B-3, p. 2; Exhibit C1-3

BC Hydro states that "BC Hydro is mindful of the fact that Fortis Inc. could still become the purchaser of Teck's interest in Waneta if for any reason the Waneta 2017 Transaction does not close."

This statement is acknowledged by FBC, which then states:

However, by virtue of BC Hydro's exercise of its right of first refusal, the agreement between Teck and Fortis Inc. was terminated. As stated in Fortis Inc.'s publicly issued release of August 1, 2017:

Fortis Inc. ("Fortis"), (TSX/NYSE:FTS) has been given notice from Teck Resources Limited ("Teck") that BC Hydro has exercised its right of first offer to acquire Teck's two-thirds interest in the Waneta Dam. As a result, the purchase agreement between Fortis and Teck has been terminated and Teck is obligated to pay Fortis a break fee of approximately $28,000,000." [Exhibit C1-3, pp. 3-4, underline added]

For clarity, it is noted that the Fortis Transaction is not yet on the public record in this proceeding.

1.6.1 Did BC Hydro's statement that "Fortis Inc. could still become the purchaser of Teck's interest in Waneta if for any reason the Waneta 2017 Transaction does not close" contemplate that (if the Waneta 2017 Transaction does not complete) (a) the Fortis Transaction would complete, or (b) that a new transaction between Fortis and Teck would occur?

RESPONSE:

The August 1, 2017 press release from Fortis Inc. definitively states that the purchase agreement between Fortis and Teck has been terminated, and as such, a new transaction would need to be agreed upon.

In the event that the Waneta 2017 Transaction does not complete (and is therefore terminated), the terms of the COA would allow Teck to transfer Waneta to another third party without a further ROFO process as long as such transfer completes within one year of the termination of the Waneta 2017 Transaction. BC Hydro is not aware of any factor that would prevent Teck and Fortis Inc. from entering into a new agreement and completing a transaction on the previously announced terms.

6.0 Topic: Termination of Fortis Transaction

Reference: Exhibit B-3, p. 2; Exhibit C1-3

BC Hydro states that "BC Hydro is mindful of the fact that Fortis Inc. could still become the purchaser of Teck's interest in Waneta if for any reason the Waneta 2017 Transaction does not close."

This statement is acknowledged by FBC, which then states:

However, by virtue of BC Hydro's exercise of its right of first refusal, the agreement between Teck and Fortis Inc. was terminated. As stated in Fortis Inc.'s publicly issued release of August 1, 2017:

Fortis Inc. ("Fortis"), (TSX/NYSE:FTS) has been given notice from Teck Resources Limited ("Teck") that BC Hydro has exercised its right of first offer to acquire Teck's two-thirds interest in the Waneta Dam. As a result, the purchase agreement between Fortis and Teck has been terminated and Teck is obligated to pay Fortis a break fee of approximately $28,000,000." [Exhibit C1-3, pp. 3-4, underline added]

For clarity, it is noted that the Fortis Transaction is not yet on the public record in this proceeding.

1.6.2 Does BC Hydro agree with FBC that the Fortis Transaction (i.e., between Teck and Fortis Inc.) has been terminated?

RESPONSE:

Please refer to BC Hydro's response to BCSEA IR 1.6.1.

6.0 Topic: Termination of Fortis Transaction

Reference: Exhibit B-3, p. 2; Exhibit C1-3

BC Hydro states that "BC Hydro is mindful of the fact that Fortis Inc. could still become the purchaser of Teck's interest in Waneta if for any reason the Waneta 2017 Transaction does not close."

This statement is acknowledged by FBC, which then states:

However, by virtue of BC Hydro's exercise of its right of first refusal, the agreement between Teck and Fortis Inc. was terminated. As stated in Fortis Inc.'s publicly issued release of August 1, 2017:

Fortis Inc. ("Fortis"), (TSX/NYSE:FTS) has been given notice from Teck Resources Limited ("Teck") that BC Hydro has exercised its right of first offer to acquire Teck's two-thirds interest in the Waneta Dam. As a result, the purchase agreement between Fortis and Teck has been terminated and Teck is obligated to pay Fortis a break fee of approximately $28,000,000." [Exhibit C1-3, pp. 3-4, underline added]

For clarity, it is noted that the Fortis Transaction is not yet on the public record in this proceeding.

1.6.3 Does BC Hydro agree with FBC's assertion that the Fortis Transaction was terminated as a result of BC Hydro's exercise of the ROFO? If not, why not? If so:

RESPONSE:

Please refer to BC Hydro's response to BCSEA IR 1.6.1.

6.0 Topic: Termination of Fortis Transaction

Reference: Exhibit B-3, p. 2; Exhibit C1-3

BC Hydro states that "BC Hydro is mindful of the fact that Fortis Inc. could still become the purchaser of Teck's interest in Waneta if for any reason the Waneta 2017 Transaction does not close."

This statement is acknowledged by FBC, which then states:

However, by virtue of BC Hydro's exercise of its right of first refusal, the agreement between Teck and Fortis Inc. was terminated. As stated in Fortis Inc.'s publicly issued release of August 1, 2017:

Fortis Inc. ("Fortis"), (TSX/NYSE:FTS) has been given notice from Teck Resources Limited ("Teck") that BC Hydro has exercised its right of first offer to acquire Teck's two-thirds interest in the Waneta Dam. As a result, the purchase agreement between Fortis and Teck has been terminated and Teck is obligated to pay Fortis a break fee of approximately $28,000,000." [Exhibit C1-3, pp. 3-4, underline added]

For clarity, it is noted that the Fortis Transaction is not yet on the public record in this proceeding.

1.6.3 Does BC Hydro agree with FBC's assertion that the Fortis Transaction was terminated as a result of BC Hydro's exercise of the ROFO? If not, why not? If so:

1.6.3.1 By what mechanism did the termination occur?

RESPONSE:

Please refer to BC Hydro's response to BCSEA IR 1.6.1.

6.0 Topic: Termination of Fortis Transaction

Reference: Exhibit B-3, p. 2; Exhibit C1-3

BC Hydro states that "BC Hydro is mindful of the fact that Fortis Inc. could still become the purchaser of Teck's interest in Waneta if for any reason the Waneta 2017 Transaction does not close."

This statement is acknowledged by FBC, which then states:

However, by virtue of BC Hydro's exercise of its right of first refusal, the agreement between Teck and Fortis Inc. was terminated. As stated in Fortis Inc.'s publicly issued release of August 1, 2017:

Fortis Inc. ("Fortis"), (TSX/NYSE:FTS) has been given notice from Teck Resources Limited ("Teck") that BC Hydro has exercised its right of first offer to acquire Teck's two-thirds interest in the Waneta Dam. As a result, the purchase agreement between Fortis and Teck has been terminated and Teck is obligated to pay Fortis a break fee of approximately $28,000,000." [Exhibit C1-3, pp. 3-4, underline added]

For clarity, it is noted that the Fortis Transaction is not yet on the public record in this proceeding.

1.6.3 Does BC Hydro agree with FBC's assertion that the Fortis Transaction was terminated as a result of BC Hydro's exercise of the ROFO? If not, why not? If so:

1.6.3.2 Was the termination the automatic consequence of a provision in the Fortis Transaction?

RESPONSE:

Please refer to BC Hydro's response to BCSEA IR 1.6.1.

6.0 Topic: Termination of Fortis Transaction

Reference: Exhibit B-3, p. 2; Exhibit C1-3

BC Hydro states that "BC Hydro is mindful of the fact that Fortis Inc. could still become the purchaser of Teck's interest in Waneta if for any reason the Waneta 2017 Transaction does not close."

This statement is acknowledged by FBC, which then states:

However, by virtue of BC Hydro's exercise of its right of first refusal, the agreement between Teck and Fortis Inc. was terminated. As stated in Fortis Inc.'s publicly issued release of August 1, 2017:

Fortis Inc. ("Fortis"), (TSX/NYSE:FTS) has been given notice from Teck Resources Limited ("Teck") that BC Hydro has exercised its right of first offer to acquire Teck's two-thirds interest in the Waneta Dam. As a result, the purchase agreement between Fortis and Teck has been terminated and Teck is obligated to pay Fortis a break fee of approximately $28,000,000." [Exhibit C1-3, pp. 3-4, underline added]

For clarity, it is noted that the Fortis Transaction is not yet on the public record in this proceeding.

1.6.3 Does BC Hydro agree with FBC's assertion that the Fortis Transaction was terminated as a result of BC Hydro's exercise of the ROFO? If not, why not? If so:

1.6.3.3 Was the inclusion of such a provision in the Fortis Transaction (that the transaction would terminate if and when BC Hydro issued a Reply Notice to exercise its ROFO) a requirement of the COA?

RESPONSE:

No, however under the terms of the COA, Teck was unable to complete the sale of the Waneta Assets to any party without first offering them to BC Hydro under the ROFO, subject to the limitation described in BC Hydro's response to BCSEA IRs 1.6.1 and 1.6.6.

6.0 Topic: Termination of Fortis Transaction

Reference: Exhibit B-3, p. 2; Exhibit C1-3

BC Hydro states that "BC Hydro is mindful of the fact that Fortis Inc. could still become the purchaser of Teck's interest in Waneta if for any reason the Waneta 2017 Transaction does not close."

This statement is acknowledged by FBC, which then states:

However, by virtue of BC Hydro's exercise of its right of first refusal, the agreement between Teck and Fortis Inc. was terminated. As stated in Fortis Inc.'s publicly issued release of August 1, 2017:

Fortis Inc. ("Fortis"), (TSX/NYSE:FTS) has been given notice from Teck Resources Limited ("Teck") that BC Hydro has exercised its right of first offer to acquire Teck's two-thirds interest in the Waneta Dam. As a result, the purchase agreement between Fortis and Teck has been terminated and Teck is obligated to pay Fortis a break fee of approximately $28,000,000." [Exhibit C1-3, pp. 3-4, underline added]

For clarity, it is noted that the Fortis Transaction is not yet on the public record in this proceeding.

1.6.3 Does BC Hydro agree with FBC's assertion that the Fortis Transaction was terminated as a result of BC Hydro's exercise of the ROFO? If not, why not? If so:

1.6.3.4 Did Teck, or Fortis Inc., exercise a contractual entitlement to terminate the Fortis Transaction upon BC Hydro's issuance of the Reply Notice?

RESPONSE:

Please refer to BC Hydro's response to BCSEA IR 1.6.1.

6.0 Topic: Termination of Fortis Transaction

Reference: Exhibit B-3, p. 2; Exhibit C1-3

BC Hydro states that "BC Hydro is mindful of the fact that Fortis Inc. could still become the purchaser of Teck's interest in Waneta if for any reason the Waneta 2017 Transaction does not close."

This statement is acknowledged by FBC, which then states:

However, by virtue of BC Hydro's exercise of its right of first refusal, the agreement between Teck and Fortis Inc. was terminated. As stated in Fortis Inc.'s publicly issued release of August 1, 2017:

Fortis Inc. ("Fortis"), (TSX/NYSE:FTS) has been given notice from Teck Resources Limited ("Teck") that BC Hydro has exercised its right of first offer to acquire Teck's two-thirds interest in the Waneta Dam. As a result, the purchase agreement between Fortis and Teck has been terminated and Teck is obligated to pay Fortis a break fee of approximately $28,000,000." [Exhibit C1-3, pp. 3-4, underline added]

For clarity, it is noted that the Fortis Transaction is not yet on the public record in this proceeding.

1.6.4 In the quotations above, both FBC and Fortis Inc. characterize BC Hydro's issuance of the Reply Notice to Teck as being one and the same as BC Hydro's "exercise of its right of first refusal," causing the termination of the Fortis Transaction. In BC Hydro's view, does the Fortis Transaction (which is not available to BCSEA-SCBC) equate BC Hydro's issuance of a Reply Notice with the exercise of the right of first refusal, such that the mere issuance of the Reply Notice terminates the Fortis Transaction regardless of whether the Reply Notice is actually followed by a completed transaction in which BC Hydro acquires the 2/3 Interest?

RESPONSE:

The issuance of the Reply Notice was the exercise of the ROFO, regardless of whether the Waneta 2017 Transaction is completed. Please refer to BC Hydro's response to BCSEA IR 1.6.1.

6.0 Topic: Termination of Fortis Transaction

Reference: Exhibit B-3, p. 2; Exhibit C1-3

BC Hydro states that "BC Hydro is mindful of the fact that Fortis Inc. could still become the purchaser of Teck's interest in Waneta if for any reason the Waneta 2017 Transaction does not close."

This statement is acknowledged by FBC, which then states:

However, by virtue of BC Hydro's exercise of its right of first refusal, the agreement between Teck and Fortis Inc. was terminated. As stated in Fortis Inc.'s publicly issued release of August 1, 2017:

Fortis Inc. ("Fortis"), (TSX/NYSE:FTS) has been given notice from Teck Resources Limited ("Teck") that BC Hydro has exercised its right of first offer to acquire Teck's two-thirds interest in the Waneta Dam. As a result, the purchase agreement between Fortis and Teck has been terminated and Teck is obligated to pay Fortis a break fee of approximately $28,000,000." [Exhibit C1-3, pp. 3-4, underline added]

For clarity, it is noted that the Fortis Transaction is not yet on the public record in this proceeding.

1.6.5 Is the Fortis Transaction silent regarding the effect on termination of the Fortis Transaction of a scenario in which a Reply Notice is issued but is not followed by a completed transaction for the sale of the 2/3 Interest? Or does the Fortis Transaction contain express provisions to that effect?

RESPONSE:

Please refer to BC Hydro's response to BCSEA IR 1.6.1.

6.0 Topic: Termination of Fortis Transaction

Reference: Exhibit B-3, p. 2; Exhibit C1-3

BC Hydro states that "BC Hydro is mindful of the fact that Fortis Inc. could still become the purchaser of Teck's interest in Waneta if for any reason the Waneta 2017 Transaction does not close."

This statement is acknowledged by FBC, which then states:

However, by virtue of BC Hydro's exercise of its right of first refusal, the agreement between Teck and Fortis Inc. was terminated. As stated in Fortis Inc.'s publicly issued release of August 1, 2017:

Fortis Inc. ("Fortis"), (TSX/NYSE:FTS) has been given notice from Teck Resources Limited ("Teck") that BC Hydro has exercised its right of first offer to acquire Teck's two-thirds interest in the Waneta Dam. As a result, the purchase agreement between Fortis and Teck has been terminated and Teck is obligated to pay Fortis a break fee of approximately $28,000,000." [Exhibit C1-3, pp. 3-4, underline added]

For clarity, it is noted that the Fortis Transaction is not yet on the public record in this proceeding.

1.6.6 Is BC Hydro aware of any rationale, commercial, contractual or otherwise, for the $1.2-billion Fortis Transaction to contain a termination provision triggered by the mere issuance of a Reply Notice without completion of a sale of the 2/3 Interest under the ROFO?

RESPONSE:

It is not generally appropriate for BC Hydro to comment on the rationale of another party and to do so would be purely speculative in nature. However, BC Hydro notes that its ROFO rights would not be exercisable in the 12-month period following the termination of the Waneta 2017 Transaction, subject to all other provisions of the COA.

6.0 Topic: Termination of Fortis Transaction

Reference: Exhibit B-3, p. 2; Exhibit C1-3

BC Hydro states that "BC Hydro is mindful of the fact that Fortis Inc. could still become the purchaser of Teck's interest in Waneta if for any reason the Waneta 2017 Transaction does not close."

This statement is acknowledged by FBC, which then states:

However, by virtue of BC Hydro's exercise of its right of first refusal, the agreement between Teck and Fortis Inc. was terminated. As stated in Fortis Inc.'s publicly issued release of August 1, 2017:

Fortis Inc. ("Fortis"), (TSX/NYSE:FTS) has been given notice from Teck Resources Limited ("Teck") that BC Hydro has exercised its right of first offer to acquire Teck's two-thirds interest in the Waneta Dam. As a result, the purchase agreement between Fortis and Teck has been terminated and Teck is obligated to pay Fortis a break fee of approximately $28,000,000." [Exhibit C1-3, pp. 3-4, underline added]

For clarity, it is noted that the Fortis Transaction is not yet on the public record in this proceeding.

1.6.7 In BC Hydro's view, does the COA prevent Teck from structuring a transaction involving the 2/3 Interest such that it does not terminate unless a transaction actually completes under BC Hydro's right of first offer?

RESPONSE:

Based on the existing ROFO as negotiated under the COA, any proposed transaction would be subject to the terms of ROFO subject to the limitations described in BC Hydro's response to BCSEA IRs 1.6.1 and 1.6.6. BC Hydro is not aware of any specific item preventing Teck from structuring a transaction that would not terminate unless a transaction with BC Hydro was completed.

6.0 Topic: Termination of Fortis Transaction

Reference: Exhibit B-3, p. 2; Exhibit C1-3

BC Hydro states that "BC Hydro is mindful of the fact that Fortis Inc. could still become the purchaser of Teck's interest in Waneta if for any reason the Waneta 2017 Transaction does not close."

This statement is acknowledged by FBC, which then states:

However, by virtue of BC Hydro's exercise of its right of first refusal, the agreement between Teck and Fortis Inc. was terminated. As stated in Fortis Inc.'s publicly issued release of August 1, 2017:

Fortis Inc. ("Fortis"), (TSX/NYSE:FTS) has been given notice from Teck Resources Limited ("Teck") that BC Hydro has exercised its right of first offer to acquire Teck's two-thirds interest in the Waneta Dam. As a result, the purchase agreement between Fortis and Teck has been terminated and Teck is obligated to pay Fortis a break fee of approximately $28,000,000." [Exhibit C1-3, pp. 3-4, underline added]

For clarity, it is noted that the Fortis Transaction is not yet on the public record in this proceeding.

1.6.8 When it considered issuing the Reply Notice, what was BC Hydro's understanding as to whether doing so would result in termination of the Fortis Transaction?

RESPONSE:

It was immaterial to BC Hydro in considering the issuance of the Reply Notice whether the Fortis Transaction would survive a failed Waneta 2017 Transaction; particularly given the possibility of the two parties to that transaction to do a new transaction on the same terms (please refer to BC Hydro's response to BCSEA IR 1.6.1)

6.0 Topic: Termination of Fortis Transaction

Reference: Exhibit B-3, p. 2; Exhibit C1-3

BC Hydro states that "BC Hydro is mindful of the fact that Fortis Inc. could still become the purchaser of Teck's interest in Waneta if for any reason the Waneta 2017 Transaction does not close."

This statement is acknowledged by FBC, which then states:

However, by virtue of BC Hydro's exercise of its right of first refusal, the agreement between Teck and Fortis Inc. was terminated. As stated in Fortis Inc.'s publicly issued release of August 1, 2017:

Fortis Inc. ("Fortis"), (TSX/NYSE:FTS) has been given notice from Teck Resources Limited ("Teck") that BC Hydro has exercised its right of first offer to acquire Teck's two-thirds interest in the Waneta Dam. As a result, the purchase agreement between Fortis and Teck has been terminated and Teck is obligated to pay Fortis a break fee of approximately $28,000,000." [Exhibit C1-3, pp. 3-4, underline added]

For clarity, it is noted that the Fortis Transaction is not yet on the public record in this proceeding.

1.6.9 In BC Hydro's view, if the Waneta 2017 Transaction is not completed, would either or both of Teck and Fortis Inc. have a right, or an obligation, to revive and complete the Fortis Transaction without Teck providing a second Sale Notice to BC Hydro under the COA?

RESPONSE:

Based on the terms of the COA, if Teck completes a transaction, subject to satisfaction of all other terms and conditions of the COA applicable to a transfer (as defined within the COA), within one year after the termination of the Waneta 2017 Transaction, then Teck would not be obligated to provide a second sale notice.

6.0 Topic: Termination of Fortis Transaction

Reference: Exhibit B-3, p. 2; Exhibit C1-3

BC Hydro states that "BC Hydro is mindful of the fact that Fortis Inc. could still become the purchaser of Teck's interest in Waneta if for any reason the Waneta 2017 Transaction does not close."

This statement is acknowledged by FBC, which then states:

However, by virtue of BC Hydro's exercise of its right of first refusal, the agreement between Teck and Fortis Inc. was terminated. As stated in Fortis Inc.'s publicly issued release of August 1, 2017:

Fortis Inc. ("Fortis"), (TSX/NYSE:FTS) has been given notice from Teck Resources Limited ("Teck") that BC Hydro has exercised its right of first offer to acquire Teck's two-thirds interest in the Waneta Dam. As a result, the purchase agreement between Fortis and Teck has been terminated and Teck is obligated to pay Fortis a break fee of approximately $28,000,000." [Exhibit C1-3, pp. 3-4, underline added]

For clarity, it is noted that the Fortis Transaction is not yet on the public record in this proceeding.

1.6.10 In BC Hydro's view, does the effect, if any, of hypothetical non-completion of the Waneta 2017 Transaction on the status of the Fortis Transaction depend in any way on the reason(s) why the Waneta 2017 Transaction did not complete?

RESPONSE:

Any non-completion of the Waneta 2017 Transaction, for any reason, does not affect the Fortis Transaction as the latter is already terminated. Please refer to BC Hydro's response to BCSEA IR 1.6.1.

6.0 Topic: Termination of Fortis Transaction

Reference: Exhibit B-3, p. 2; Exhibit C1-3

BC Hydro states that "BC Hydro is mindful of the fact that Fortis Inc. could still become the purchaser of Teck's interest in Waneta if for any reason the Waneta 2017 Transaction does not close."

This statement is acknowledged by FBC, which then states:

However, by virtue of BC Hydro's exercise of its right of first refusal, the agreement between Teck and Fortis Inc. was terminated. As stated in Fortis Inc.'s publicly issued release of August 1, 2017:

Fortis Inc. ("Fortis"), (TSX/NYSE:FTS) has been given notice from Teck Resources Limited ("Teck") that BC Hydro has exercised its right of first offer to acquire Teck's two-thirds interest in the Waneta Dam. As a result, the purchase agreement between Fortis and Teck has been terminated and Teck is obligated to pay Fortis a break fee of approximately $28,000,000." [Exhibit C1-3, pp. 3-4, underline added]

For clarity, it is noted that the Fortis Transaction is not yet on the public record in this proceeding.

1.6.10 In BC Hydro's view, does the effect, if any, of hypothetical non-completion of the Waneta 2017 Transaction on the status of the Fortis Transaction depend in any way on the reason(s) why the Waneta 2017 Transaction did not complete?

1.6.10.1 In particular, if the Waneta 2017 Transaction does not complete because the Commission declines to approve BC Hydro's participation in it does this, to BC Hydro's knowledge, affect the possibility of a revival of the Fortis Transaction?

RESPONSE:

Please refer to BC Hydro's response to BCSEA IR 1.6.10.

6.0 Topic: Termination of Fortis Transaction

Reference: Exhibit B-3, p. 2; Exhibit C1-3

BC Hydro states that "BC Hydro is mindful of the fact that Fortis Inc. could still become the purchaser of Teck's interest in Waneta if for any reason the Waneta 2017 Transaction does not close."

This statement is acknowledged by FBC, which then states:

However, by virtue of BC Hydro's exercise of its right of first refusal, the agreement between Teck and Fortis Inc. was terminated. As stated in Fortis Inc.'s publicly issued release of August 1, 2017:

Fortis Inc. ("Fortis"), (TSX/NYSE:FTS) has been given notice from Teck Resources Limited ("Teck") that BC Hydro has exercised its right of first offer to acquire Teck's two-thirds interest in the Waneta Dam. As a result, the purchase agreement between Fortis and Teck has been terminated and Teck is obligated to pay Fortis a break fee of approximately $28,000,000." [Exhibit C1-3, pp. 3-4, underline added]

For clarity, it is noted that the Fortis Transaction is not yet on the public record in this proceeding.

1.6.11 In BC Hydro's view, is the question of whether the Fortis Transaction would be completed if the Waneta 2017 Transaction is not completed material to the Commission's determination regarding the orders requested in this proceeding? If so, why? If not, why not?

RESPONSE:

As noted, the August 1, 2017 press release from Fortis Inc. definitively states that the purchase agreement between Fortis and Teck has been terminated, and as such there is no Fortis Transaction to consider. However, it is possible that Teck could reach terms with Fortis Inc on another agreement with similar terms to the Fortis Transaction. As such, the terms of the Fortis Transaction are relevant to the consideration of the no-go scenario.

7.0 Topic: Potential Teck Sale of 2/3 Interest Following Non-Completion of Waneta 2017 Transaction

Reference: Exhibit B-1, Appendix G, p. 15, pdf p. 319, COA s. 25.3, ROFO; Exhibit C1-3, p. 4

FBC states that "If the transactions to which the Application relates did not proceed, Teck could do any number of things, including not sell the assets."

Section 25.3 of the existing Co-Owners and Operating Agreement is described by BC Hydro as follows:

> "Each party is also granted a right of first offer (ROFO) in the event that a party wishes to sell its interest in Waneta. The ROFO provides that a party wishing to sell its interest must first offer to sell its participating interest to the non-selling party on the same terms and conditions as contained in the selling party's offer to sell to a third- party. In certain circumstances, where the selling co-owner is the Operator and has majority voting rights on the Operating Committee, the non-seller co-owner can become the Operator with majority voting rights on the Operating Committee. (Section 25.3)"

1.7.1 Please confirm, or otherwise explain, that if for any reason the Waneta 2017 Transaction does not complete then the existing Co-Owners and Operating Agreement remains in place.

RESPONSE:

Generally, if the Waneta 2017 Transaction did not complete, the COA would continue; Teck would have the right to negotiate a new sale arrangement with any of BC Hydro, Fortis Inc., or another third-party; and BC Hydro would be able to exercise its ROFO under the COA in respect of any such transaction that was subject to the ROFO. However, pursuant to section 25.3(g) of the COA, BC Hydro would not retain its ROFO rights with respect to a sale by Teck to a third-party that closes within 12 months of the termination of the Waneta 2017 Transaction.

Regarding the ROFO, section 8.3 of the Waneta Purchase Agreement includes the following: "For clarity, any termination hereunder will be without prejudice to BC Hydro's continuing right of first offer pursuant to section 25.3 of the COA." The "termination hereunder" referred to is the right of each party to due to failure to fulfill closing conditions, including the commission's approval of the application. The COA section 25.3(g) limitation on BC Hydro's ROFO rights mentioned above would still be applicable.

7.0 Topic: Potential Teck Sale of 2/3 Interest Following Non-Completion of Waneta 2017 Transaction

Reference: Exhibit B-1, Appendix G, p. 15, pdf p. 319, COA s. 25.3, ROFO; Exhibit C1-3, p. 4

FBC states that "If the transactions to which the Application relates did not proceed, Teck could do any number of things, including not sell the assets."

Section 25.3 of the existing Co-Owners and Operating Agreement is described by BC Hydro as follows:

> "Each party is also granted a right of first offer (ROFO) in the event that a party wishes to sell its interest in Waneta. The ROFO provides that a party wishing to sell its interest must first offer to sell its participating interest to the non-selling party on the same terms and conditions as contained in the selling party's offer to sell to a third- party. In certain circumstances, where the selling co-owner is the Operator and has majority voting rights on the Operating Committee, the non-seller co-owner can become the Operator with majority voting rights on the Operating Committee. (Section 25.3)"

1.7.1 Please confirm, or otherwise explain, that if for any reason the Waneta 2017 Transaction does not complete then the existing Co-Owners and Operating Agreement remains in place.

1.7.1.1 In particular, please confirm, or otherwise explain, that if for any reason the Waneta 2017 Transaction does not complete then the Right of First Offer in section 25.3 of the existing Co-Owners and Operation Agreement remains in place.

RESPONSE:

Please refer to BC Hydro's response to BCSEA 1.7.1.

7.0 Topic: Potential Teck Sale of 2/3 Interest Following Non-Completion of Waneta 2017 Transaction

Reference: Exhibit B-1, Appendix G, p. 15, pdf p. 319, COA s. 25.3, ROFO; Exhibit C1-3, p. 4

FBC states that "If the transactions to which the Application relates did not proceed, Teck could do any number of things, including not sell the assets."

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> "Each party is also granted a right of first offer (ROFO) in the event that a party wishes to sell its interest in Waneta. The ROFO provides that a party wishing to sell its interest must first offer to sell its participating interest to the non-selling party on the same terms and conditions as contained in the selling party's offer to sell to a third- party. In certain circumstances, where the selling co-owner is the Operator and has majority voting rights on the Operating Committee, the non-seller co-owner can become the Operator with majority voting rights on the Operating Committee. (Section 25.3)"

1.7.2 Assuming for this question that the Fortis Transaction is terminated and incapable of being revived, and that the 2017 Waneta Transaction does not complete, in BC Hydro's view does Teck remain bound by the ROFO in section 25.3 of the COA such that any new transaction by Teck to divest itself of its 2/3 Interest would have to be subject to a ROFO in favour of BC Hydro?

RESPONSE:

Please refer to BC Hydro's response to BCSEA 1.7.1.

7.0 Topic: Potential Teck Sale of 2/3 Interest Following Non-Completion of Waneta 2017 Transaction

Reference: Exhibit B-1, Appendix G, p. 15, pdf p. 319, COA s. 25.3, ROFO; Exhibit C1-3, p. 4

FBC states that "If the transactions to which the Application relates did not proceed, Teck could do any number of things, including not sell the assets."

Section 25.3 of the existing Co-Owners and Operating Agreement is described by BC Hydro as follows:

> "Each party is also granted a right of first offer (ROFO) in the event that a party wishes to sell its interest in Waneta. The ROFO provides that a party wishing to sell its interest must first offer to sell its participating interest to the non-selling party on the same terms and conditions as contained in the selling party's offer to sell to a third- party. In certain circumstances, where the selling co-owner is the Operator and has majority voting rights on the Operating Committee, the non-seller co-owner can become the Operator with majority voting rights on the Operating Committee. (Section 25.3)"

1.7.3 Assuming for this question that the Fortis Transaction is terminated and incapable of being revived, and that the 2017 Waneta Transaction does not complete, and setting aside the COA, is there anything in the 2017 Waneta Transaction or related agreements between BC Hydro and Teck, or in BC Hydro's view in the Fortis Transaction or related agreements between Teck and Fortis Inc., that limits Teck's, BC Hydro's or Fortis Inc.'s ability to negotiate and to complete a transaction involving sale of the 2/3 Interest?

RESPONSE:

Please refer to BC Hydro's response to BCSEA 1.7.1.

7.0 Topic: Potential Teck Sale of 2/3 Interest Following Non-Completion of Waneta 2017 Transaction

Reference: Exhibit B-1, Appendix G, p. 15, pdf p. 319, COA s. 25.3, ROFO; Exhibit C1-3, p. 4

FBC states that "If the transactions to which the Application relates did not proceed, Teck could do any number of things, including not sell the assets."

Section 25.3 of the existing Co-Owners and Operating Agreement is described by BC Hydro as follows:

> "Each party is also granted a right of first offer (ROFO) in the event that a party wishes to sell its interest in Waneta. The ROFO provides that a party wishing to sell its interest must first offer to sell its participating interest to the non-selling party on the same terms and conditions as contained in the selling party's offer to sell to a third- party. In certain circumstances, where the selling co-owner is the Operator and has majority voting rights on the Operating Committee, the non-seller co-owner can become the Operator with majority voting rights on the Operating Committee. (Section 25.3)"

1.7.4 Assuming for this question that the Fortis Transaction is terminated and incapable of being revived, and that the 2017 Waneta Transaction does not complete, would it be open to Teck and BC Hydro to negotiate and complete a (new) transaction concerning Teck's 2/3 Interest, subject among other things to Commission approval?

RESPONSE:

Please refer to BC Hydro's response to BCSEA 1.7.1.

7.0 Topic: Potential Teck Sale of 2/3 Interest Following Non-Completion of Waneta 2017 Transaction

Reference: Exhibit B-1, Appendix G, p. 15, pdf p. 319, COA s. 25.3, ROFO; Exhibit C1-3, p. 4

FBC states that "If the transactions to which the Application relates did not proceed, Teck could do any number of things, including not sell the assets."

Section 25.3 of the existing Co-Owners and Operating Agreement is described by BC Hydro as follows:

> "Each party is also granted a right of first offer (ROFO) in the event that a party wishes to sell its interest in Waneta. The ROFO provides that a party wishing to sell its interest must first offer to sell its participating interest to the non-selling party on the same terms and conditions as contained in the selling party's offer to sell to a third- party. In certain circumstances, where the selling co-owner is the Operator and has majority voting rights on the Operating Committee, the non-seller co-owner can become the Operator with majority voting rights on the Operating Committee. (Section 25.3)"

1.7.5 Assuming for this question that the Fortis Transaction is terminated and incapable of being revived, and that the 2017 Waneta Transaction does not complete, would it be open to Teck and Fortis Inc. to negotiate and complete a (new) transaction concerning Teck's 2/3 Interest subject to BC Hydro's ROFO under the COA?

RESPONSE:

Please refer to BC Hydro's response to BCSEA 1.7.1.

7.0 Topic: Potential Teck Sale of 2/3 Interest Following Non-Completion of Waneta 2017 Transaction

Reference: Exhibit B-1, Appendix G, p. 15, pdf p. 319, COA s. 25.3, ROFO; Exhibit C1-3, p. 4

FBC states that "If the transactions to which the Application relates did not proceed, Teck could do any number of things, including not sell the assets."

Section 25.3 of the existing Co-Owners and Operating Agreement is described by BC Hydro as follows:

> "Each party is also granted a right of first offer (ROFO) in the event that a party wishes to sell its interest in Waneta. The ROFO provides that a party wishing to sell its interest must first offer to sell its participating interest to the non-selling party on the same terms and conditions as contained in the selling party's offer to sell to a third- party. In certain circumstances, where the selling co-owner is the Operator and has majority voting rights on the Operating Committee, the non-seller co-owner can become the Operator with majority voting rights on the Operating Committee. (Section 25.3)"

1.7.6 In BC Hydro's view, in making its determinations regarding the Waneta 2017 Transaction can, and should, the Commission take into account what the Commission might perceive to be the advantages of a new transaction between BC Hydro and Teck regarding divestment of the 2/3 Interest?

RESPONSE:

In BC Hydro's view the Commission is obliged to assess whether the Waneta 2017 Transaction is cost effective and in the public interest. It would be inappropriate for the Commission to make that assessment on the basis of different or future transactions that have no basis in fact.

7.0 Topic: Potential Teck Sale of 2/3 Interest Following Non-Completion of Waneta 2017 Transaction

Reference: Exhibit B-1, Appendix G, p. 15, pdf p. 319, COA s. 25.3, ROFO; Exhibit C1-3, p. 4

FBC states that "If the transactions to which the Application relates did not proceed, Teck could do any number of things, including not sell the assets."

Section 25.3 of the existing Co-Owners and Operating Agreement is described by BC Hydro as follows:

> "Each party is also granted a right of first offer (ROFO) in the event that a party wishes to sell its interest in Waneta. The ROFO provides that a party wishing to sell its interest must first offer to sell its participating interest to the non-selling party on the same terms and conditions as contained in the selling party's offer to sell to a third- party. In certain circumstances, where the selling co-owner is the Operator and has majority voting rights on the Operating Committee, the non-seller co-owner can become the Operator with majority voting rights on the Operating Committee. (Section 25.3)"

1.7.6 In BC Hydro's view, in making its determinations regarding the Waneta 2017 Transaction can, and should, the Commission take into account what the Commission might perceive to be the advantages of a new transaction between BC Hydro and Teck regarding divestment of the 2/3 Interest?

1.7.6.1 In BC Hydro's view, can, and should, the Commission indicate in its reasons for decision in the current proceeding that it would favourably consider an application by BC Hydro for approval of a new transaction between BC Hydro and Teck regarding the 2/3 Interest if the new transaction differed from the Waneta 2017 Transaction in specified ways?

RESPONSE:

Please refer to BC Hydro's response to BCSEA IR 1.7.6.

7.0 Topic: Potential Teck Sale of 2/3 Interest Following Non-Completion of Waneta 2017 Transaction

Reference: Exhibit B-1, Appendix G, p. 15, pdf p. 319, COA s. 25.3, ROFO; Exhibit C1-3, p. 4

FBC states that "If the transactions to which the Application relates did not proceed, Teck could do any number of things, including not sell the assets."

Section 25.3 of the existing Co-Owners and Operating Agreement is described by BC Hydro as follows:

> "Each party is also granted a right of first offer (ROFO) in the event that a party wishes to sell its interest in Waneta. The ROFO provides that a party wishing to sell its interest must first offer to sell its participating interest to the non-selling party on the same terms and conditions as contained in the selling party's offer to sell to a third- party. In certain circumstances, where the selling co-owner is the Operator and has majority voting rights on the Operating Committee, the non-seller co-owner can become the Operator with majority voting rights on the Operating Committee. (Section 25.3)"

1.7.7 In BC Hydro's view, is Teck entitled under the COA to structure a transaction for the sale of its 2/3 Interest in Waneta such that if BC Hydro exercised its ROFO but the Commission declined to approve BC Hydro's participation in a transaction based on the ROFO then (a) the Teck transaction would automatically survive, i.e., continue to bind Teck and the counterparty, or (b) the transaction would entitle either Teck or the counterparty to require the other to complete the transaction?

RESPONSE:

It may be permissible and in accordance with the COA for Teck to sell its interest in Waneta to a third-party though an arrangement that provides for its revival or continuation subsequent to the exercise by BC Hydro of its ROFO and a commission rejection of the ensuing BC Hydro application. However, this scenario is both hypothetical and not expressly addressed by the COA and according BC Hydro declines to make the asked-for interpretation. Please also refer to BC Hydro's responses to BCSEA IR 1.7.1 and 1.7.6.

7.0 Topic: Potential Teck Sale of 2/3 Interest Following Non-Completion of Waneta 2017 Transaction

Reference: Exhibit B-1, Appendix G, p. 15, pdf p. 319, COA s. 25.3, ROFO; Exhibit C1-3, p. 4

FBC states that "If the transactions to which the Application relates did not proceed, Teck could do any number of things, including not sell the assets."

Section 25.3 of the existing Co-Owners and Operating Agreement is described by BC Hydro as follows:

> "Each party is also granted a right of first offer (ROFO) in the event that a party wishes to sell its interest in Waneta. The ROFO provides that a party wishing to sell its interest must first offer to sell its participating interest to the non-selling party on the same terms and conditions as contained in the selling party's offer to sell to a third- party. In certain circumstances, where the selling co-owner is the Operator and has majority voting rights on the Operating Committee, the non-seller co-owner can become the Operator with majority voting rights on the Operating Committee. (Section 25.3)"

1.7.8 If not, in BC Hydro's view does the combination of BC Hydro's right of first offer in the COA, BC Hydro's requirement for Commission approval of BC Hydro's purchase of Teck's interest in Waneta, and the Commission's authority to refuse such approval, mean that there are only two scenarios by which Teck could sell its interest in Waneta: either
(a) Teck enters a transaction with a third party subject to a ROFO to BC Hydro and BC Hydro declines to exercise the ROFO, or
(b) the Commission approves BC Hydro's participation in a transaction to purchase Teck's interest in Waneta under an ROFO or under a direct agreement with Teck?

RESPONSE:

Please refer to BC Hydro's response to BCSEA 1.7.7.

7.0 Topic: Potential Teck Sale of 2/3 Interest Following Non-Completion of Waneta 2017 Transaction

Reference: Exhibit B-1, Appendix G, p. 15, pdf p. 319, COA s. 25.3, ROFO; Exhibit C1-3, p. 4

FBC states that "If the transactions to which the Application relates did not proceed, Teck could do any number of things, including not sell the assets."

Section 25.3 of the existing Co-Owners and Operating Agreement is described by BC Hydro as follows:

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1.7.9 In BC Hydro's view, would a decision by the Commission not to approve BC Hydro's participation in the Waneta 2017 Transaction diminish the sale value to Teck of its interest in Waneta?

RESPONSE:

BC Hydro does not believe that any reasonable inference can be made on the value to Teck of a potential future transaction involving the sale of Waneta to a third-party, regardless of whether such a future deal arose from a rejection of the Application by the Commission. The Waneta 2017 Transaction represents the outcome of negotiations between Teck and Fortis Inc. that arose from a competitive sale process undertaken by Teck in 2016 to 2017. As such the transaction reflects the particular positions the companies were in at the time the arrangements were arrived at *vis-à-vis* strategic plans, commodity cycles, share prices, interest rates, and all the myriad factors that are considered in any significant commercial transaction. A future deal might look quite different. The only thing one can reasonably infer is that in the near term i) the motivations that brought Teck and FortisBC to the table would remain, and ii) BC Hydro would not have the benefit of the ROFO rights that resulted in the Waneta 2017 Transaction for the first 12 months after the termination of the Waneta 2017 Transaction.

The suggestion implicit in the BCSEA IR 1.7.xx series of IRs is that the Commission could or should reject the Application because Teck may be

compelled to enter into a future arrangement less favourable to it, which BC Hydro could then get the benefit of through the exercise of on-going ROFO rights. If the BCUC did this it would be contrary to its mandate at best, and perhaps unlawful, as it would amount to the Commission rejecting an otherwise acceptable transaction with the intent of transferring incremental value from an unregulated private entity to a regulated public utility and its ratepayers. Such an approach would bring the Commission into disrepute and could reasonably be expected to ensure that Teck would never enter into a future sale arrangement that required the Commission's approval. Please also refer to BC Hydro's response to BCSEA 1.7.6.

7.0 Topic: Potential Teck Sale of 2/3 Interest Following Non-Completion of Waneta 2017 Transaction

Reference: Exhibit B-1, Appendix G, p. 15, pdf p. 319, COA s. 25.3, ROFO; Exhibit C1-3, p. 4

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1.7.9 In BC Hydro's view, would a decision by the Commission not to approve BC Hydro's participation in the Waneta 2017 Transaction diminish the sale value to Teck of its interest in Waneta?

1.7.9.1 If so, is this a factor the Commission (a) must or (b) should or (c) could take into account in determining whether to approve BC Hydro's participation in the Waneta 2017 Transaction?

RESPONSE:

Please refer to BC Hydro's response to BCSEA IR 1.7.9.

8.0 Topic: Potential for BC Hydro Service of Teck Smelter

Reference: Exhibit B-1, Appendix N, Business Case; Exhibit B-1, section 1.4.2 Events Leading to Waneta 2017 Transaction

BC Hydro's Waneta 2/3 Interest Business Case examines contingencies in which post-Lease the Teck smelter load is, and is not, served by BC Hydro.

1.8.1 Please confirm, or otherwise explain, that BC Hydro does not serve the Teck smelter load at the present time.

RESPONSE:

BC Hydro does not at the present time provide any regulated utility services to Teck.

8.0 Topic: Potential for BC Hydro Service of Teck Smelter

Reference: Exhibit B-1, Appendix N, Business Case; Exhibit B-1, section 1.4.2 Events Leading to Waneta 2017 Transaction

BC Hydro's Waneta 2/3 Interest Business Case examines contingencies in which post-Lease the Teck smelter load is, and is not, served by BC Hydro.

1.8.1 Please confirm, or otherwise explain, that BC Hydro does not serve the Teck smelter load at the present time.

1.8.1.1 Does BC Hydro supply backup power, standby service or other service to Teck regarding the smelter?

RESPONSE:

Please refer to BC Hydro's response to BCSEA IR 1.8.1.

8.0 Topic: Potential for BC Hydro Service of Teck Smelter

Reference: Exhibit B-1, Appendix N, Business Case; Exhibit B-1, section 1.4.2 Events Leading to Waneta 2017 Transaction

BC Hydro's Waneta 2/3 Interest Business Case examines contingencies in which post-Lease the Teck smelter load is, and is not, served by BC Hydro.

1.8.2 Is Teck currently an electricity customer of BC Hydro? If so, please explain the nature of the service BC Hydro provides and indicate the rate schedule.

RESPONSE:

Please refer to BC Hydro's response to BCSEA IR 1.8.1.

8.0 Topic: Potential for BC Hydro Service of Teck Smelter

Reference: Exhibit B-1, Appendix N, Business Case; Exhibit B-1, section 1.4.2 Events Leading to Waneta 2017 Transaction

BC Hydro's Waneta 2/3 Interest Business Case examines contingencies in which post-Lease the Teck smelter load is, and is not, served by BC Hydro.

1.8.3 Please confirm, or otherwise explain, that the Teck smelter is located within BC Hydro's service territory.

RESPONSE:

Please refer to BC Hydro's response to BCUC IRs 1.63.1 and 1.63.3.

8.0 Topic: Potential for BC Hydro Service of Teck Smelter

Reference: Exhibit B-1, Appendix N, Business Case; Exhibit B-1, section 1.4.2 Events Leading to Waneta 2017 Transaction

BC Hydro's Waneta 2/3 Interest Business Case examines contingencies in which post-Lease the Teck smelter load is, and is not, served by BC Hydro.

1.8.4 From a regulatory perspective, is it possible that Teck would be able to obtain service for the smelter from FortisBC Inc.?

RESPONSE:

Please refer to BC Hydro's response to BCUC IRs 1.63.1 and 1.63.3.

8.0 Topic: Potential for BC Hydro Service of Teck Smelter

Reference: Exhibit B-1, Appendix N, Business Case; Exhibit B-1, section 1.4.2 Events Leading to Waneta 2017 Transaction

BC Hydro's Waneta 2/3 Interest Business Case examines contingencies in which post-Lease the Teck smelter load is, and is not, served by BC Hydro.

1.8.5 Please describe BC Hydro's obligation to serve Teck smelter load and any limitations on the obligation.

RESPONSE:

Please refer to BC Hydro's response to BCUC IRs 1.63.1 and 1.63.3.

8.0 Topic: Potential for BC Hydro Service of Teck Smelter

Reference: Exhibit B-1, Appendix N, Business Case; Exhibit B-1, section 1.4.2 Events Leading to Waneta 2017 Transaction

BC Hydro's Waneta 2/3 Interest Business Case examines contingencies in which post-Lease the Teck smelter load is, and is not, served by BC Hydro.

1.8.6 Please describe how BC Hydro's Electric Tariff Supplement #6 would affect a contribution by the smelter owner towards the cost of new transmission (if any) and generation required for BC Hydro to serve the smelter load.

RESPONSE:

In general and simplified terms, service in accordance with Tariff Supplement No. 6 requires a would-be customer to build, at its own expense, the transmission infrastructure necessary to connect to BC Hydro's system; and BC Hydro to build at its own expense, but subject to customer-provided security, the system reinforcements that are on the BC Hydro side of the point of interconnection. Where the costs of the system reinforcement exceed the "maximum offset", the amounts in excess of the "maximum offset" are at the customer's expense. For new would-be loads exceeding 150 MV.A, system reinforcements includes the incremental costs of generation. Assuming that Tariff Supplement No. 6 was applicable in a context where Teck was seeking service from BC Hydro, then the 150 MV.A threshold would apply. However, BC Hydro is doubtful that any service relationship between Teck and BC Hydro would be established through the application of Tariff Supplement No. 6. The reason is that utility service to very large industrial loads typically engages broader public policy considerations beyond the scope of the Commission's jurisdiction. BC Hydro expects that this is the reason that Tariff Supplement No. 6 may not be amended by the Commission except through an amendment to Direction No. 7 or other governmental action.

8.0 Topic: Potential for BC Hydro Service of Teck Smelter

Reference: Exhibit B-1, Appendix N, Business Case; Exhibit B-1, section 1.4.2 Events Leading to Waneta 2017 Transaction

BC Hydro's Waneta 2/3 Interest Business Case examines contingencies in which post-Lease the Teck smelter load is, and is not, served by BC Hydro.

1.8.6 Please describe how BC Hydro's Electric Tariff Supplement #6 would affect a contribution by the smelter owner towards the cost of new transmission (if any) and generation required for BC Hydro to serve the smelter load.

1.8.6.1 Please confirm, or otherwise explain, that the smelter load exceeds the 150 MVA threshold under RS 6, above which more-stringent customer contribution provisions may apply.

RESPONSE:

Please refer to BC Hydro's response to BCSEA IR 1.8.6.

8.0 Topic: Potential for BC Hydro Service of Teck Smelter

Reference: Exhibit B-1, Appendix N, Business Case; Exhibit B-1, section 1.4.2 Events Leading to Waneta 2017 Transaction

BC Hydro's Waneta 2/3 Interest Business Case examines contingencies in which post-Lease the Teck smelter load is, and is not, served by BC Hydro.

1.8.7 Setting aside the Waneta 2017 Transaction, if Teck took service from BC Hydro for the smelter would Teck be prevented from simultaneously selling on the market the power associated with Teck's 2/3 Interest in Waneta? If not, why not?

RESPONSE:

BC Hydro is generally opposed to its customers (or customers of customers) buying electricity from BC Hydro at cost-based rates and then re-selling it at (higher) market rates.

In the hypothetical scenario posed in this question Teck would have its two-thirds interest in Waneta while BC Hydro would be concurrently serving Teck's smelter load (whether owned by Teck or a third-party purchaser). BC Hydro does not believe that scenario is realistic. BC Hydro does not have an obligation to serve Teck's smelter load, would not have one in the absence of an arrangement that served broader public policy objectives, and has difficulty imagining any broad public policy objective that would be achieved by imposing an obligation on BC Hydro to serve the smelter load while simultaneously allowing the output of the two-thirds interest in Waneta to be sold in the wholesale electricity markets.

Note that only if Teck uses the energy to serve the smelter, does it have access to the less expensive commercial water use rate.

8.0 Topic: Potential for BC Hydro Service of Teck Smelter

Reference: Exhibit B-1, Appendix N, Business Case; Exhibit B-1, section 1.4.2 Events Leading to Waneta 2017 Transaction

BC Hydro's Waneta 2/3 Interest Business Case examines contingencies in which post-Lease the Teck smelter load is, and is not, served by BC Hydro.

1.8.8 If BC Hydro began serving the smelter load then would BC Hydro be required continue to do so indefinitely?

RESPONSE:

BC Hydro is generally unwilling to speculate on the circumstances and conditions under which it might be obliged to serve Teck after the Lease Period.

8.0 Topic: Potential for BC Hydro Service of Teck Smelter

Reference: Exhibit B-1, Appendix N, Business Case; Exhibit B-1, section 1.4.2 Events Leading to Waneta 2017 Transaction

BC Hydro's Waneta 2/3 Interest Business Case examines contingencies in which post-Lease the Teck smelter load is, and is not, served by BC Hydro.

1.8.9 If Teck took service from BC Hydro for the smelter load, what factors would affect how long would Teck be required to continue to take such service?

RESPONSE:

Please refer to BC Hydro's response to BCSEA IR 1.8.8.

9.0 Topic: BC Hydro Service of Smelter Load

Reference: Exhibit B-1, Appendix N, p. 16, pdf p. 531

BC Hydro states: "BC Hydro has not included the 2/3 Interest in its resource planning stack. During the 20-30 year Lease Term, the full entitlement associated with the 2/3 Interest will flow to Teck and there will be no change in the LRB gap (except in cases of Teck default). Following the Lease Term, <u>if the smelter no longer takes service from BC Hydro</u> the Transaction will result in increased resources in the planning stack." [underline added]

BC Hydro also states: "Note that the Teck smelter load is <u>not</u> included in BC Hydro's current load forecast." [underline added]

1.9.1 Please explain the phrase "if the smelter no longer takes service from BC Hydro." Is this simply a wording slip?

RESPONSE:

Yes, a better wording choice would have been "if the smelter no longer takes service from Waneta".

9.0 Topic: BC Hydro Service of Smelter Load

Reference: Exhibit B-1, Appendix N, p. 16, pdf p. 531

BC Hydro states: "BC Hydro has not included the 2/3 Interest in its resource planning stack. During the 20-30 year Lease Term, the full entitlement associated with the 2/3 Interest will flow to Teck and there will be no change in the LRB gap (except in cases of Teck default). Following the Lease Term, <u>if the smelter no longer takes service from BC Hydro</u> the Transaction will result in increased resources in the planning stack." [underline added]

BC Hydro also states: "Note that the Teck smelter load is <u>not</u> included in BC Hydro's current load forecast." [underline added]

1.9.2 Please confirm, or otherwise explain, that following the Lease Term, the Waneta 2017 Transaction <u>will</u> result in increased resources in BC Hydro's planning stack. And, if the smelter takes service from BC Hydro then BC Hydro's load forecast would increase by an amount that corresponds roughly to the entitlement associated with the Waneta 2/3 Interest.

RESPONSE:

Confirmed.

Following the Lease Period, the Waneta 2017 Transaction will result in:

- **Increased resources in BC Hydro's planning stack; and**
- **An increase in BC Hydro's customer demand by an amount equal to the smelter load if the smelter takes service from BC Hydro. Note that the currently forecast smelter load is lower than the entitlement amount for the two-thirds interest in Waneta by approximately 48 GWh/year. Please refer to BC Hydro's response to BCUC IR 1.28.1 for an explanation of the 48 GWh/year.**

10.0 Topic: Service of Smelter Load During Lease Period

Reference: Exhibit B-1, Appendix N, p. 17, pdf p. 532; Exhibit B-1, Appendix H, Co-Possessors and Operating Agreement, section 25 Transfer of Interest, pdf p. 429 *et seq.*

BC Hydro states:

"Trail smelter load: <u>Under the Transaction the smelter load is served by the 2/3 Interest for the initial 20 to 30 years following the transaction</u>. The smelter load is not tied to any supplier for the period following the initial 20-year Lease Term and Teck has expressed a willingness to serve the smelter from market purchases." [underline added]

1.10.1 Please confirm, or otherwise explain, that "the initial 20 to 30 years" means the Lease Period.

RESPONSE:

Confirmed.

10.0 Topic: Service of Smelter Load During Lease Period

Reference: Exhibit B-1, Appendix N, p. 17, pdf p. 532; Exhibit B-1, Appendix H, Co-Possessors and Operating Agreement, section 25 Transfer of Interest, pdf p. 429 *et seq.*

BC Hydro states:

"Trail smelter load: <u>Under the Transaction the smelter load is served by the 2/3 Interest for the initial 20 to 30 years following the transaction</u>. The smelter load is not tied to any supplier for the period following the initial 20-year Lease Term and Teck has expressed a willingness to serve the smelter from market purchases." [underline added]

1.10.1 Please confirm, or otherwise explain, that "the initial 20 to 30 years" means the Lease Period.

1.10.1.1 The second sentence above refers specifically to the initial 20-year Lease Period. Is this an intentional exclusion of the optional 10-year Lease Renewal? If so, please explain. [The rest of these IRs are worded on the assumption that the same provisions apply in both the 20-year Initial Lease Period and the optional 10-year Lease Renewal Period.]

RESPONSE:

The sentence in question refers to the contractual arrangements should the Waneta 2017 Transaction occur. In such a case the smelter load is supplied by Waneta for the initial 20-year Lease Period. While Teck has an option to extend the Lease Period for an additional 10 years, this option is at their sole discretion and thus they are not tied to any supplier beyond the initial 20-year Lease Period at the time the Waneta 2017 Transaction occurs.

10.0 Topic: Service of Smelter Load During Lease Period

Reference: Exhibit B-1, Appendix N, p. 17, pdf p. 532; Exhibit B-1, Appendix H, Co-Possessors and Operating Agreement, section 25 Transfer of Interest, pdf p. 429 *et seq.*

BC Hydro states:

"Trail smelter load: Under the Transaction the smelter load is served by the 2/3 Interest for the initial 20 to 30 years following the transaction. The smelter load is not tied to any supplier for the period following the initial 20-year Lease Term and Teck has expressed a willingness to serve the smelter from market purchases." [underline added]

1.10.2 Please identify the agreement and section number of the provision(s) in the Waneta 2017 Transaction that provides that the smelter load is served by the 2/3 Interest for the Lease Period following the transaction. Please include relevant terms and conditions.

RESPONSE:

Consistent with the existing agreements with Teck (for example the COA and the CPA), there is no discrete provision in any of the Waneta 2017 Transaction agreements that commits Teck to serve its smelter load during the Lease Period with its Waneta entitlement.

In addition, insofar as there is a concern that Teck's smelter load might be served by BC Hydro while Teck, or a successor to Teck, were to use the leasehold interest in Waneta to sell into wholesale markets (the concern that seems to be motivating this series of IRs), that hypothetical scenario is unrealistic. Please refer to BC Hydro's response to BCSEA IR 1.8.7.

10.0 Topic: Service of Smelter Load During Lease Period

Reference: Exhibit B-1, Appendix N, p. 17, pdf p. 532; Exhibit B-1, Appendix H, Co-Possessors and Operating Agreement, section 25 Transfer of Interest, pdf p. 429 *et seq.*

BC Hydro states:

"Trail smelter load: <u>Under the Transaction the smelter load is served by the 2/3 Interest for the initial 20 to 30 years following the transaction</u>. The smelter load is not tied to any supplier for the period following the initial 20-year Lease Term and Teck has expressed a willingness to serve the smelter from market purchases." [underline added]

1.10.2 Please identify the agreement and section number of the provision(s) in the Waneta 2017 Transaction that provides that the smelter load is served by the 2/3 Interest for the Lease Period following the transaction. Please include relevant terms and conditions.

1.10.2.1 Please discuss whether and how this provision is enforceable.

RESPONSE:

Please refer to BC Hydro's response to BCSEA IR 1.10.2.

10.0 Topic: Service of Smelter Load During Lease Period

Reference: Exhibit B-1, Appendix N, p. 17, pdf p. 532; Exhibit B-1, Appendix H, Co-Possessors and Operating Agreement, section 25 Transfer of Interest, pdf p. 429 *et seq.*

BC Hydro states:

"Trail smelter load: <u>Under the Transaction the smelter load is served by the 2/3 Interest for the initial 20 to 30 years following the transaction</u>. The smelter load is not tied to any supplier for the period following the initial 20-year Lease Term and Teck has expressed a willingness to serve the smelter from market purchases." [underline added]

1.10.3 Does the requirement in the Waneta 2017 Transaction that the smelter load must be served by the 2/3 Interest during the Lease Period run with the Lease such that if Teck transfers its interest in the Lease to a third party then third party is bound by a requirement that the smelter load must be served by the 2/3 Interest during the Lease Period?

RESPONSE:

Please refer to BC Hydro's response to BCSEA IR 1.10.2.

10.0 Topic: Service of Smelter Load During Lease Period

Reference: Exhibit B-1, Appendix N, p. 17, pdf p. 532; Exhibit B-1, Appendix H, Co-Possessors and Operating Agreement, section 25 Transfer of Interest, pdf p. 429 *et seq.*

BC Hydro states:

"Trail smelter load: <u>Under the Transaction the smelter load is served by the 2/3 Interest for the initial 20 to 30 years following the transaction</u>. The smelter load is not tied to any supplier for the period following the initial 20-year Lease Term and Teck has expressed a willingness to serve the smelter from market purchases." [underline added]

1.10.3 Does the requirement in the Waneta 2017 Transaction that the smelter load must be served by the 2/3 Interest during the Lease Period run with the Lease such that if Teck transfers its interest in the Lease to a third party then third party is bound by a requirement that the smelter load must be served by the 2/3 Interest during the Lease Period?

1.10.3.1 Is a similar effect achieved by virtue of BC Hydro's conditional rights under the Waneta Lease Agreement to prevent Teck from assigning the Lease?

RESPONSE:

Please refer to BC Hydro's response to BCSEA IR 1.10.2.

10.0 Topic: Service of Smelter Load During Lease Period

Reference: Exhibit B-1, Appendix N, p. 17, pdf p. 532; Exhibit B-1, Appendix H, Co-Possessors and Operating Agreement, section 25 Transfer of Interest, pdf p. 429 *et seq.*

BC Hydro states:

"Trail smelter load: <u>Under the Transaction the smelter load is served by the 2/3 Interest for the initial 20 to 30 years following the transaction</u>. The smelter load is not tied to any supplier for the period following the initial 20-year Lease Term and Teck has expressed a willingness to serve the smelter from market purchases." [underline added]

1.10.4 More broadly, please explain how the various provisions of the Waneta 2017 Transaction protect BC Hydro's interests in the event that Teck sells the smelter to a third party during the Lease Period. Please include an explanation of section 25.2(b)(ii) and section 25.2(e) of the COPOA.

RESPONSE:

BC Hydro understands the premise of this IR to be that a third-party could purchase the smelter from Teck, but not Teck's leasehold interest in Waneta, and obtain service from BC Hydro at cost-based rates lower than market rates.
BC Hydro doesn't believe this to be a realistic scenario, for the reasons identified in BC Hydro's response to BCSEA IRs 1.8.6 and 1.8.7 and BCUC IRs 1.63.1 and 1.63.3.

10.0 Topic: Service of Smelter Load During Lease Period

Reference: Exhibit B-1, Appendix N, p. 17, pdf p. 532; Exhibit B-1, Appendix H, Co-Possessors and Operating Agreement, section 25 Transfer of Interest, pdf p. 429 *et seq.*

BC Hydro states:

"Trail smelter load: <u>Under the Transaction the smelter load is served by the 2/3 Interest for the initial 20 to 30 years following the transaction</u>. The smelter load is not tied to any supplier for the period following the initial 20-year Lease Term and Teck has expressed a willingness to serve the smelter from market purchases." [underline added]

1.10.5 Does the requirement in the Waneta 2017 Transaction that the smelter load is served by the 2/3 Interest for the Lease Period contain an exemption in the event that the smelter is shut down?

RESPONSE:

Please refer to BC Hydro's response to BCSEA IR 1.10.2.

10.0 Topic: Service of Smelter Load During Lease Period

Reference: Exhibit B-1, Appendix N, p. 17, pdf p. 532; Exhibit B-1, Appendix H, Co-Possessors and Operating Agreement, section 25 Transfer of Interest, pdf p. 429 *et seq.*

BC Hydro states:

"Trail smelter load: <u>Under the Transaction the smelter load is served by the 2/3 Interest for the initial 20 to 30 years following the transaction</u>. The smelter load is not tied to any supplier for the period following the initial 20-year Lease Term and Teck has expressed a willingness to serve the smelter from market purchases." [underline added]

1.10.6 More broadly, please explain how the various provisions of the Waneta 2017 Transaction protect BC Hydro's interests in the event that the smelter is shut down during the Lease Period.

RESPONSE:

BC Hydro understands the premise of this IR to be that BC Hydro's interests would necessarily be adversely affected if the smelter were to shut down during the Lease Period. BC Hydro does not accept this premise. Teck is required to make lease payments and payments under the COPOA whether or not the smelter is in operation.

10.0 Topic: Service of Smelter Load During Lease Period

Reference: Exhibit B-1, Appendix N, p. 17, pdf p. 532; Exhibit B-1, Appendix H, Co-Possessors and Operating Agreement, section 25 Transfer of Interest, pdf p. 429 *et seq.*

BC Hydro states:

"Trail smelter load: <u>Under the Transaction the smelter load is served by the 2/3 Interest for the initial 20 to 30 years following the transaction</u>. The smelter load is not tied to any supplier for the period following the initial 20-year Lease Term and Teck has expressed a willingness to serve the smelter from market purchases." [underline added]

1.10.6 More broadly, please explain how the various provisions of the Waneta 2017 Transaction protect BC Hydro's interests in the event that the smelter is shut down during the Lease Period.

1.10.6.1 For certainty, please confirm, or otherwise explain, that the Waneta 2017 Transaction does not prohibit Teck from shutting down the smelter during the Lease Period.

RESPONSE:

Confirmed.

10.0 Topic: Service of Smelter Load During Lease Period

Reference: Exhibit B-1, Appendix N, p. 17, pdf p. 532; Exhibit B-1, Appendix H, Co-Possessors and Operating Agreement, section 25 Transfer of Interest, pdf p. 429 *et seq.*

BC Hydro states:

"Trail smelter load: <u>Under the Transaction the smelter load is served by the 2/3 Interest for the initial 20 to 30 years following the transaction</u>. The smelter load is not tied to any supplier for the period following the initial 20-year Lease Term and Teck has expressed a willingness to serve the smelter from market purchases." [underline added]

1.10.7 Does the Waneta 2017 Transaction change the *status quo* in terms of Teck's ability to obtain BC Hydro service for the smelter load?

RESPONSE:

No. However, relative to the Fortis Transaction, BC Hydro considers that the Waneta 2017 Transaction does make if somewhat more likely that BC Hydro could be compelled to serve the smelter load in the future.

10.0 Topic: Service of Smelter Load During Lease Period

Reference: Exhibit B-1, Appendix N, p. 17, pdf p. 532; Exhibit B-1, Appendix H, Co-Possessors and Operating Agreement, section 25 Transfer of Interest, pdf p. 429 *et seq.*

BC Hydro states:

"Trail smelter load: Under the Transaction the smelter load is served by the 2/3 Interest for the initial 20 to 30 years following the transaction. The smelter load is not tied to any supplier for the period following the initial 20-year Lease Term and Teck has expressed a willingness to serve the smelter from market purchases." [underline added]

1.10.7 Does the Waneta 2017 Transaction change the *status quo* in terms of Teck's ability to obtain BC Hydro service for the smelter load?

1.10.7.1 If so, should the Commission take this factor into account in determining whether to approved the Waneta 2017 Transaction? How?

RESPONSE:

Please refer to BC Hydro's response to BCSEA IR 1.10.7.

10.0 Topic: Service of Smelter Load During Lease Period

Reference: Exhibit B-1, Appendix N, p. 17, pdf p. 532; Exhibit B-1, Appendix H, Co-Possessors and Operating Agreement, section 25 Transfer of Interest, pdf p. 429 *et seq.*

BC Hydro states:

"Trail smelter load: Under the Transaction the smelter load is served by the 2/3 Interest for the initial 20 to 30 years following the transaction. The smelter load is not tied to any supplier for the period following the initial 20-year Lease Term and Teck has expressed a willingness to serve the smelter from market purchases." [underline added]

1.10.7 Does the Waneta 2017 Transaction change the *status quo* in terms of Teck's ability to obtain BC Hydro service for the smelter load?

1.10.7.2 If not, why not?

RESPONSE:

None of the factors that bear on the question of BC Hydro's obligation to serve Teck's smelter load are affected by the Waneta 2017 Transaction. Please see BC Hydro's response to BCUC IRs 1.63.1 and 1.63.3.

11.0 Topic: Service of Teck Smelter Post-Lease

Reference: Exhibit B-1, Appendix N, p. 17, pdf p. 532

BC Hydro states:

"Trail smelter load: Under the Transaction the smelter load is served by the 2/3 Interest for the initial 20 to 30 years following the transaction. The smelter load is not tied to any supplier for the period following the initial 20-year Lease Term and Teck has expressed a willingness to serve the smelter from market purchases." [underline added]

1.11.1 Please explain what is meant by "Teck has expressed a willingness to serve the smelter from market purchases [following the initial 20-year Lease Term]." [underline added]

RESPONSE:

In the Waneta 2017 Transaction (and the Fortis Transaction) the Lease extension option is at Teck's sole discretion. Further, the Waneta 2017 Transaction includes sufficient transmission rights for Teck to import energy from external markets to serve the smelter in the post-Lease Period. These two factors show that Teck is willing to serve the smelter from external market purchases in the post-Lease Period should it be in their interests to do so.

11.0 Topic: Service of Teck Smelter Post-Lease

Reference: Exhibit B-1, Appendix N, p. 17, pdf p. 532

BC Hydro states:

"Trail smelter load: Under the Transaction the smelter load is served by the 2/3 Interest for the initial 20 to 30 years following the transaction. The smelter load is not tied to any supplier for the period following the initial 20-year Lease Term and Teck has expressed a willingness to serve the smelter from market purchases." [underline added]

1.11.1 Please explain what is meant by "Teck has expressed a willingness to serve the smelter from market purchases [following the initial 20-year Lease Term]." [underline added]

1.11.1.1 Does this imply that BC Hydro would prefer that after the Lease Period Teck would supply the smelter from market purchases? Is Teck's "willingness" is a willingness to oblige BC Hydro in that regard?

RESPONSE:

The option to extend the Lease is at Teck's sole discretion, and thus BC Hydro's preference is irrelevant. The option to extend the Lease was included in the Fortis Transaction and is not, to BC Hydro's knowledge, in any way related to expectations regarding BC Hydro's preferences.

11.0 Topic: Service of Teck Smelter Post-Lease

Reference: Exhibit B-1, Appendix N, p. 17, pdf p. 532

BC Hydro states:

"Trail smelter load: Under the Transaction the smelter load is served by the 2/3 Interest for the initial 20 to 30 years following the transaction. The smelter load is not tied to any supplier for the period following the initial 20-year Lease Term and Teck has expressed a willingness to serve the smelter from market purchases." [underline added]

1.11.1 Please explain what is meant by "Teck has expressed a willingness to serve the smelter from market purchases [following the initial 20-year Lease Term]." [underline added]

1.11.1.2 Was Teck's expression of willingness to serve the smelter from market purchases after the Lease Period a factor that BC Hydro took into account in making the decision to exercise the right of first offer?

RESPONSE:

The potential for Teck to serve the smelter from market purchases is reflected in the valuation of the Waneta 2017 Transaction. As shown in the Waneta 2017 Business Case, BC Hydro has included several valuation scenarios where Teck supplies its smelter from a source other than BC Hydro for the post-Lease Period.

11.0 Topic: Service of Teck Smelter Post-Lease

Reference: Exhibit B-1, Appendix N, p. 17, pdf p. 532

BC Hydro states:

"Trail smelter load: Under the Transaction the smelter load is served by the 2/3 Interest for the initial 20 to 30 years following the transaction. The smelter load is not tied to any supplier for the period following the initial 20-year Lease Term and Teck has expressed a willingness to serve the smelter from market purchases." [underline added]

1.11.1 Please explain what is meant by "Teck has expressed a willingness to serve the smelter from market purchases [following the initial 20-year Lease Term]." [underline added]

1.11.1.3 Please confirm, or otherwise explain, that Teck's expression of willingness to serve the smelter from market purchases after the Lease Period is not to be taken as a commitment to that effect.

RESPONSE:

Teck has made no commitment to serve the smelter from market purchases following the Lease Period.

11.0 Topic: Service of Teck Smelter Post-Lease

Reference: Exhibit B-1, Appendix N, p. 17, pdf p. 532

BC Hydro states:

"Trail smelter load: Under the Transaction the smelter load is served by the 2/3 Interest for the initial 20 to 30 years following the transaction. The smelter load is not tied to any supplier for the period following the initial 20-year Lease Term and Teck has expressed a willingness to serve the smelter from market purchases." [underline added]

1.11.2 Is it assumed that if following the Lease Period Teck did not serve the smelter from market purchases then Teck would necessarily obtain BC Hydro service for the smelter load? Would Teck have any other option, assuming the smelter is in operation?

RESPONSE:

It is possible but in no way certain that Teck would obtain BC Hydro service for the smelter load if it is not served by market purchases. Teck has options for supply other that external markets or BC Hydro (such as supply from FortisBC).

12.0 Topic: Service of Teck Smelter Post-Lease

Reference: Exhibit B-1, Appendix N, p. 17, pdf p. 532

> "BC Hydro believes there is a material probability of Teck seeking service from BC Hydro for the smelter following 20-30 years if economic conditions make it favorable to Teck (e.g. BC Hydro's industrial tariff is less than market prices and/or new-build economics). BC Hydro believes the smelter is more likely to keep operating than shut down due to the potential that it remains an economically healthy asset (Teck is projected to have internal zinc concentrate for many decades, and the smelter handles a number of other particular concentrates very well), as well as clean-up of environmental liabilities that would be associated with a closure of the smelter, and the resulting high cost of decommissioning. Further, [redacted]"

1.12.1 Please confirm, or otherwise explain, that the reference to "following 20-30 years" means 'following the Lease Period.'

RESPONSE:

Confirmed.

12.0 Topic: Service of Teck Smelter Post-Lease

Reference: Exhibit B-1, Appendix N, p. 17, pdf p. 532

> "BC Hydro believes there is a material probability of Teck seeking service from BC Hydro for the smelter following 20-30 years if economic conditions make it favorable to Teck (e.g. BC Hydro's industrial tariff is less than market prices and/or new-build economics). BC Hydro believes the smelter is more likely to keep operating than shut down due to the potential that it remains an economically healthy asset (Teck is projected to have internal zinc concentrate for many decades, and the smelter handles a number of other particular concentrates very well), as well as clean-up of environmental liabilities that would be associated with a closure of the smelter, and the resulting high cost of decommissioning. Further, [redacted]"

1.12.2 In BC Hydro's current opinion, what is the likelihood that economic conditions will make it favorable for Teck to receive smelter service from BC Hydro after the Lease Period?

RESPONSE:

BC Hydro would generally expect Teck to opt for the most cost-effective source of supply from the following three options:

- **BC Hydro supply (as available);**
- **External market imports; and**
- **Supply from a third party such as FortisBC (as available).**

BC Hydro's forecast industrial tariff for the 20-year period following the initial Lease Period ($69/MWh, real dollars) is lower than forecast market import prices for this period ($80/MWh, real dollars). As a result we expect Teck utilizing BC Hydro supply following the Lease to be more likely than them utilizing external market imports.

BC Hydro does not have access to a forecast of FortisBC industrial rates for the 20-year period following the initial Lease Period and is thus unable to offer an assessment of the comparative likelihood of Teck obtaining supply from FortisBC.

12.0 Topic: Service of Teck Smelter Post-Lease

Reference: Exhibit B-1, Appendix N, p. 17, pdf p. 532

> "BC Hydro believes there is a material probability of Teck seeking service from BC Hydro for the smelter following 20-30 years if economic conditions make it favorable to Teck (e.g. BC Hydro's industrial tariff is less than market prices and/or new-build economics). BC Hydro believes the smelter is more likely to keep operating than shut down due to the potential that it remains an economically healthy asset (Teck is projected to have internal zinc concentrate for many decades, and the smelter handles a number of other particular concentrates very well), as well as clean-up of environmental liabilities that would be associated with a closure of the smelter, and the resulting high cost of decommissioning. Further, [redacted]"

1.12.3 When BC Hydro was determining whether or not to exercise the right of first offer in 2017, did BC Hydro consider that exercising the ROFO would make it more likely, or less likely, that Teck would seek service from BC Hydro for the smelter load after the Lease Period?

RESPONSE:

Confirmed that BC Hydro considered this factor in assessing whether to exercise the ROFO. BC Hydro concluded that Teck would seek service from the most cost-effective option available to them, and that BC Hydro's exercise of the ROFO would not have a material effect on Teck's decisions on supply for the post-Lease Period.

13.0 Topic: Entitlement under the Canal Plant Agreement

Reference: Waneta 2010 Transaction proceeding, Exhibit B-1, pdf p. 136; Exhibit B-1, Appendix N, Waneta 2/3 Interest Business Case, p. 2, pdf p. 517; Exhibit B-1, p. 1-2, pdf p. 17

Section 14(a) of the Indicative Terms of the Co-Owners and Operating Agreement, being Appendix 2 of the Master Term Sheet for the Waneta 2010 Transaction, Appendix A of Exhibit B-1 in the Commission's proceeding regarding the Waneta 2010 Transaction states:

"On closing, the CPA would be amended so that BC Hydro's 1/3rd interest in the Waneta Dam is withdrawn from the CPA. The CPA would continue to apply to Teck's 2/3rd interest. As a result, BC Hydro would be entitled to receive 1/3rd of Waneta's capacity and energy output directly as a 1/3rd owner. Teck's 2/3rd interest would be subject to the CPA..." [pdf p. 136, underline added]

On page 2, pdf p. 517, of the Business Case in the present proceeding, BC Hydro states:

"The terms of the ROFO Sale Notice were as follows:.....

☐ Leaseback of the 2/3 Interest to Teck for 20 years at a price of $40/MWh, escalating at 2% per year (the "Lease").

During the term of this lease:

Teck will receive the full entitlement energy and capacity from the facility..."

On page 1-2, pdf p. 17, of the Application, BC Hydro states:

"Generating units at the dam have a capacity of approximately 490 MW and they currently produce approximately 2,670 Gigawatt hours (GWh) per year.[1]

Footnote 1: Based on modeling, 2,670 GWh represents the expected average annual physical generation of Waneta, where Waneta's entitlement volume under the Canal Plant Agreement is 2,745 GWh per year." [Exhibit B-1, p. 1-2, pdf p. 17]

"BC Hydro receives approximately one-third of the Waneta generation, which it uses to serve its customers."

1.13.1 Please confirm, or otherwise explain, that following completion of the Waneta 2010 Transaction the Canal Plant Agreement was amended in the manner set out in the Indicative Terms of the

Co-Owners and Operating Agreement quoted above, such that the Waneta entitlement under the CPA now refers to Teck's 2/3 Interest, and the generation associated with BC Hydro's 1/3 Interest is simply owned by BC Hydro and is not expressed as an entitlement under the CPA.

RESPONSE:

BC Hydro confirms that following the completion of the Waneta 2010 Transaction the CPA was amended to remove the BC Hydro one-third interest in Waneta from Teck's entitlements to energy and capacity. Further, due to an energy-capacity swap included in the Waneta 2010 Transaction through 2035, the Teck capacity entitlement is less than a two-thirds share and the Teck energy entitlement is greater than a two-thirds share. Please refer to BC Hydro's response to BCSEA IR 1.16.1.

13.0 Topic: Entitlement under the Canal Plant Agreement

Reference: Waneta 2010 Transaction proceeding, Exhibit B-1, pdf p. 136; Exhibit B-1, Appendix N, Waneta 2/3 Interest Business Case, p. 2, pdf p. 517; Exhibit B-1, p. 1-2, pdf p. 17

Section 14(a) of the Indicative Terms of the Co-Owners and Operating Agreement, being Appendix 2 of the Master Term Sheet for the Waneta 2010 Transaction, Appendix A of Exhibit B-1 in the Commission's proceeding regarding the Waneta 2010 Transaction states:

"On closing, the CPA would be amended so that BC Hydro's 1/3rd interest in the Waneta Dam is withdrawn from the CPA. The CPA would continue to apply to Teck's 2/3rd interest. As a result, BC Hydro would be entitled to receive 1/3rd of Waneta's capacity and energy output directly as a 1/3rd owner. Teck's 2/3rd interest would be subject to the CPA..." [pdf p. 136, underline added]

On page 2, pdf p. 517, of the Business Case in the present proceeding, BC Hydro states:

"The terms of the ROFO Sale Notice were as follows:.....

☐ Leaseback of the 2/3 Interest to Teck for 20 years at a price of $40/MWh, escalating at 2% per year (the "Lease").

During the term of this lease:

Teck will receive the full entitlement energy and capacity from the facility..."

On page 1-2, pdf p. 17, of the Application, BC Hydro states:

"Generating units at the dam have a capacity of approximately 490 MW and they currently produce approximately 2,670 Gigawatt hours (GWh) per year.[1]

Footnote 1: Based on modeling, 2,670 GWh represents the expected average annual physical generation of Waneta, where Waneta's entitlement volume under the Canal Plant Agreement is 2,745 GWh per year." [Exhibit B-1, p. 1-2, pdf p. 17]

"BC Hydro receives approximately one-third of the Waneta generation, which it uses to serve its customers."

1.13.2 Please confirm, or otherwise explain, that the full entitlement energy and capacity from Waneta under the Canal Plant Agreement refers to the entitlement associated with the

2/3 Interest. And, confirm that this is so because BC Hydro's 1/3 Interest in Waneta is owned by BC Hydro and is not the subject of an entitlement under the Canal Plant Agreement.

RESPONSE:

Confirmed. Please also refer to BC Hydro's response to BCSEA IR 1.13.1.

13.0 Topic: Entitlement under the Canal Plant Agreement

Reference: Waneta 2010 Transaction proceeding, Exhibit B-1, pdf p. 136; Exhibit B-1, Appendix N, Waneta 2/3 Interest Business Case, p. 2, pdf p. 517; Exhibit B-1, p. 1-2, pdf p. 17

Section 14(a) of the Indicative Terms of the Co-Owners and Operating Agreement, being Appendix 2 of the Master Term Sheet for the Waneta 2010 Transaction, Appendix A of Exhibit B-1 in the Commission's proceeding regarding the Waneta 2010 Transaction states:

"On closing, the CPA would be amended so that BC Hydro's 1/3rd interest in the Waneta Dam is withdrawn from the CPA. The CPA would continue to apply to Teck's 2/3rd interest. As a result, BC Hydro would be entitled to receive 1/3rd of Waneta's capacity and energy output directly as a 1/3rd owner. Teck's 2/3rd interest would be subject to the CPA..." [pdf p. 136, underline added]

On page 2, pdf p. 517, of the Business Case in the present proceeding, BC Hydro states:

"The terms of the ROFO Sale Notice were as follows:.....

☐ Leaseback of the 2/3 Interest to Teck for 20 years at a price of $40/MWh, escalating at 2% per year (the "Lease").

During the term of this lease:

Teck will receive the full entitlement energy and capacity from the facility..."

On page 1-2, pdf p. 17, of the Application, BC Hydro states:

"Generating units at the dam have a capacity of approximately 490 MW and they currently produce approximately 2,670 Gigawatt hours (GWh) per year.[1]

Footnote 1: Based on modeling, 2,670 GWh represents the expected average annual physical generation of Waneta, where Waneta's entitlement volume under the Canal Plant Agreement is 2,745 GWh per year." [Exhibit B-1, p. 1-2, pdf p. 17]

"BC Hydro receives approximately one-third of the Waneta generation, which it uses to serve its customers."

1.13.3 Please confirm, or otherwise explain, that the lease price of "$40/MWh" (plus escalation) refers to MWh of entitlement energy under the CPA, not to MWh of actual generation.

RESPONSE:

Confirmed.

14.0 Topic: Waneta 2010 Transaction

Reference: 2009 Waneta Transaction proceeding, Exhibit B-1, pp. 1-2

When BC Hydro filed the 2009 Waneta Transaction application the Term Sheet was not binding and BC Hydro had told Teck that "it [BC Hydro] is not prepared to undertake such a significant investment without the BCUC having determined it to be in the public interest." [2009 Waneta Transaction proceeding, Exhibit B-1, pp. 1-2]

Also, BC Hydro stated that "BC Hydro has filed it [the Application] at this time because Teck's commercial objective in connection with this sale is to monetize the value of certain of its assets in the short term." [*Ibid.*]

1.14.1 Please confirm, or otherwise explain, that the Waneta 2017 Transaction is binding on both BC Hydro and Teck in the event that the Commission makes the requisite orders requested in the Application, subject only to the various preconditions within the Waneta 2017 Transaction itself.

RESPONSE:

Confirmed.

14.0 Topic: Waneta 2010 Transaction

Reference: 2009 Waneta Transaction proceeding, Exhibit B-1, pp. 1-2

When BC Hydro filed the 2009 Waneta Transaction application the Term Sheet was not binding and BC Hydro had told Teck that "it [BC Hydro] is not prepared to undertake such a significant investment without the BCUC having determined it to be in the public interest." [2009 Waneta Transaction proceeding, Exhibit B-1, pp. 1-2]

Also, BC Hydro stated that "BC Hydro has filed it [the Application] at this time because Teck's commercial objective in connection with this sale is to monetize the value of certain of its assets in the short term." [*Ibid.*]

1.14.1 Please confirm, or otherwise explain, that the Waneta 2017 Transaction is binding on both BC Hydro and Teck in the event that the Commission makes the requisite orders requested in the Application, subject only to the various preconditions within the Waneta 2017 Transaction itself.

1.14.1.1 That is, please confirm that BC Hydro fully expects that if the Commission makes the requisite orders then the Waneta 2017 Transaction will be completed, subject only to the various preconditions within the Waneta 2017 Transaction itself.

RESPONSE:

Confirmed.

14.0 Topic: Waneta 2010 Transaction

Reference: 2009 Waneta Transaction proceeding, Exhibit B-1, pp. 1-2

When BC Hydro filed the 2009 Waneta Transaction application the Term Sheet was not binding and BC Hydro had told Teck that "it [BC Hydro] is not prepared to undertake such a significant investment without the BCUC having determined it to be in the public interest." [2009 Waneta Transaction proceeding, Exhibit B-1, pp. 1-2]

Also, BC Hydro stated that "BC Hydro has filed it [the Application] at this time because Teck's commercial objective in connection with this sale is to monetize the value of certain of its assets in the short term." [*Ibid.*]

1.14.1 Please confirm, or otherwise explain, that the Waneta 2017 Transaction is binding on both BC Hydro and Teck in the event that the Commission makes the requisite orders requested in the Application, subject only to the various preconditions within the Waneta 2017 Transaction itself.

1.14.1.2 For greater certainty, please confirm, or otherwise explain, that if the Commission declines to approve the Waneta 2017 Transaction then BC Hydro would not complete the Waneta 2017 Transaction. [The Business Case states "...should the BCUC reject the Transaction then the Transaction will not occur." Appendix N, p. 35, pdf p. 550. However, it is not clear that this is a current and official position.]

RESPONSE:

Not confirmed. First, BC Hydro does not seek Commission "approval" of the Waneta 2017 Transaction (although that word is used in certain instances where precision is not necessary or helpful). The orders BC Hydro seeks are set out in section 1.5 of the Application.

Second, the condition of closing regarding Commission approvals is "for the exclusive benefit" and "may be waived, in whole or part" by the parties in their "sole discretion" (sections 6.1 and 6.2 of the Waneta Purchase Agreement, Appendix E to the Application). Some of the orders BC Hydro seeks are to achieve benefits that are unrelated to the merits of the Waneta 2017 Transaction as a whole. For example, BC Hydro seeks certain accounting orders as described in section 1.5.3 of the Application that if granted would, in aggregate, favour ratepayer interests relative to BC Hydro and shareholder interests. If the Commission chose to grant all the requested orders except the accounting orders, consideration would have to be given to waiving the Commission approval of the accounting orders as a condition of closing.

14.0 Topic: Waneta 2010 Transaction

Reference: 2009 Waneta Transaction proceeding, Exhibit B-1, pp. 1-2

When BC Hydro filed the 2009 Waneta Transaction application the Term Sheet was not binding and BC Hydro had told Teck that "it [BC Hydro] is not prepared to undertake such a significant investment without the BCUC having determined it to be in the public interest." [2009 Waneta Transaction proceeding, Exhibit B-1, pp. 1-2]

Also, BC Hydro stated that "BC Hydro has filed it [the Application] at this time because Teck's commercial objective in connection with this sale is to monetize the value of certain of its assets in the short term." [*Ibid.*]

1.14.2 In BC Hydro's view, what is Teck's commercial objective in connection with the Waneta 2017 Transaction?

RESPONSE:

Teck provided public information in 2016, via press releases and other investor relation presentation, with respect to its desire to monetize non-core/non-mining related assets including Waneta. At that time, Teck had a credit rating that was below investment grade. While the commodity cycle improved over the following year, balance sheet improvement remained a central theme in its stated objectives.

In the May 12, 2017 Teck press release announcing the Fortis Transaction, the CEO of Teck is quoted as saying "This agreement will further strengthen Teck's balance sheet and provide significant new capital that can be reinvested to grow our overall business". The press release further notes that Teck was expected to realize a net book gain of approximately $800 million on the closing of the transaction.

14.0 Topic: Waneta 2010 Transaction

Reference: 2009 Waneta Transaction proceeding, Exhibit B-1, pp. 1-2

When BC Hydro filed the 2009 Waneta Transaction application the Term Sheet was not binding and BC Hydro had told Teck that "it [BC Hydro] is not prepared to undertake such a significant investment without the BCUC having determined it to be in the public interest." [2009 Waneta Transaction proceeding, Exhibit B-1, pp. 1-2]

Also, BC Hydro stated that "BC Hydro has filed it [the Application] at this time because Teck's commercial objective in connection with this sale is to monetize the value of certain of its assets in the short term." [*Ibid.*]

1.14.3 Is BC Hydro required by the terms of the 2017 Waneta Transaction, or otherwise, to support Commission approval of some or all of the orders requested in this proceeding?

RESPONSE:

Both BC Hydro and Teck are obliged to "take all such actions, steps and proceedings as are reasonably within its control" to satisfy the closing conditions (sections 6.3 of the Waneta Purchase Agreement, Appendix E to the Application) including obtaining the orders BC Hydro has sought (section 6.1 (c) regarding Regulatory Approvals).

14.0 Topic: Waneta 2010 Transaction

Reference: 2009 Waneta Transaction proceeding, Exhibit B-1, pp. 1-2

When BC Hydro filed the 2009 Waneta Transaction application the Term Sheet was not binding and BC Hydro had told Teck that "it [BC Hydro] is not prepared to undertake such a significant investment without the BCUC having determined it to be in the public interest." [2009 Waneta Transaction proceeding, Exhibit B-1, pp. 1-2]

Also, BC Hydro stated that "BC Hydro has filed it [the Application] at this time because Teck's commercial objective in connection with this sale is to monetize the value of certain of its assets in the short term." [*Ibid.*]

1.14.3 Is BC Hydro required by the terms of the 2017 Waneta Transaction, or otherwise, to support Commission approval of some or all of the orders requested in this proceeding?

1.14.3.1 If BC Hydro's obligation to support Commission approval of the Transaction does not apply to all of the orders sought, please indicate which orders BC Hydro is bound to support.

RESPONSE:

Please refer to BC Hydro's response to BCSEA IR 1.14.3.

15.0 Topic: Alternative Transaction Structures

Reference: Exhibit B-1, Appendix N, p. 9, pdf p. 524

"As part of the analysis process BC Hydro also considered the potential for alternative transaction structures including direct discussions with two counterparties. As these structures have not been practically available options for BC Hydro during the consideration timeframe of the ROFO they have not been included as part of the base analysis in this business case. The analysis of these alternative structures is included in Appendix E."

Appendix E of Appendix N, pdf p. 594 et seq., is heavily redacted.

1.15.1 Please confirm, or otherwise explain, that Appendix E (Review of Alternative Transaction Structures) of Appendix N is contemporaneous with the July 2017 Waneta 2/3 Interest Business Case, in particular that it predates BC Hydro's August 2017 ROFO Reply Notice.

RESPONSE:

Confirmed, as shown by the document date of July 26, 2017 on Appendix E of Appendix N.

15.0 Topic: Alternative Transaction Structures

Reference: Exhibit B-1, Appendix N, p. 9, pdf p. 524

"As part of the analysis process BC Hydro also considered the potential for alternative transaction structures including direct discussions with two counterparties. As these structures have not been practically available options for BC Hydro during the consideration timeframe of the ROFO they have not been included as part of the base analysis in this business case. The analysis of these alternative structures is included in Appendix E."

Appendix E of Appendix N, pdf p. 594 et seq., is heavily redacted.

1.15.2 Who are the "two counterparties"? Is this Teck Resources Inc. and TCAI INCORPORATED? Is this Teck Resources Inc. and Fortis Inc.? Is this Teck Resources Inc. and the unnamed Third Party with which BC Hydro had discussions about the possibility of a joint bid for the Waneta 2/3 Interest (which is understood to have occurred prior to the June 1, 2017 Sale Notice from Teck to BC Hydro)?

RESPONSE:

After the receipt of the Sale Notice, BC Hydro had discussions with two parties, none of which were Teck, FortisBC or Fortis Inc. The exchange of confidential information necessary to facilitate these discussions was enabled with the consent of Teck and pursuant to non-disclosure agreements among those parties. The scope of these non-disclosure agreements included provisions prohibiting the disclosure of the names of these parties.

15.0 Topic: Alternative Transaction Structures

Reference: Exhibit B-1, Appendix N, p. 9, pdf p. 524

"As part of the analysis process BC Hydro also considered the potential for alternative transaction structures including direct discussions with two counterparties. As these structures have not been practically available options for BC Hydro during the consideration timeframe of the ROFO they have not been included as part of the base analysis in this business case. The analysis of these alternative structures is included in Appendix E."

Appendix E of Appendix N, pdf p. 594 et seq., is heavily redacted.

1.15.3 What does "alternative transaction structures" mean in this context? Does this mean alternative transaction structures limited to ones that are compliant with BC Hydro's Right of First Offer? Or does it mean transaction structures that are alternative to an ROFO structure?

RESPONSE:

A description of the alternative transaction structures is provided in the redacted portion of Appendix E to Appendix N. Please refer to BC Hydro's letter of January 17, 2018 (Exhibit B-7) for a description of the information redacted in BC Hydro's previous submissions and the rationale for these redactions.

BC Hydro did not limit its review of alternative transaction structures to those compliant with BC Hydro's ROFO rights.

15.0 Topic: Alternative Transaction Structures

Reference: Exhibit B-1, Appendix N, p. 9, pdf p. 524

"As part of the analysis process BC Hydro also considered the potential for alternative transaction structures including direct discussions with two counterparties. As these structures have not been practically available options for BC Hydro during the consideration timeframe of the ROFO they have not been included as part of the base analysis in this business case. The analysis of these alternative structures is included in Appendix E."

Appendix E of Appendix N, pdf p. 594 et seq., is heavily redacted.

1.15.4 Does "these structures have not been practically available options" refer to the statement in Appendix E of Appendix N that "due to the limited time period (60 days) that BC Hydro has to consider the ROFO Sale Notice, as well as the relative complexity of the various agreements underlying the 2/3 Interest, it is not feasible to reach commercial terms with a third party for participation in the purchase of the 2/3 Interest within the ROFO notice period" [pdf p. 595, underline added]?

RESPONSE:

The statement quoted refers to the limitations of BC Hydro's ROFO rights under the COA. BC Hydro's rights require us to respond directly to the ROFO, and do not allow us to suggest a substantially different transaction structure and counterparty.

The statements on PDF page 594 of the Application refer to further limitations on the potential for BC Hydro to develop an alternative transaction structure, even if the limitations on BC Hydro's ROFO rights were to be removed.

15.0 Topic: Alternative Transaction Structures

Reference: Exhibit B-1, Appendix N, p. 9, pdf p. 524

"As part of the analysis process BC Hydro also considered the potential for alternative transaction structures including direct discussions with two counterparties. As these structures have not been practically available options for BC Hydro during the consideration timeframe of the ROFO they have not been included as part of the base analysis in this business case. The analysis of these alternative structures is included in Appendix E."

Appendix E of Appendix N, pdf p. 594 et seq., is heavily redacted.

1.15.4 Does "these structures have not been practically available options" refer to the statement in Appendix E of Appendix N that "due to the limited time period (60 days) that BC Hydro has to consider the ROFO Sale Notice, as well as the relative complexity of the various agreements underlying the 2/3 Interest, it is not feasible to reach commercial terms with a third party for participation in the purchase of the 2/3 Interest within the ROFO notice period" [pdf p. 595, underline added]?

1.15.4.1 Assuming that Appendix E predates the Reply Notice, please explain what is meant by 'reaching commercial terms with a third party for participation in the purchase of the 2/3 interest.' Does this contemplate BC Hydro and a third party making a proposal to Teck for a transaction of some form regarding Teck's Waneta interest in which the transaction is outside of the ROFO Sale Notice after the Fortis Transaction has been terminated by issuance of the Reply Notice? Please explain.

RESPONSE:

The statement regarding "reaching commercial terms" refers to reaching an agreement between BC Hydro and a third-party regarding the material terms of an alternative transaction structure. The manner in which BC Hydro would address an alternative transaction structure with Teck is a separate consideration from that addressed in the quoted excerpt from Appendix E to Appendix N.

15.0 Topic: Alternative Transaction Structures

Reference: Exhibit B-1, Appendix N, p. 9, pdf p. 524

"Throughout the sales process undertaken by Teck, BC Hydro has been approached by numerous parties with a goal of potentially enhancing a bid or transaction involving BC Hydro and the 2/3 Interest." [pdf p. 595]

1.15.5 Is Fortis Inc., or FortisBC Inc., among the parties that approached BC Hydro with a goal of potentially enhancing a bid or transaction involving BC Hydro and the 2/3 Interest?

RESPONSE:

Neither Fortis Inc. nor FortisBC approached BC Hydro during the competitive sales process undertaken by Teck.

15.0 Topic: Alternative Transaction Structures

Reference: Exhibit B-1, Appendix N, p. 9, pdf p. 524

"Throughout the sales process undertaken by Teck, BC Hydro has been approached by numerous parties with a goal of potentially enhancing a bid or transaction involving BC Hydro and the 2/3 Interest." [pdf p. 595]

1.15.6 Do the potential enhanced bids or transactions that other parties have approached BC Hydro with include transactions involving the Teck smelter itself?

RESPONSE:

No.

15.0 Topic: Alternative Transaction Structures

Reference: Exhibit B-1, Appendix N, p. 9, pdf p. 524

"Throughout the sales process undertaken by Teck, BC Hydro has been approached by numerous parties with a goal of potentially enhancing a bid or transaction involving BC Hydro and the 2/3 Interest." [pdf p. 595]

1.15.7 Do the potential enhanced bids or transactions that other parties have brought to BC Hydro include transactions involving a large new load(s) on BC Hydro's system?

RESPONSE:

No.

15.0 Topic: Alternative Transaction Structures

Reference: Exhibit B-1, Appendix N, p. 9, pdf p. 524

"Throughout the sales process undertaken by Teck, BC Hydro has been approached by numerous parties with a goal of potentially enhancing a bid or transaction involving BC Hydro and the 2/3 Interest." [pdf p. 595]

1.15.8 Do the potential enhanced bids or transactions that other parties have approached BC Hydro with include transactions involving long-term firm export contracts?

RESPONSE:

No.

15.0 Topic: Alternative Transaction Structures

Reference: Exhibit B-1, Appendix N, p. 9, pdf p. 524

"In order to preserve this potential enhanced value, BC Hydro is negotiating a right to assign the Transaction contracts to another party following the ROFO response." [Exhibit B-1, Appendix E of Appendix N, pdf p. 595]

1.15.9 Please confirm, or otherwise explain, that this statement was made prior to the August 1, 2017 Reply Notice.

RESPONSE:

Confirmed, as shown by the date of July 26, 2017 on the page referenced.

15.0 Topic: Alternative Transaction Structures

Reference: Exhibit B-1, Appendix N, p. 9, pdf p. 524

"In order to preserve this potential enhanced value, BC Hydro is negotiating a right to assign the Transaction contracts to another party following the ROFO response." [Exhibit B-1, Appendix E of Appendix N, pdf p. 595]

1.15.9 Please confirm, or otherwise explain, that this statement was made prior to the August 1, 2017 Reply Notice.

1.15.9.1 What is the current status of these negotiations?

RESPONSE:

BC Hydro negotiated with Teck a right to assign its rights and obligations under the Waneta Purchase Agreement prior to the closing date of the Waneta 2017 Transaction, provided that the structure of the Waneta 2017 Transaction is renegotiated to reflect the terms and conditions of the Sale Notice. Please refer to section 10.9(d) and 10.9(e) of the Waneta Purchase Agreement.

This option was included in the Waneta Purchase Agreement to allow BC Hydro to consider whether there was additional value to the Waneta 2017 Transaction if we were to partner with a third-party. Please refer to BC Hydro's response to BCSEA IR 1.15.2.

There are currently no negotiations with any third-parties in relation to any assignment of BC Hydro's interest in the Transaction, nor is BC Hydro considering assigning any of its interest in the Waneta 2017 Transaction.

15.0 Topic: Alternative Transaction Structures

Reference: Exhibit B-1, Appendix N, p. 9, pdf p. 524

"In order to preserve this potential enhanced value, BC Hydro is negotiating a right to assign the Transaction contracts to another party following the ROFO response." [Exhibit B-1, Appendix E of Appendix N, pdf p. 595]

1.15.10 Please confirm that Teck is the counterparty with which BC Hydro was negotiating a right to assign the Transaction contracts to another party following the ROFO response? If not, with whom was BC Hydro negotiating?

RESPONSE:

Please refer to BC Hydro's response to BCSEA IR 1.15.9.1.

15.0 Topic: Alternative Transaction Structures

Reference: Exhibit B-1, Appendix N, p. 9, pdf p. 524

"In order to preserve this potential enhanced value, BC Hydro is negotiating a right to assign the Transaction contracts to another party following the ROFO response." [Exhibit B-1, Appendix E of Appendix N, pdf p. 595]

1.15.11 Under what agreement, e.g., the Co-Owners and Operating Agreement, or the Co-Possessors and Operating Agreement, does BC Hydro Teck's approval for BC Hydro to have a right to assign the Transaction contracts to another party. Please provide the section number.

RESPONSE:

Please refer to BC Hydro's response to BCSEA IR 1.15.9.1.

15.0 Topic: Alternative Transaction Structures

Reference: Exhibit B-1, Appendix N, p. 9, pdf p. 524

"In order to preserve this potential enhanced value, BC Hydro is negotiating a right to assign the Transaction contracts to another party following the ROFO response." [Exhibit B-1, Appendix E of Appendix N, pdf p. 595]

1.15.12 The section subtitled "2. Potential for Value Enhancement" on pdf p. 595 of the Application is completely redacted. Please provide a description of the nature of the potential for value enhancement at a sufficiently high level of generality that BC Hydro's asserted entitlement to confidentiality is not engaged.

RESPONSE:

Please refer to BC Hydro's letter of January 17, 2018 (Exhibit B-7) for a description of the information redacted in BC Hydro's previous submissions and the rationale for these redactions.

15.0 Topic: Alternative Transaction Structures

Reference: Exhibit B-1, Appendix N, p. 9, pdf p. 524

"In order to preserve this potential enhanced value, BC Hydro is negotiating a right to assign the Transaction contracts to another party following the ROFO response." [Exhibit B-1, Appendix E of Appendix N, pdf p. 595]

1.15.13 Noting that the Waneta 2/3 Interest Business Case analyzes the Transaction from a commercial perspective but not from a planning perspective, please list any areas of BC Hydro's long-term resource planning that would be affected by the value enhancement opportunities. Consider long-term planning areas such as energy load forecast, peak load forecast, energy supply, capacity supply, transmission, and trade revenue/market opportunities.

RESPONSE:

BC Hydro assumes the value enhancement opportunities refer to items discussed on page 49 of the Waneta 2017 Business Case, which consist of:

- **Investment in the asset sufficient to extend the economic life;**
- **Extraction of additional value from the transmission lines; and**
- **Marketing of Waneta energy and capacity to external markets at premium prices.**

Potential impacts on long-term planning associated with the value enhancement opportunities could include:

- **Extension of the asset economic life would increase BC Hydro's ability to serve new loads with low GHG-intensity generation. This would assist in the implementation of climate action policies aimed at reducing use of fossil fuels and new loads from entities seeking to locate their operations in jurisdictions that supply competitively priced, dependable, low carbon-intensive electricity;**
- **In the post-Lease Period, BC Hydro expects to integrate the two-thirds interest in Waneta into our existing portfolio to optimize the value to ratepayers. This provides the ability to market energy and capacity to external markets at potentially premium prices and may enable additional market opportunities and further value from Hydro's resource portfolio. The most likely area of premium pricing is for capacity products; and**

- **Inclusion of the Transmission Assets within BC Hydro's OATT would provide additional resources over which customers could choose to wheel electricity. While this would not change the physical capability of the system, such additional opportunities for transmission use could affect customer or IPP use of the transmission system.**

15.0 Topic: Alternative Transaction Structures

Reference: Exhibit B-1, Appendix N, p. 9, pdf p. 524

"In order to preserve this potential enhanced value, BC Hydro is negotiating a right to assign the Transaction contracts to another party following the ROFO response." [Exhibit B-1, Appendix E of Appendix N, pdf p. 595]

1.15.14 The section subtitled "3. Alternate Transaction Structures" on pdf pp. 596-600 is completely redacted. Please provide a description of the nature of the alternative transaction structures at a sufficiently high level of generality that BC Hydro's asserted entitlement to confidentiality is not engaged.

RESPONSE:

Please refer to BC Hydro's letter of January 17, 2018 (Exhibit B-7) for a description of the information redacted in BC Hydro's previous submissions and the rationale for these redactions.

16.0 Topic: Canal Plant Agreement and Co-Owners and Operating Agreement

Reference: Exhibit B-1, Appendix N, p. 10, pdf p. 525

"Under the Canal Plant Agreement, BC Hydro coordinates the operation of all the generation on the Kootenay and Pend d'Oreille River systems in B.C. (except for the City of Nelson hydroelectric plant) and the owners of the non-BC Hydro projects receive specific monthly entitlements to energy and capacity that are derived from the estimated average annual generation capability of their projects. The difference between actual generation and contractual entitlements is received by or delivered by BC Hydro.

The monthly firm capacity and energy entitlement volumes for Waneta are prescribed by the COA. These volumes change in 2036 when the energy-capacity swap included in the COA ends and the entitlements return to the proportionate two-thirds share of the generation from the 2/3 Interest with all risks and benefits of actual performance from the 2/3 Interest being shared pro rata unless agreed otherwise by the parties. The specific Teck entitlement volumes before and after 2036 are as set out in the Table 1 below:..."

1.16.1 Please provide the background and context for the statement that the volumes of monthly firm capacity and energy entitlement "change in 2036 when the energy-capacity swap included in the COA ends and the entitlements return to the proportionate two-thirds share of the generation from the 2/3 Interest with all risks and benefits of actual performance from the 2/3 Interest being shared pro rata unless agreed otherwise by the parties."

RESPONSE:

When BC Hydro and Teck were negotiating the Waneta 2010 Transaction they recognized that a direct two-thirds share of the capacity entitlement (327 MW) was more than the Teck smelter required, and that a two-thirds share of the energy was less than the smelter required. Further, Teck's energy entitlement from Waneta was higher before the completion of the Waneta Expansion Project and less after the Waneta Expansion Project was operating with a water licence with partial priority ahead of Waneta. For these reasons a year-to-year energy swap as well as a capacity to energy swap was completed to better match the smelter load. Some period was required for the value-equivalent calculations and this was agreed to be the end of 2035. Unless the parties agree otherwise, on January 1, 2036 Teck's entitlement will revert to a direct (un-swapped) two-thirds share of energy and capacity amounts from Waneta.

16.0 Topic: Canal Plant Agreement and Co-Owners and Operating Agreement

Reference: Exhibit B-1, Appendix N, p. 10, pdf p. 525

"Under the Canal Plant Agreement, BC Hydro coordinates the operation of all the generation on the Kootenay and Pend d'Oreille River systems in B.C. (except for the City of Nelson hydroelectric plant) and the owners of the non-BC Hydro projects receive specific monthly entitlements to energy and capacity that are derived from the estimated average annual generation capability of their projects. The difference between actual generation and contractual entitlements is received by or delivered by BC Hydro.

The monthly firm capacity and energy entitlement volumes for Waneta are prescribed by the COA. These volumes change in 2036 when the energy-capacity swap included in the COA ends and the entitlements return to the proportionate two-thirds share of the generation from the 2/3 Interest with all risks and benefits of actual performance from the 2/3 Interest being shared pro rata unless agreed otherwise by the parties. The specific Teck entitlement volumes before and after 2036 are as set out in the Table 1 below:..."

1.16.1 Please provide the background and context for the statement that the volumes of monthly firm capacity and energy entitlement "change in 2036 when the energy-capacity swap included in the COA ends and the entitlements return to the proportionate two-thirds share of the generation from the 2/3 Interest with all risks and benefits of actual performance from the 2/3 Interest being shared pro rata unless agreed otherwise by the parties."

1.16.1.1 For greater certainty, confirm that what ends in 2036 is the energy-capacity swap within the COA; i.e., that the COA does not end in 2036.

RESPONSE:

Confirmed. The agreed swap ends on December 31, 2035 unless the parties agree otherwise. The COA will be replaced by the COPOA which contains these same energy-capacity swap provisions.

16.0 Topic: Canal Plant Agreement and Co-Owners and Operating Agreement

Reference: Exhibit B-1, Appendix N, p. 10, pdf p. 525

"Under the Canal Plant Agreement, BC Hydro coordinates the operation of all the generation on the Kootenay and Pend d'Oreille River systems in B.C. (except for the City of Nelson hydroelectric plant) and the owners of the non-BC Hydro projects receive specific monthly entitlements to energy and capacity that are derived from the estimated average annual generation capability of their projects. The difference between actual generation and contractual entitlements is received by or delivered by BC Hydro.

The monthly firm capacity and energy entitlement volumes for Waneta are prescribed by the COA. These volumes change in 2036 when the energy-capacity swap included in the COA ends and the entitlements return to the proportionate two-thirds share of the generation from the 2/3 Interest with all risks and benefits of actual performance from the 2/3 Interest being shared pro rata unless agreed otherwise by the parties. The specific Teck entitlement volumes before and after 2036 are as set out in the Table 1 below:..."

1.16.1 Please provide the background and context for the statement that the volumes of monthly firm capacity and energy entitlement "change in 2036 when the energy-capacity swap included in the COA ends and the entitlements return to the proportionate two-thirds share of the generation from the 2/3 Interest with all risks and benefits of actual performance from the 2/3 Interest being shared pro rata unless agreed otherwise by the parties."

1.16.1.2 What is the "the energy-capacity swap included in the COA"?

RESPONSE:

Please refer to BC Hydro's response to BCSEA IR 1.16.1.

16.0 Topic: Canal Plant Agreement and Co-Owners and Operating Agreement

Reference: Exhibit B-1, Appendix N, p. 10, pdf p. 525

"Under the Canal Plant Agreement, BC Hydro coordinates the operation of all the generation on the Kootenay and Pend d'Oreille River systems in B.C. (except for the City of Nelson hydroelectric plant) and the owners of the non-BC Hydro projects receive specific monthly entitlements to energy and capacity that are derived from the estimated average annual generation capability of their projects. The difference between actual generation and contractual entitlements is received by or delivered by BC Hydro.

The monthly firm capacity and energy entitlement volumes for Waneta are prescribed by the COA. These volumes change in 2036 when the energy-capacity swap included in the COA ends and the entitlements return to the proportionate two-thirds share of the generation from the 2/3 Interest with all risks and benefits of actual performance from the 2/3 Interest being shared pro rata unless agreed otherwise by the parties. The specific Teck entitlement volumes before and after 2036 are as set out in the Table 1 below:..."

1.16.1 Please provide the background and context for the statement that the volumes of monthly firm capacity and energy entitlement "change in 2036 when the energy-capacity swap included in the COA ends and the entitlements return to the proportionate two-thirds share of the generation from the 2/3 Interest with all risks and benefits of actual performance from the 2/3 Interest being shared pro rata unless agreed otherwise by the parties."

1.16.1.3 Does the energy-capacity swap in the COA end in 2036 as a result of the terms of the COA or as a result of the Waneta 2017 Transaction?

RESPONSE:

The energy-capacity swap terms were agreed to under negotiations for the Waneta 2010 Transaction, and not the Waneta 2017 Transaction. Please refer to BC Hydro's response to BCSEA IR 1.16.1.

16.0 Topic: Canal Plant Agreement and Co-Owners and Operating Agreement

Reference: Exhibit B-1, Appendix N, p. 10, pdf p. 525

"Under the Canal Plant Agreement, BC Hydro coordinates the operation of all the generation on the Kootenay and Pend d'Oreille River systems in B.C. (except for the City of Nelson hydroelectric plant) and the owners of the non-BC Hydro projects receive specific monthly entitlements to energy and capacity that are derived from the estimated average annual generation capability of their projects. The difference between actual generation and contractual entitlements is received by or delivered by BC Hydro.

The monthly firm capacity and energy entitlement volumes for Waneta are prescribed by the COA. These volumes change in 2036 when the energy-capacity swap included in the COA ends and the entitlements return to the proportionate two-thirds share of the generation from the 2/3 Interest with all risks and benefits of actual performance from the 2/3 Interest being shared pro rata unless agreed otherwise by the parties. The specific Teck entitlement volumes before and after 2036 are as set out in the Table 1 below:..."

1.16.2 For greater certainty, confirm that the specific Teck entitlement volumes before and after 2036 set out in Table 1 are associated with Teck's two-thirds share of the generation of the Waneta Facility, as modified or defined by the Canal Plant Agreement and further defined or modified by the COA, and that these entitlement volumes, subject to changes from time to time as described in the last paragraph of pdf p. 525, are what (among other things) BC Hydro would acquire under the Waneta 2017 Transaction.

RESPONSE:

Confirmed. Please also refer to BC Hydro's response to BCSEA IR 1.16.1.

16.0 Topic: Canal Plant Agreement and Co-Owners and Operating Agreement

Reference: Exhibit B-1, Appendix N, p. 10, pdf p. 525

"Outside of the current sales process, as a result of updates required due to the Waneta Expansion Project, BC Hydro has been in discussion with Teck to update the current Waneta entitlement volumes. If more recent information is used as desired by BC Hydro the entitlement volumes will be reduced. These discussions were halted with the potential sale of Waneta and no formal agreement on updated entitlement amounts have been reached by the parties." [Exhibit B-1, Appendix N, p. 10, pdf p. 525]

1.16.3 Please explain the statement quoted above. Do the discussions between BC Hydro and Teck concern updating the current Waneta entitlement volumes under Co-Ownership Operating Agreement, or under the Canal Plant Agreement?

RESPONSE:

Any changes to the Waneta entitlement under the CPA flow through to Teck under the terms of the COA and will continue to do so under the COPOA. Please refer to BC Hydro's response to BCSEA IR 1.16.5.

16.0 Topic: Canal Plant Agreement and Co-Owners and Operating Agreement

Reference: Exhibit B-1, Appendix N, p. 10, pdf p. 525

"Outside of the current sales process, as a result of updates required due to the Waneta Expansion Project, BC Hydro has been in discussion with Teck to update the current Waneta entitlement volumes. If more recent information is used as desired by BC Hydro the entitlement volumes will be reduced. These discussions were halted with the potential sale of Waneta and no formal agreement on updated entitlement amounts have been reached by the parties." [Exhibit B-1, Appendix N, p. 10, pdf p. 525]

1.16.4 Please confirm, or otherwise explain, that BC Hydro wants to use more recent information that would <u>reduce</u> the Waneta entitlement volumes because doing so would benefit BC Hydro in its capacity as the CPA party responsible for the difference between actual generation and contractual entitlements.

RESPONSE:

BC Hydro wants to use what it considers the best available information for the entitlement calculations, and to establish an agreed process for completing future stream flow updates. The implementation of the stream flow update process proposed by BC Hydro would reduce the energy entitlement and would result in minor adjustments (both positive and negative) to the capacity entitlements for Waneta.

16.0 Topic: Canal Plant Agreement and Co-Owners and Operating Agreement

Reference: Exhibit B-1, Appendix N, p. 10, pdf p. 525

"Outside of the current sales process, as a result of updates required due to the Waneta Expansion Project, BC Hydro has been in discussion with Teck to update the current Waneta entitlement volumes. If more recent information is used as desired by BC Hydro the entitlement volumes will be reduced. These discussions were halted with the potential sale of Waneta and no formal agreement on updated entitlement amounts have been reached by the parties." [Exhibit B-1, Appendix N, p. 10, pdf p. 525]

1.16.5 For greater certainty, please confirm, or otherwise explain, that the benefit to BC Hydro of a reduction in the Waneta entitlement is offset by a factor of one-third due to BC Hydro's ownership of an undivided one-third interest in the Waneta Assets, and would be offset entirely if and when BC Hydro obtains unencumbered ownership of the Waneta 2/3 Interest upon the termination or expiry of the Lease under the Waneta 2017 Transaction.

RESPONSE:

Not confirmed. Until December 31, 2035 BC Hydro's one-third share of Waneta generation is a firm obligation by Teck under the COA (which obligation will continue under the COPOA). Accordingly any reduction in the aggregate Waneta entitlement prior to 2036 is entirely to Teck's account. At the start of 2036, this firm obligation expires and any reduction to the total Waneta entitlement is shared one-third with BC Hydro. At the expiry of the Lease there is no longer an entitlement provided to Teck.

Please also refer to BC Hydro's response to BCSEA IR 1.16.6.

16.0 Topic: Canal Plant Agreement and Co-Owners and Operating Agreement

Reference: Exhibit B-1, Appendix N, p. 10, pdf p. 525

"Outside of the current sales process, as a result of updates required due to the Waneta Expansion Project, BC Hydro has been in discussion with Teck to update the current Waneta entitlement volumes. If more recent information is used as desired by BC Hydro the entitlement volumes will be reduced. These discussions were halted with the potential sale of Waneta and no formal agreement on updated entitlement amounts have been reached by the parties." [Exhibit B-1, Appendix N, p. 10, pdf p. 525]

1.16.6 What is the materiality of the reduction in Waneta entitlement that would occur with the use of recent information? Does it affect value of the Waneta 2/3 Interest? Does it affect the value of the Waneta 2017 Transaction?

RESPONSE:

The entitlement attributed to the Waneta Facilities (Waneta and the Waneta Expansion Project) may be subject to redetermination. Potentially, there may be a reduction in Waneta energy entitlement up to 100 GWh/a.

This would not affect the dollars obtained by BC Hydro under the proposed Waneta 2017 Transaction during the Lease Period since the lease payments are agreed annual amounts. A redetermination, however, would affect the amount of entitlement energy available to Teck through their leasehold interest in Waneta.

16.0 Topic: Canal Plant Agreement and Co-Owners and Operating Agreement

Reference: Exhibit B-1, Appendix N, p. 10, pdf p. 525

"Outside of the current sales process, as a result of updates required due to the Waneta Expansion Project, BC Hydro has been in discussion with Teck to update the current Waneta entitlement volumes. If more recent information is used as desired by BC Hydro the entitlement volumes will be reduced. These discussions were halted with the potential sale of Waneta and no formal agreement on updated entitlement amounts have been reached by the parties." [Exhibit B-1, Appendix N, p. 10, pdf p. 525]

1.16.7 Please confirm, or otherwise explain, that deferral of a potential reduction of the Waneta entitlement under the CPA pending Teck's attempt to sell its interest in Waneta has the effect of enhancing or appearing to enhance the value of Teck's interest in Waneta.

RESPONSE:

BC Hydro cannot speculate on the information provided by Teck to entities that were invited to consider bids for Teck's interest in Waneta. In addition we cannot speculate whether this may or may not have impacted the value of the deal.

However, the successful bidder (Fortis Inc.) is a co-owner of the Waneta Expansion Project through its majority ownership of WELP. In this capacity Fortis Inc. and FortisBC have been informed of the BC Hydro position on the redetermination of the Waneta entitlements.

Note that BC Hydro is not aware of any deferral of a potential reduction of the Waneta entitlement.

16.0 Topic: Canal Plant Agreement and Co-Owners and Operating Agreement

Reference: Exhibit B-1, Appendix N, p. 10, pdf p. 525

"Outside of the current sales process, as a result of updates required due to the Waneta Expansion Project, BC Hydro has been in discussion with Teck to update the current Waneta entitlement volumes. If more recent information is used as desired by BC Hydro the entitlement volumes will be reduced. These discussions were halted with the potential sale of Waneta and no formal agreement on updated entitlement amounts have been reached by the parties." [Exhibit B-1, Appendix N, p. 10, pdf p. 525]

1.16.7 Please confirm, or otherwise explain, that deferral of a potential reduction of the Waneta entitlement under the CPA pending Teck's attempt to sell its interest in Waneta has the effect of enhancing or appearing to enhance the value of Teck's interest in Waneta.

1.16.7.1 To BC Hydro's knowledge, did the entities that were invited to consider bids for Teck's interest in Waneta have notice that BC Hydro wishes to revise downward the Waneta entitlement under the CPA?

RESPONSE:

Please refer to BC Hydro's response to BCSEA IR 1.16.7.

16.0 Topic: Canal Plant Agreement and Co-Owners and Operating Agreement

Reference: Exhibit B-1, Appendix N, p. 10, pdf p. 525

"Outside of the current sales process, as a result of updates required due to the Waneta Expansion Project, BC Hydro has been in discussion with Teck to update the current Waneta entitlement volumes. If more recent information is used as desired by BC Hydro the entitlement volumes will be reduced. These discussions were halted with the potential sale of Waneta and no formal agreement on updated entitlement amounts have been reached by the parties." [Exhibit B-1, Appendix N, p. 10, pdf p. 525]

1.16.8 Does BC Hydro expect to resume the discussions with Teck about updating the Waneta entitlement based on recent information after the Waneta 2017 Transaction is completed (if it is completed)? After a decision has been made not to complete the Transaction (if it is not approved)?

RESPONSE:

BC Hydro is continuing the redetermination discussions with Teck in a parallel process to the Waneta 2017 Transaction. Since BC Hydro is presented with the same energy entitlement adjustment risk whether the transaction is completed or not, there is no direct connection between the resolution of this CPA issue, and the completion of the Waneta 2017 Transaction. BC Hydro would prefer a speedy resolution of this issue, but recognizes that this may well be extended past the completion date for the proposed transaction.

18.0 Topic: Fortis Transaction

Reference: Exhibit B-1, s.1.4.3 Fortis Transaction and Exercise of ROFO; Exhibit B-1, Appendix E, Waneta Purchase Agreement

"In May 2017, Teck informed BC Hydro that it had reached an agreement to sell its two-thirds interest in Waneta and related transmission assets to Fortis Inc. for $1.2 billion (the Fortis Transaction).

... On June 1, 2017, Teck delivered the notice contemplated by the ROFO to BC Hydro (the Sale Notice)." [Exhibit B-1, p. 1-14, 29]

Teck's Sale Notice, Exhibit B-1, Appendix B, refers to a "Waneta Purchase Agreement" which is understood to be between Teck Metals Limited (or Teck Resources Limited). However, a copy of the Waneta Purchase Agreement is not provided in Appendix B.

BC Hydro's August 1, 2017 Reply Notice, Exhibit B-1, Appendix C, recites that a "Teck/Fortis Purchase Agreement" was attached to the Sale Notice received by BC Hydro.

The preamble to BCUC IR 60.4 implies that the Commission has a copy of the Waneta Purchase Agreement when it states:

"On page 6 of the Waneta Purchase Agreement it refers to:"'Exemption Order' means the exemption order dated March 29, 1996 and made pursuant to then section 27 (now section 22) of the Utilities Commission Act, which exempts TML from most of the provisions of Part 3 of the *Utilities Commission Act*;""

1.18.1 Please file a copy of the "Teck/Fortis Purchase Agreement" that was attached to the Sale Notice received by BC Hydro.

RESPONSE:

The Sale Notice is filed in BC Hydro's response to BCUC IR 1.61.3.

18.0 Topic: Fortis Transaction

Reference: Exhibit B-1, s.1.4.3 Fortis Transaction and Exercise of ROFO; Exhibit B-1, Appendix E, Waneta Purchase Agreement

"In May 2017, Teck informed BC Hydro that it had reached an agreement to sell its two-thirds interest in Waneta and related transmission assets to Fortis Inc. for $1.2 billion (the Fortis Transaction).

... On June 1, 2017, Teck delivered the notice contemplated by the ROFO to BC Hydro (the Sale Notice)." [Exhibit B-1, p. 1-14, 29]

Teck's Sale Notice, Exhibit B-1, Appendix B, refers to a "Waneta Purchase Agreement" which is understood to be between Teck Metals Limited (or Teck Resources Limited). However, a copy of the Waneta Purchase Agreement is not provided in Appendix B.

BC Hydro's August 1, 2017 Reply Notice, Exhibit B-1, Appendix C, recites that a "Teck/Fortis Purchase Agreement" was attached to the Sale Notice received by BC Hydro.

The preamble to BCUC IR 60.4 implies that the Commission has a copy of the Waneta Purchase Agreement when it states:

"On page 6 of the Waneta Purchase Agreement it refers to:"'Exemption Order' means the exemption order dated March 29, 1996 and made pursuant to then section 27 (now section 22) of the Utilities Commission Act, which exempts TML from most of the provisions of Part 3 of the *Utilities Commission Act*;""

1.18.2 Please confirm, or otherwise explain, that BC Hydro is confident that the Sale Notice accurately reflects the terms of the Teck/Fortis Purchase Agreement.

RESPONSE:

Confirmed. BC Hydro is confident that the Sale Notice accurately reflects and indeed comprises the entire Fortis Transaction. If BC Hydro had concerns in this regard we would not have accepted the Sale Notice. Further, BC Hydro has had no reason to think that FortisBC and Teck have been acting inconsistently with "hard-nosed" commercially-driven but ultimately good faith bargaining.

18.0 Topic: Fortis Transaction

Reference: Exhibit B-1, s.1.4.3 Fortis Transaction and Exercise of ROFO; Exhibit B-1, Appendix E, Waneta Purchase Agreement

"In May 2017, Teck informed BC Hydro that it had reached an agreement to sell its two-thirds interest in Waneta and related transmission assets to Fortis Inc. for $1.2 billion (the Fortis Transaction).

... On June 1, 2017, Teck delivered the notice contemplated by the ROFO to BC Hydro (the Sale Notice)." [Exhibit B-1, p. 1-14, 29]

Teck's Sale Notice, Exhibit B-1, Appendix B, refers to a "Waneta Purchase Agreement" which is understood to be between Teck Metals Limited (or Teck Resources Limited). However, a copy of the Waneta Purchase Agreement is not provided in Appendix B.

BC Hydro's August 1, 2017 Reply Notice, Exhibit B-1, Appendix C, recites that a "Teck/Fortis Purchase Agreement" was attached to the Sale Notice received by BC Hydro.

The preamble to BCUC IR 60.4 implies that the Commission has a copy of the Waneta Purchase Agreement when it states:

"On page 6 of the Waneta Purchase Agreement it refers to:"'Exemption Order' means the exemption order dated March 29, 1996 and made pursuant to then section 27 (now section 22) of the Utilities Commission Act, which exempts TML from most of the provisions of Part 3 of the *Utilities Commission Act*;""

1.18.3 Is BC Hydro confident that the Teck/Fortis Purchase Agreement contains any and all agreements between Teck and Fortis Inc. or FortisBC Inc., i.e., that there are no 'side agreements,' regarding the sale and lease back of the Waneta 2/3 Interest and Line 71? Why?

RESPONSE:

Please refer to BC Hydro's response to BCSEA IR 1.18.2.

19.0 Topic: Teck's Opportunity Cost

Reference: Exhibit B-1, s. 4.10.1, pdf p. 119, Teck's Opportunity Cost; "Counterparty Opportunity Cost," Appendix F of Appendix N

"As discussed above, the ROFO is based on substantially matching an otherwise binding offer made by <u>an arms-length third-party</u>. BC Hydro's Reply Notice has substantially matched the offer submitted by Fortis Inc. in May, 2017. That offer was made pursuant to the competitive bid process described above in section 1.4.2. In these circumstances, the Commission and stakeholders can be satisfied that BC Hydro has not "left any money on the table", thereby making Teck's opportunity cost moot. Nevertheless, BC Hydro had previously conducted an analysis of Teck's opportunity costs, and updated it for the purpose of the Waneta 2017 Business Case. That analysis confirms the rationale for Teck to conclude the proposed transaction [footnote to Appendix F of Appendix N]." [underline added]

BC Hydro's report "Counterparty Opportunity Cost," Appendix F of Appendix N, is entirely redacted.

1.19.1 Does BC Hydro have confidence that the relationship between Teck and Fortis Inc. concerning the Waneta 2/3 Interest is truly and strictly "arms length," including that there are no agreements between Teck and Fortis Inc. concerning the Waneta 2/3 Interest that are not disclosed in the Application?

RESPONSE:

Please refer to BC Hydro's response to BCSEA IR 1.18.2.

19.0 Topic: Teck's Opportunity Cost

Reference: Exhibit B-1, s. 4.10.1, pdf p. 119, Teck's Opportunity Cost; "Counterparty Opportunity Cost," Appendix F of Appendix N

"As discussed above, the ROFO is based on substantially matching an otherwise binding offer made by an arms-length third-party. BC Hydro's Reply Notice has substantially matched the offer submitted by Fortis Inc. in May, 2017. That offer was made pursuant to the competitive bid process described above in section 1.4.2. In these circumstances, the Commission and stakeholders can be satisfied that BC Hydro has not "left any money on the table", thereby making Teck's opportunity cost moot. Nevertheless, BC Hydro had previously conducted an analysis of Teck's opportunity costs, and updated it for the purpose of the Waneta 2017 Business Case. That analysis confirms the rationale for Teck to conclude the proposed transaction [footnote to Appendix F of Appendix N]." [underline added]

BC Hydro's report "Counterparty Opportunity Cost," Appendix F of Appendix N, is entirely redacted.

1.19.2 By "making Teck's opportunity cost moot," does BC Hydro mean that Teck's opportunity cost of the Waneta 2017 Transaction is defined by the Fortis Transaction, the business terms of which are the same as those of the Waneta 2017 Transaction, and therefore Teck's opportunity cost of the Waneta 2017 Transaction is the same as the cost (value) of the Waneta 2017 Transaction?

RESPONSE:

Teck had and continues to have an "internal" opportunity cost, which represents the value of the Waneta Assets to Teck in the status quo (neither the Waneta 2017 Transaction nor the Fortis Transaction occurs). This was the opportunity cost that was analyzed by BC Hydro in Appendix F of Appendix N and is referred to as "moot" in the quoted statement from the Waneta 2017 Business Case.

After agreeing on the Fortis Transaction and during the ROFO period (when the Waneta 2017 Business Case was prepared), it is reasonable to state that the Fortis Transaction defined the Teck opportunity cost for ROFO evaluation purposes.

19.0 Topic: Teck's Opportunity Cost

Reference: Exhibit B-1, s. 4.10.1, pdf p. 119, Teck's Opportunity Cost; "Counterparty Opportunity Cost," Appendix F of Appendix N

"As discussed above, the ROFO is based on substantially matching an otherwise binding offer made by an arms-length third-party. BC Hydro's Reply Notice has substantially matched the offer submitted by Fortis Inc. in May, 2017. That offer was made pursuant to the competitive bid process described above in section 1.4.2. In these circumstances, the Commission and stakeholders can be satisfied that BC Hydro has not "left any money on the table", thereby making Teck's opportunity cost moot. Nevertheless, BC Hydro had previously conducted an analysis of Teck's opportunity costs, and updated it for the purpose of the Waneta 2017 Business Case. That analysis confirms the rationale for Teck to conclude the proposed transaction [footnote to Appendix F of Appendix N]." [underline added]

BC Hydro's report "Counterparty Opportunity Cost," Appendix F of Appendix N, is entirely redacted.

1.19.3 Assuming that the Fortis Transaction is terminated due to BC Hydro's exercise of the ROFO, does this affect the use of the Fortis Transaction to determine Teck's opportunity cost of the Waneta 2017 Transaction?

RESPONSE:

Yes, although the Fortis Transaction would still be an important point of consideration as there is a reasonable possibility that it could be revitalized and completed despite the previous termination if the Waneta 2017 Transaction does not complete.

19.0 Topic: Teck's Opportunity Cost

Reference: Exhibit B-1, s. 4.10.1, pdf p. 119, Teck's Opportunity Cost; "Counterparty Opportunity Cost," Appendix F of Appendix N

"As discussed above, the ROFO is based on substantially matching an otherwise binding offer made by an arms-length third-party. BC Hydro's Reply Notice has substantially matched the offer submitted by Fortis Inc. in May, 2017. That offer was made pursuant to the competitive bid process described above in section 1.4.2. In these circumstances, the Commission and stakeholders can be satisfied that BC Hydro has not "left any money on the table", thereby making Teck's opportunity cost moot. Nevertheless, BC Hydro had previously conducted an analysis of Teck's opportunity costs, and updated it for the purpose of the Waneta 2017 Business Case. That analysis confirms the rationale for Teck to conclude the proposed transaction [footnote to Appendix F of Appendix N]." [underline added]

BC Hydro's report "Counterparty Opportunity Cost," Appendix F of Appendix N, is entirely redacted.

1.19.4 What is Teck's current opportunity cost of the Waneta 2017 Transaction, assuming the termination of the Fortis Transaction?

RESPONSE:

BC Hydro does not have sufficient information to make a conclusion regarding Teck's current opportunity cost, subject to BC Hydro's response to BCSEA IR 1.19.3.

19.0 Topic: Teck's Opportunity Cost

Reference: Exhibit B-1, s. 4.10.1, pdf p. 119, Teck's Opportunity Cost; "Counterparty Opportunity Cost," Appendix F of Appendix N

"As discussed above, the ROFO is based on substantially matching an otherwise binding offer made by an arms-length third-party. BC Hydro's Reply Notice has substantially matched the offer submitted by Fortis Inc. in May, 2017. That offer was made pursuant to the competitive bid process described above in section 1.4.2. In these circumstances, the Commission and stakeholders can be satisfied that BC Hydro has not "left any money on the table", thereby making Teck's opportunity cost moot. Nevertheless, BC Hydro had previously conducted an analysis of Teck's opportunity costs, and updated it for the purpose of the Waneta 2017 Business Case. That analysis confirms the rationale for Teck to conclude the proposed transaction [footnote to Appendix F of Appendix N]." [underline added]

BC Hydro's report "Counterparty Opportunity Cost," Appendix F of Appendix N, is entirely redacted.

1.19.5 Would BC Hydro agree that a third party considering an offer to purchase Teck's Waneta interest through a transaction that includes a right of first offer in favour of BC Hydro would take into account its (the third party's) estimate of BC Hydro's estimate of the value of Teck's Waneta interest to BC Hydro?

RESPONSE:

BC Hydro agrees that third parties would have taken into account other potential buyers' (potentially including BC Hydro) estimate of the value of the Waneta Assets in preparing any offers to purchase the Waneta Assets, including the value (or impact) of BC Hydro's ROFO rights under the COA.

19.0 Topic: Teck's Opportunity Cost

Reference: Exhibit B-1, s. 4.10.1, pdf p. 119, Teck's Opportunity Cost; "Counterparty Opportunity Cost," Appendix F of Appendix N

"As discussed above, the ROFO is based on substantially matching an otherwise binding offer made by <u>an arms-length third-party</u>. BC Hydro's Reply Notice has substantially matched the offer submitted by Fortis Inc. in May, 2017. That offer was made pursuant to the competitive bid process described above in section 1.4.2. In these circumstances, the Commission and stakeholders can be satisfied that BC Hydro has not "left any money on the table", thereby making Teck's opportunity cost moot. Nevertheless, BC Hydro had previously conducted an analysis of Teck's opportunity costs, and updated it for the purpose of the Waneta 2017 Business Case. That analysis confirms the rationale for Teck to conclude the proposed transaction [footnote to Appendix F of Appendix N]." [underline added]

BC Hydro's report "Counterparty Opportunity Cost," Appendix F of Appendix N, is entirely redacted.

1.19.5 Would BC Hydro agree that a third party considering an offer to purchase Teck's Waneta interest through a transaction that includes a right of first offer in favour of BC Hydro would take into account its (the third party's) estimate of BC Hydro's estimate of the value of Teck's Waneta interest to BC Hydro?

1.19.5.1 Specifically, in BC Hydro's view is it likely that Fortis Inc. took into account its perception of BC Hydro's estimate of the value of the 2/3 Interest to BC Hydro when Fortis Inc. agreed to the terms of the Fortis Transaction?

RESPONSE:

BC Hydro has no information regarding Fortis Inc.'s considerations in the negotiation of the Fortis Transaction but it is reasonable to infer that Fortis Inc. took into consideration BC Hydro's ROFO rights.

19.0 Topic: Teck's Opportunity Cost

Reference: Exhibit B-1, s. 4.10.1, pdf p. 119, Teck's Opportunity Cost; "Counterparty Opportunity Cost," Appendix F of Appendix N

"As discussed above, the ROFO is based on substantially matching an otherwise binding offer made by an arms-length third-party. BC Hydro's Reply Notice has substantially matched the offer submitted by Fortis Inc. in May, 2017. That offer was made pursuant to the competitive bid process described above in section 1.4.2. In these circumstances, the Commission and stakeholders can be satisfied that BC Hydro has not "left any money on the table", thereby making Teck's opportunity cost moot. Nevertheless, BC Hydro had previously conducted an analysis of Teck's opportunity costs, and updated it for the purpose of the Waneta 2017 Business Case. That analysis confirms the rationale for Teck to conclude the proposed transaction [footnote to Appendix F of Appendix N]." [underline added]

BC Hydro's report "Counterparty Opportunity Cost," Appendix F of Appendix N, is entirely redacted.

1.19.5 Would BC Hydro agree that a third party considering an offer to purchase Teck's Waneta interest through a transaction that includes a right of first offer in favour of BC Hydro would take into account its (the third party's) estimate of BC Hydro's estimate of the value of Teck's Waneta interest to BC Hydro?

1.19.5.2 If so, does that diminish the value of the Fortis Transaction as an indication of Teck's opportunity cost of the Waneta 2017 Transaction?

RESPONSE:

No. The Fortis Transaction was the result of a competitive market process with multiple participants.

19.0 Topic: Teck's Opportunity Cost

Reference: Exhibit B-1, s. 4.10.1, pdf p. 119, Teck's Opportunity Cost; "Counterparty Opportunity Cost," Appendix F of Appendix N

"As discussed above, the ROFO is based on substantially matching an otherwise binding offer made by an arms-length third-party. BC Hydro's Reply Notice has substantially matched the offer submitted by Fortis Inc. in May, 2017. That offer was made pursuant to the competitive bid process described above in section 1.4.2. In these circumstances, the Commission and stakeholders can be satisfied that BC Hydro has not "left any money on the table", thereby making Teck's opportunity cost moot. Nevertheless, BC Hydro had previously conducted an analysis of Teck's opportunity costs, and updated it for the purpose of the Waneta 2017 Business Case. That analysis confirms the rationale for Teck to conclude the proposed transaction [footnote to Appendix F of Appendix N]." [underline added]

BC Hydro's report "Counterparty Opportunity Cost," Appendix F of Appendix N, is entirely redacted.

1.19.6 Please comment on the proposition that Teck's opportunity cost for the Waneta 2017 Transaction depends directly on Fortis Inc.'s opportunity cost for the Fortis Transaction.

RESPONSE:

Please refer to BC Hydro's response to BCSEA IR 1.19.2.

19.0 Topic: Teck's Opportunity Cost

Reference: Exhibit B-1, s. 4.10.1, pdf p. 119, Teck's Opportunity Cost; "Counterparty Opportunity Cost," Appendix F of Appendix N

"As discussed above, the ROFO is based on substantially matching an otherwise binding offer made by an arms-length third-party. BC Hydro's Reply Notice has substantially matched the offer submitted by Fortis Inc. in May, 2017. That offer was made pursuant to the competitive bid process described above in section 1.4.2. In these circumstances, the Commission and stakeholders can be satisfied that BC Hydro has not "left any money on the table", thereby making Teck's opportunity cost moot. Nevertheless, BC Hydro had previously conducted an analysis of Teck's opportunity costs, and updated it for the purpose of the Waneta 2017 Business Case. That analysis confirms the rationale for Teck to conclude the proposed transaction [footnote to Appendix F of Appendix N]." [underline added]

BC Hydro's report "Counterparty Opportunity Cost," Appendix F of Appendix N, is entirely redacted.

1.19.7 In assessing whether to issue the ROFO Reply Notice did BC Hydro consider the potential effect on BC Hydro of how Fortis Inc. might use the 2/3 Interest under the Fortis Transaction in the Post-Lease Period or upon termination of the Lease in the event of a default by Teck? If so, please summarize the evaluation. If not, why not?

RESPONSE:

BC Hydro did not explicitly consider such a scenario. The characteristics would be similar to the no-go scenario assessed in the Waneta 2017 Business Case (section 4.3 of Appendix N to Exhibit B-1).

19.0 Topic: Teck's Opportunity Cost

Reference: Exhibit B-1, s. 4.10.1, pdf p. 119, Teck's Opportunity Cost; "Counterparty Opportunity Cost," Appendix F of Appendix N

"As discussed above, the ROFO is based on substantially matching an otherwise binding offer made by an arms-length third-party. BC Hydro's Reply Notice has substantially matched the offer submitted by Fortis Inc. in May, 2017. That offer was made pursuant to the competitive bid process described above in section 1.4.2. In these circumstances, the Commission and stakeholders can be satisfied that BC Hydro has not "left any money on the table", thereby making Teck's opportunity cost moot. Nevertheless, BC Hydro had previously conducted an analysis of Teck's opportunity costs, and updated it for the purpose of the Waneta 2017 Business Case. That analysis confirms the rationale for Teck to conclude the proposed transaction [footnote to Appendix F of Appendix N]." [underline added]

BC Hydro's report "Counterparty Opportunity Cost," Appendix F of Appendix N, is entirely redacted.

1.19.7 In assessing whether to issue the ROFO Reply Notice did BC Hydro consider the potential effect on BC Hydro of how Fortis Inc. might use the 2/3 Interest under the Fortis Transaction in the Post-Lease Period or upon termination of the Lease in the event of a default by Teck? If so, please summarize the evaluation. If not, why not?

1.19.7.1 Did BC Hydro consider the impact of completion of the Fortis Transaction on the volume and price of future sales from BC Hydro to FBC under the Power Purchase Agreement or a renewal of the PPA?

RESPONSE:

Yes. This consideration is discussed in the confidential analysis of the no-go scenario in the Waneta 2017 Business Case (section 4.3 of Appendix N to confidential Exhibit B-1). Please refer to BC Hydro's letter of January 17, 2018 (Exhibit B-7) for a description of the information redacted in BC Hydro's previous submissions and the rationale for these redactions.

19.0 Topic: Teck's Opportunity Cost

Reference: Exhibit B-1, s. 4.10.1, pdf p. 119, Teck's Opportunity Cost; "Counterparty Opportunity Cost," Appendix F of Appendix N

"As discussed above, the ROFO is based on substantially matching an otherwise binding offer made by an arms-length third-party. BC Hydro's Reply Notice has substantially matched the offer submitted by Fortis Inc. in May, 2017. That offer was made pursuant to the competitive bid process described above in section 1.4.2. In these circumstances, the Commission and stakeholders can be satisfied that BC Hydro has not "left any money on the table", thereby making Teck's opportunity cost moot. Nevertheless, BC Hydro had previously conducted an analysis of Teck's opportunity costs, and updated it for the purpose of the Waneta 2017 Business Case. That analysis confirms the rationale for Teck to conclude the proposed transaction [footnote to Appendix F of Appendix N]." [underline added]

BC Hydro's report "Counterparty Opportunity Cost," Appendix F of Appendix N, is entirely redacted.

1.19.7 In assessing whether to issue the ROFO Reply Notice did BC Hydro consider the potential effect on BC Hydro of how Fortis Inc. might use the 2/3 Interest under the Fortis Transaction in the Post-Lease Period or upon termination of the Lease in the event of a default by Teck? If so, please summarize the evaluation. If not, why not?

1.19.7.2 Did BC Hydro consider the impact of completion of the Fortis Transaction on the likelihood of BC Hydro being called upon to serve the smelter load?

RESPONSE:

Yes. This consideration was discussed in a redacted portion of section 4.3.1 of the Waneta 2017 Business Case.

Please refer to BC Hydro's letter of January 17, 2018 (Exhibit B-7) for a description of the information redacted in BC Hydro's previous submissions and the rationale for these redactions.

19.0 Topic: Teck's Opportunity Cost

Reference: Exhibit B-1, s. 4.10.1, pdf p. 119, Teck's Opportunity Cost; "Counterparty Opportunity Cost," Appendix F of Appendix N

"As discussed above, the ROFO is based on substantially matching an otherwise binding offer made by an arms-length third-party. BC Hydro's Reply Notice has substantially matched the offer submitted by Fortis Inc. in May, 2017. That offer was made pursuant to the competitive bid process described above in section 1.4.2. In these circumstances, the Commission and stakeholders can be satisfied that BC Hydro has not "left any money on the table", thereby making Teck's opportunity cost moot. Nevertheless, BC Hydro had previously conducted an analysis of Teck's opportunity costs, and updated it for the purpose of the Waneta 2017 Business Case. That analysis confirms the rationale for Teck to conclude the proposed transaction [footnote to Appendix F of Appendix N]." [underline added]

BC Hydro's report "Counterparty Opportunity Cost," Appendix F of Appendix N, is entirely redacted.

1.19.7 In assessing whether to issue the ROFO Reply Notice did BC Hydro consider the potential effect on BC Hydro of how Fortis Inc. might use the 2/3 Interest under the Fortis Transaction in the Post-Lease Period or upon termination of the Lease in the event of a default by Teck? If so, please summarize the evaluation. If not, why not?

1.19.7.3 Did BC Hydro consider the impact of completion of the Fortis Transaction on the possibility of a future power purchase transaction between Fortis Inc. and BC Hydro?

RESPONSE:

BC Hydro did not explicitly consider this scenario, although it is substantially similar to the consideration regarding the 3808 PPA between FortisBC and BC Hydro. Refer to the analysis of the no-go scenario in the Waneta 2017 Business Case (section 4.3 of Appendix N to Exhibit B-1).

20.0 Topic: June 2016 ROFO Sale Notice

Reference: Exhibit B-1, Appendix N, Waneta 2/3 Interest Business Case, p. 8, pdf p. 523; Exhibit B-1, Appendix G, Comparison of COA and COPOA, p. 15, pdf p. 319; Exhibit A-4, BCUC IR 27.1

BC Hydro says it had discussions with Teck in early 2016 and that Teck provided a Sale Notice under the COA in June 2016:

"Teck approached BC Hydro in January 2016 stating that it was interested in divesting of its remaining 2/3 interest in Waneta (referred to here as the "2/3 Interest"). Following this approach, BC Hydro entered into discussions with Teck on this potential transaction. Teck provided BC Hydro with a ROFO Sale Notice (a submission under the ROFO provisions in the Co- Ownership Agreement or "COA") in June 2016. BC Hydro did not elect to enter into a transaction based on this ROFO." [Exhibit B-1, Appendix N, pdf p. 523, underline added]

BC Hydro describes section 25.3 of the Co-Ownership Agreement as follows:

"Each party is also granted a right of first offer (ROFO) in the event that a party wishes to sell its interest in Waneta. The ROFO provides that a party wishing to sell its interest must first offer to sell its participating interest to the non-selling party on the same terms and conditions as contained in the selling party's offer to sell to a third- party. In certain circumstances, where the selling co-owner is the Operator and has majority voting rights on the Operating Committee, the non-seller co-owner can become the Operator with majority voting rights on the Operating Committee. (Section 25.3)" [Exhibit B-1, Appendix G, p. 15, pdf p. 319]

1.20.1 With reference to BC Hydro's discussions with Teck following Teck's approach to BC Hydro in January 2016:

1.20.1.1 Was any other party involved in these discussions? If so, whom?

RESPONSE:

BC Hydro did not have discussions with any third-parties in relation to the discussions with Teck leading to the 2016 Sale Notice.

20.0 Topic: June 2016 ROFO Sale Notice

Reference: Exhibit B-1, Appendix N, Waneta 2/3 Interest Business Case, p. 8, pdf p. 523; Exhibit B-1, Appendix G, Comparison of COA and COPOA, p. 15, pdf p. 319; Exhibit A-4, BCUC IR 27.1

BC Hydro says it had discussions with Teck in early 2016 and that Teck provided a Sale Notice under the COA in June 2016:

"Teck approached BC Hydro in January 2016 stating that it was interested in divesting of its remaining 2/3 interest in Waneta (referred to here as the "2/3 Interest"). Following this approach, BC Hydro entered into discussions with Teck on this potential transaction. Teck provided BC Hydro with a ROFO Sale Notice (a submission under the ROFO provisions in the Co- Ownership Agreement or "COA") in June 2016. BC Hydro did not elect to enter into a transaction based on this ROFO." [Exhibit B-1, Appendix N, pdf p. 523, underline added]

BC Hydro describes section 25.3 of the Co-Ownership Agreement as follows:

"Each party is also granted a right of first offer (ROFO) in the event that a party wishes to sell its interest in Waneta. The ROFO provides that a party wishing to sell its interest must first offer to sell its participating interest to the non-selling party on the same terms and conditions as contained in the selling party's offer to sell to a third- party. In certain circumstances, where the selling co-owner is the Operator and has majority voting rights on the Operating Committee, the non-seller co-owner can become the Operator with majority voting rights on the Operating Committee. (Section 25.3)" [Exhibit B-1, Appendix G, p. 15, pdf p. 319]

1.20.1 With reference to BC Hydro's discussions with Teck following Teck's approach to BC Hydro in January 2016:

1.20.1.2 What was the basic structure of the transaction Teck was proposing at the time? Please describe the similarities and differences between what Teck was proposing and the structure of the June 2016 Sale Notice.

RESPONSE:

Disclosure of the 2016 Sale Notice, discussions leading up to it, and its substantive terms are all subject to the Teck NDA (please refer to BC Hydro's response to BCSEA IR 1.23.8). Teck has not waived the restriction on disclosure of the 2016 Sale Notice or its terms in response to this request on the basis that disclosure of the 2016 Sale Notice or its substantive terms would commercially disadvantage Teck in the event that the Waneta 2017 Transaction does not

proceed for any reason and Teck sought to sell the Waneta assets in a subsequent process.

The 2016 Sale Notice provided BC Hydro the opportunity to purchase the two-thirds interest in Waneta. At that time, BC Hydro did not believe that the 2016 Sale Notice set forth a price that was either compelling or likely to represent Teck's opportunity cost (being a price other parties might pay for the transaction proposed). In reaching this conclusion, BC Hydro worked with internal resources and external advisors to evaluate the attractiveness of the potential to own Waneta and the likelihood that Teck might be able to sell the two-thirds interest in Waneta to a third-party at the price represented in the 2016 Sale Notice.

As part of the sale process initiated by Teck subsequent to the 2016 Sale Notice and upon Teck's request, BC Hydro did work with a third-party (the "Third-Party") on a potential alternative structure. The terms of this potential alternative structure are described in the redacted Appendix E to the Waneta 2017 Business Case. BC Hydro was unable to reach an agreement with the Third-Party. As well, BC Hydro appreciated that there were significant potential opportunity costs as described in BC Hydro's response to CEC IR 1.3.5. Because BC Hydro was unable to reach agreement with the Third-Party, any economic comparison between the transaction discussed with the Third-Party and the Waneta 2017 Transaction would be purely speculative in nature.

20.0 Topic: June 2016 ROFO Sale Notice

Reference: Exhibit B-1, Appendix N, Waneta 2/3 Interest Business Case, p. 8, pdf p. 523; Exhibit B-1, Appendix G, Comparison of COA and COPOA, p. 15, pdf p. 319; Exhibit A-4, BCUC IR 27.1

BC Hydro says it had discussions with Teck in early 2016 and that Teck provided a Sale Notice under the COA in June 2016:

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1.20.1 With reference to BC Hydro's discussions with Teck following Teck's approach to BC Hydro in January 2016:

1.20.1.3 To BC Hydro's knowledge, was Teck having discussions with third parties? If so, whom?

RESPONSE:

BC Hydro has no knowledge how many parties Teck was in discussion with between January 2016 and June 2016 when Teck provided BC Hydro with the 2016 Sale Notice. BC Hydro is aware that there was at least one Third-Party (a pension fund) that approached BC Hydro and BC Hydro understands that this party also approached Teck. BC Hydro is unaware of whether this Third-Party is willing to have its identity disclosed.

20.0 Topic: June 2016 ROFO Sale Notice

Reference: Exhibit B-1, Appendix N, Waneta 2/3 Interest Business Case, p. 8, pdf p. 523; Exhibit B-1, Appendix G, Comparison of COA and COPOA, p. 15, pdf p. 319; Exhibit A-4, BCUC IR 27.1

BC Hydro says it had discussions with Teck in early 2016 and that Teck provided a Sale Notice under the COA in June 2016:

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1.20.1 With reference to BC Hydro's discussions with Teck following Teck's approach to BC Hydro in January 2016:

1.20.1.4 Did BC Hydro have discussions with Fortis Inc. and/or FortisBC Inc. concerning Teck's interest selling its 2/3 interest in Waneta at this time? If so, please describe the nature of the discussion. If not, why not?

RESPONSE:

No.

20.0 Topic: June 2016 ROFO Sale Notice

Reference: Exhibit B-1, Appendix N, Waneta 2/3 Interest Business Case, p. 8, pdf p. 523; Exhibit B-1, Appendix G, Comparison of COA and COPOA, p. 15, pdf p. 319; Exhibit A-4, BCUC IR 27.1

BC Hydro says it had discussions with Teck in early 2016 and that Teck provided a Sale Notice under the COA in June 2016:

"Teck approached BC Hydro in January 2016 stating that it was interested in divesting of its remaining 2/3 interest in Waneta (referred to here as the "2/3 Interest"). Following this approach, BC Hydro entered into discussions with Teck on this potential transaction. Teck provided BC Hydro with a ROFO Sale Notice (a submission under the ROFO provisions in the Co- Ownership Agreement or "COA") in June 2016. BC Hydro did not elect to enter into a transaction based on this ROFO." [Exhibit B-1, Appendix N, pdf p. 523, underline added]

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1.20.2 BC Hydro says that in June 2016 Teck provided a ROFO Sale Notice under the COA to BC Hydro. Further to your response to BCUC IR 27.1, please file a copy of the June 2016 ROFO Sale Notice that BC Hydro received from Teck.

RESPONSE:

Disclosure of the 2016 Sale Notice and its substantive terms are subject to the confidentiality agreement between BC Hydro and Teck. Teck has not waived the restriction on disclosure of the 2016 Sale Notice or its terms in response to this request on the basis that disclosure of the 2016 Sale Notice or its substantive terms would commercially disadvantage Teck in the event that the Waneta 2017 Transaction does not proceed for any reason and Teck sought to sell the Waneta assets in a subsequent process.

20.0 Topic: June 2016 ROFO Sale Notice

Reference: Exhibit B-1, Appendix N, Waneta 2/3 Interest Business Case, p. 8, pdf p. 523; Exhibit B-1, Appendix G, Comparison of COA and COPOA, p. 15, pdf p. 319; Exhibit A-4, BCUC IR 27.1

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1.20.3 Please confirm, or otherwise explain, that the June 2016 ROFO Sale Notice in the context of s. 25.3 of the COA means that as of June 2016 Teck had an outstanding offer to sell to a third-party.

RESPONSE:

Not confirmed. The ROFO provisions of section 25.3 of the COA do not require that there be an outstanding offer to sell to a third-party as of the date the ROFO sale notice is provided; section 25.3 of the COA provides that under certain conditions if the selling party tenders a sale notice to the non-selling party, and if the non-selling party does not respond to the sale notice or rejects the sale notice, then the selling party is able to sell the assets to a third-party at, or above, the offered price on terms and conditions that are substantially the same those included in the ROFO sale notice.

20.0 Topic: June 2016 ROFO Sale Notice

Reference: Exhibit B-1, Appendix N, Waneta 2/3 Interest Business Case, p. 8, pdf p. 523; Exhibit B-1, Appendix G, Comparison of COA and COPOA, p. 15, pdf p. 319; Exhibit A-4, BCUC IR 27.1

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1.20.3 Please confirm, or otherwise explain, that the June 2016 ROFO Sale Notice in the context of s. 25.3 of the COA means that as of June 2016 Teck had an outstanding offer to sell to a third-party.

1.20.3.1 If confirmed:

1.20.3.1.1 Please describe fully Teck's offer to sell to a third-party, including the name of the offeree.

RESPONSE:

Please refer to BC Hydro's response to BCSEA IR 1.20.3.

20.0 Topic: June 2016 ROFO Sale Notice

Reference: Exhibit B-1, Appendix N, Waneta 2/3 Interest Business Case, p. 8, pdf p. 523; Exhibit B-1, Appendix G, Comparison of COA and COPOA, p. 15, pdf p. 319; Exhibit A-4, BCUC IR 27.1

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1.20.3 Please confirm, or otherwise explain, that the June 2016 ROFO Sale Notice in the context of s. 25.3 of the COA means that as of June 2016 Teck had an outstanding offer to sell to a third-party.

1.20.3.1 If confirmed:

1.20.3.1.2 Was the offeree Fortis Inc., or FortisBC Inc.?

RESPONSE:

Please refer to BC Hydro's response to BCSEA IR 1.20.3.

20.0 Topic: June 2016 ROFO Sale Notice

Reference: Exhibit B-1, Appendix N, Waneta 2/3 Interest Business Case, p. 8, pdf p. 523; Exhibit B-1, Appendix G, Comparison of COA and COPOA, p. 15, pdf p. 319; Exhibit A-4, BCUC IR 27.1

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1.20.3 Please confirm, or otherwise explain, that the June 2016 ROFO Sale Notice in the context of s. 25.3 of the COA means that as of June 2016 Teck had an outstanding offer to sell to a third-party.

1.20.3.1 If confirmed:

1.20.3.1.3 Given BC Hydro's election not to enter a transaction based on the June 2016 Sale Notice, what is BC Hydro's understanding of why Teck's offer to sell to a third party did not result in a completed transaction with the third party?

RESPONSE:

Please refer to BC Hydro's response to BCSEA IR 1.20.3.

20.0 Topic: June 2016 ROFO Sale Notice

Reference: Exhibit B-1, Appendix N, Waneta 2/3 Interest Business Case, p. 8, pdf p. 523; Exhibit B-1, Appendix G, Comparison of COA and COPOA, p. 15, pdf p. 319; Exhibit A-4, BCUC IR 27.1

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1.20.3 Please confirm, or otherwise explain, that the June 2016 ROFO Sale Notice in the context of s. 25.3 of the COA means that as of June 2016 Teck had an outstanding offer to sell to a third-party.

1.20.3.2 If not confirmed, please explain. Was the June 2016 ROFO Sale Notice an ROFO Sale Notice under section 25.3 of the COA? Is there such a thing as a ROFO Sale Notice under some other section of the COA?

RESPONSE:

Please refer to BC Hydro's response to BCSEA IR 1.20.3.

Yes, the 2016 Sale Notice was tendered to BC Hydro as a ROFO sale notice under section 25.3 of the COA.

No, there are no other sections of the COA which give rise to any other form of ROFO sale notice.

20.0 Topic: June 2016 ROFO Sale Notice

Reference: Exhibit B-1, Appendix N, Waneta 2/3 Interest Business Case, p. 8, pdf p. 523; Exhibit B-1, Appendix G, Comparison of COA and COPOA, p. 15, pdf p. 319; Exhibit A-4, BCUC IR 27.1

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1.20.4 Why did BC Hydro not elect to enter a transaction based on the June 2016 ROFO Sale Notice?

RESPONSE:

There were two main reasons why BC Hydro elected not to enter a transaction based on the 2016 Sale Notice:

- **BC Hydro was confident that, if it rejected the 2016 Sale Notice, no third-party would be willing to pay a price that was the same, or higher, than the price that Teck had proposed in the 2016 Sale Notice; in order to sell the assets to a third-party for less than what they were offered to BC Hydro for, Teck would first have to go through another ROFO process and BC Hydro would again have an opportunity to acquire the assets at that lower price; and**

- **Without Teck first having a binding offer for the Waneta Assets from a third-party (either through a bilateral negotiation or a competitive bid process), it would have been more difficult for BC Hydro to demonstrate that the price for the assets represents a fair market value.**

20.0 Topic: June 2016 ROFO Sale Notice

Reference: Exhibit B-1, Appendix N, Waneta 2/3 Interest Business Case, p. 8, pdf p. 523; Exhibit B-1, Appendix G, Comparison of COA and COPOA, p. 15, pdf p. 319; Exhibit A-4, BCUC IR 27.1

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1.20.5 At the time that BC Hydro elected not to enter a transaction based on the June 2016 ROFO Sale Notice did BC Hydro expect that Teck would then complete the transaction with the third party in question?

RESPONSE:

Please refer to BC Hydro's response to BCSEA IR 1.20.3.

20.0 Topic: June 2016 ROFO Sale Notice

Reference: Exhibit B-1, Appendix N, Waneta 2/3 Interest Business Case, p. 8, pdf p. 523; Exhibit B-1, Appendix G, Comparison of COA and COPOA, p. 15, pdf p. 319; Exhibit A-4, BCUC IR 27.1

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1.20.6 What is BC Hydro understanding of why the transaction between Teck and a third party that led to the June 2016 ROFO Sale Notice was not completed?

RESPONSE:

BC Hydro does not believe there was any pending third-party transaction at the time of the 2016 Sale Notice.

Please refer to BC Hydro's response to BCSEA IR 1.20.3.

20.0 Topic: June 2016 ROFO Sale Notice

Reference: Exhibit B-1, Appendix N, Waneta 2/3 Interest Business Case, p. 8, pdf p. 523; Exhibit B-1, Appendix G, Comparison of COA and COPOA, p. 15, pdf p. 319; Exhibit A-4, BCUC IR 27.1

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1.20.7 Does BC Hydro consider that the non-completion of the transaction between Teck and a third party that led to the June 2016 ROFO Sale Notice that BC Hydro did not exercise diminishes the value of the June 2017 ROFO Sale Notice as an indicator of Teck's opportunity cost?

RESPONSE:

Please refer to BC Hydro's response to BCSEA IRs 1.20.6 and 1.20.3.

21.0 Topic: June 2016 ROFO Sale Notice

Reference: Exhibit B-1, Appendix N, Waneta 2/3 Interest Business Case, p. 8, pdf p. 523

BC Hydro states: "Following these initial discussions with BC Hydro Teck engaged a broader set of potential buyers, and has also modified the original offer structure provided under the ROFO." [Appendix N, p. 8, pdf p. 523]

1.21.1 Please clarify. Does "the original offer structure provided under the ROFO" refer to the June 2016 ROFO? Does the quoted sentence mean that after BC Hydro elected not to enter a transaction based on the June 2016 ROFO, and Teck and the third party did not close the underlying transaction, Teck modified the transaction structure and then discussed a modified transaction structure with other potential buyers?

RESPONSE:

The "original offer structure" refers to the 2016 Sale Notice. This structure was modified at one or more points during Teck's sales process following the 2016 Sale Notice, resulting in the Fortis Transaction and associated ROFO.

Please also refer to BC Hydro's response to BCSEA IR 1.20.6.

21.0 Topic: June 2016 ROFO Sale Notice

Reference: Exhibit B-1, Appendix N, Waneta 2/3 Interest Business Case, p. 8, pdf p. 523

BC Hydro states: "Following these initial discussions with BC Hydro Teck engaged a broader set of potential buyers, and has also modified the original offer structure provided under the ROFO." [Appendix N, p. 8, pdf p. 523]

1.21.2 Is the transaction structure that Teck discussed with other potential buyers the same as the transaction structure reflected in the 2017 ROFO Sale Notice?

RESPONSE:

BC Hydro was not party to Teck's discussions with other potential buyers and thus does not have sufficient information to answer this question.

21.0 Topic: June 2016 ROFO Sale Notice

Reference: Exhibit B-1, Appendix N, Waneta 2/3 Interest Business Case, p. 8, pdf p. 523

BC Hydro states: "Following these initial discussions with BC Hydro Teck engaged a broader set of potential buyers, and has also modified the original offer structure provided under the ROFO." [Appendix N, p. 8, pdf p. 523]

1.21.3 In what ways is the June 2017 ROFO transaction structure different than the June 2016 ROFO transaction structure?

RESPONSE:

Please refer to BC Hydro's response to BCUC IR 1.27.1.

22.0 Topic: June 2016 ROFO Sale Notice

Reference: Exhibit B-1, Appendix N, Waneta 2/3 Interest Business Case, p. 8, pdf p. 523

BC Hydro states: "BC Hydro did not directly participate in this sales process, but Teck requested that BC Hydro enter discussions with a third party regarding participation in an alternative transaction structure. Teck enabled the discussions between BC Hydro and this third party, which is Teck's right pursuant to legal agreements."

1.22.1 Why did BC Hydro not directly participate in the sales process when Teck engaged a broader set of potential buyers?

RESPONSE:

Please refer to BC Hydro's response to CEC IR 1.3.5.

22.0 Topic: June 2016 ROFO Sale Notice

Reference: Exhibit B-1, Appendix N, Waneta 2/3 Interest Business Case, p. 8, pdf p. 523

BC Hydro states: "BC Hydro did not directly participate in this sales process, but Teck requested that BC Hydro enter discussions with a third party regarding participation in an alternative transaction structure. Teck enabled the discussions between BC Hydro and this third party, which is Teck's right pursuant to legal agreements."

1.22.2 What is the alternative transaction structure that Teck requested that BC Hydro discuss with a third party?

RESPONSE:

The alternative transaction structure and counterparty that Teck requested that BC Hydro discuss with the Third-Party is outlined in the redacted section 3.1 of Appendix E to the Waneta 2017 Business Case.

Please refer to BC Hydro's letter of January 17, 2018 (Exhibit B-7) for a description of the information redacted in BC Hydro's previous submissions and the rationale for these redactions.

22.0 Topic: June 2016 ROFO Sale Notice

Reference: Exhibit B-1, Appendix N, Waneta 2/3 Interest Business Case, p. 8, pdf p. 523

BC Hydro states: "BC Hydro did not directly participate in this sales process, but Teck requested that BC Hydro enter discussions with a third party regarding participation in an alternative transaction structure. Teck enabled the discussions between BC Hydro and this third party, which is Teck's right pursuant to legal agreements."

1.22.2 What is the alternative transaction structure that Teck requested that BC Hydro discuss with a third party?

1.22.2.1 What was the third party?

RESPONSE:

Please refer to BC Hydro's response to BCSEA IRs 1.22.2, 1.25.1 and 1.25.2.

22.0 Topic: June 2016 ROFO Sale Notice

Reference: Exhibit B-1, Appendix N, Waneta 2/3 Interest Business Case, p. 8, pdf p. 523

BC Hydro states: "BC Hydro did not directly participate in this sales process, but Teck requested that BC Hydro enter discussions with a third party regarding participation in an alternative transaction structure. Teck enabled the discussions between BC Hydro and this third party, which is Teck's right pursuant to legal agreements."

1.22.2 What is the alternative transaction structure that Teck requested that BC Hydro discuss with a third party?

1.22.2.2 Was the third party Fortis Inc., or FortisBC Inc.?

RESPONSE:

It was neither Fortis Inc. nor FortisBC.

22.0 Topic: June 2016 ROFO Sale Notice

Reference: Exhibit B-1, Appendix N, Waneta 2/3 Interest Business Case, p. 8, pdf p. 523

BC Hydro states: "BC Hydro did not directly participate in this sales process, but Teck requested that BC Hydro enter discussions with a third party regarding participation in an alternative transaction structure. Teck enabled the discussions between BC Hydro and this third party, which is Teck's right pursuant to legal agreements."

1.22.4 In BC Hydro's view, why did Teck enable the discussions between BC Hydro and the third party?

RESPONSE:

BC Hydro cannot speculate as to Teck's rationale for enabling discussions between BC Hydro and the Third-Party.

23.0 Topic: June 2016 ROFO Sale Notice

Reference: Exhibit B-1, Appendix N, Waneta 2/3 Interest Business Case, p. 8, pdf p. 523

BC Hydro states: "Other potential buyers were interested in discussing a possible transaction with BC Hydro, but Teck did not enable discussions with these parties. BC Hydro worked with the third party on a transaction, but elected not to participate in a bid."

BC Hydro goes on to state: "Both the initial discussions with Teck and discussions with the third party were covered by a non-disclosure agreement ("NDA") between Teck and BC Hydro. Under this NDA BC Hydro was prevented from discussing the transaction with any entities other than those approved by Teck, and from publicly disclosing the existence of the discussions regarding the Waneta 2/3 Interest."

1.23.1 To BC Hydro's knowledge, did Teck have a Non-Disclosure Agreement with each of the parties with which Teck discussed the possible sale of Teck's 2/3 Interest in Waneta?

RESPONSE:

Please refer to BC Hydro's response to BCSEA IR 1.23.8.

23.0 Topic: June 2016 ROFO Sale Notice

Reference: Exhibit B-1, Appendix N, Waneta 2/3 Interest Business Case, p. 8, pdf p. 523

BC Hydro states: "Other potential buyers were interested in discussing a possible transaction with BC Hydro, but Teck did not enable discussions with these parties. BC Hydro worked with the third party on a transaction, but elected not to participate in a bid."

BC Hydro goes on to state: "Both the initial discussions with Teck and discussions with the third party were covered by a non-disclosure agreement ("NDA") between Teck and BC Hydro. Under this NDA BC Hydro was prevented from discussing the transaction with any entities other than those approved by Teck, and from publicly disclosing the existence of the discussions regarding the Waneta 2/3 Interest."

1.23.2 Does this mean that Teck has a contractual right to prevent BC Hydro from discussing with a third party the possibility of a transaction to purchase Teck's interest in Waneta? If so, what contract is this? Is BC Hydro a party to this contract?

RESPONSE:

Please refer to BC Hydro's response to BCSEA IR 1.23.8.

23.0 Topic: June 2016 ROFO Sale Notice

Reference: Exhibit B-1, Appendix N, Waneta 2/3 Interest Business Case, p. 8, pdf p. 523

BC Hydro states: "Other potential buyers were interested in discussing a possible transaction with BC Hydro, but Teck did not enable discussions with these parties. BC Hydro worked with the third party on a transaction, but elected not to participate in a bid."

BC Hydro goes on to state: "Both the initial discussions with Teck and discussions with the third party were covered by a non-disclosure agreement ("NDA") between Teck and BC Hydro. Under this NDA BC Hydro was prevented from discussing the transaction with any entities other than those approved by Teck, and from publicly disclosing the existence of the discussions regarding the Waneta 2/3 Interest."

1.23.3 Please explain the rationale for BC Hydro being party to a contract in which Teck has the right to prevent BC Hydro from choosing a third party with which to discuss the possibility of a transaction involving the purchase of Teck's interest in Waneta.

RESPONSE:

Please refer to BC Hydro's response to BCSEA IR 1.23.8.

23.0 Topic: June 2016 ROFO Sale Notice

Reference: Exhibit B-1, Appendix N, Waneta 2/3 Interest Business Case, p. 8, pdf p. 523

BC Hydro states: "Other potential buyers were interested in discussing a possible transaction with BC Hydro, but Teck did not enable discussions with these parties. BC Hydro worked with the third party on a transaction, but elected not to participate in a bid."

BC Hydro goes on to state: "Both the initial discussions with Teck and discussions with the third party were covered by a non-disclosure agreement ("NDA") between Teck and BC Hydro. Under this NDA BC Hydro was prevented from discussing the transaction with any entities other than those approved by Teck, and from publicly disclosing the existence of the discussions regarding the Waneta 2/3 Interest."

1.23.4 Was BC Hydro required by contract to participate in discussions with the third party chosen by Teck?

RESPONSE:

No.

23.0 Topic: June 2016 ROFO Sale Notice

Reference: Exhibit B-1, Appendix N, Waneta 2/3 Interest Business Case, p. 8, pdf p. 523

BC Hydro states: "Other potential buyers were interested in discussing a possible transaction with BC Hydro, but Teck did not enable discussions with these parties. BC Hydro worked with the third party on a transaction, but elected not to participate in a bid."

BC Hydro goes on to state: "Both the initial discussions with Teck and discussions with the third party were covered by a non-disclosure agreement ("NDA") between Teck and BC Hydro. Under this NDA BC Hydro was prevented from discussing the transaction with any entities other than those approved by Teck, and from publicly disclosing the existence of the discussions regarding the Waneta 2/3 Interest."

1.23.5 Did the third party with which BC Hydro had discussions at the request of Teck go on to make a proposal to Teck after BC Hydro elected not to participate in a bid with the third party?

RESPONSE:

Please refer to BC Hydro's response to BCSEA IR 1.23.8.

23.0 Topic: June 2016 ROFO Sale Notice

Reference: Exhibit B-1, Appendix N, Waneta 2/3 Interest Business Case, p. 8, pdf p. 523

BC Hydro states: "Other potential buyers were interested in discussing a possible transaction with BC Hydro, but Teck did not enable discussions with these parties. BC Hydro worked with the third party on a transaction, but elected not to participate in a bid."

BC Hydro goes on to state: "Both the initial discussions with Teck and discussions with the third party were covered by a non-disclosure agreement ("NDA") between Teck and BC Hydro. Under this NDA BC Hydro was prevented from discussing the transaction with any entities other than those approved by Teck, and from publicly disclosing the existence of the discussions regarding the Waneta 2/3 Interest."

1.23.6 If the Waneta 2017 Transaction does not complete, for example due to the Commission's decision in this proceeding, will BC Hydro, on a going forward basis, be barred from discussing with a third party the possibility of a transaction involving the purchase of Teck's 2/3 Interest in Waneta? If so, by what provision of what agreement?

RESPONSE:

Please refer to BC Hydro's response to BCSEA IR 1.23.8.

23.0 Topic: June 2016 ROFO Sale Notice

Reference: Exhibit B-1, Appendix N, Waneta 2/3 Interest Business Case, p. 8, pdf p. 523

BC Hydro states: "Other potential buyers were interested in discussing a possible transaction with BC Hydro, but Teck did not enable discussions with these parties. BC Hydro worked with the third party on a transaction, but elected not to participate in a bid."

BC Hydro goes on to state: "Both the initial discussions with Teck and discussions with the third party were covered by a non-disclosure agreement ("NDA") between Teck and BC Hydro. Under this NDA BC Hydro was prevented from discussing the transaction with any entities other than those approved by Teck, and from publicly disclosing the existence of the discussions regarding the Waneta 2/3 Interest."

1.23.7 Is this NDA between Teck and BC Hydro the source of Teck's right to limit BC Hydro's discussions with third parties about transactions involving the purchase of Teck's 2/3 Interest in Waneta?

RESPONSE:

Please refer to BC Hydro's response to BCSEA IR 1.23.8.

23.0 Topic: June 2016 ROFO Sale Notice

Reference: Exhibit B-1, Appendix N, Waneta 2/3 Interest Business Case, p. 8, pdf p. 523

BC Hydro states: "Other potential buyers were interested in discussing a possible transaction with BC Hydro, but Teck did not enable discussions with these parties. BC Hydro worked with the third party on a transaction, but elected not to participate in a bid."

BC Hydro goes on to state: "Both the initial discussions with Teck and discussions with the third party were covered by a non-disclosure agreement ("NDA") between Teck and BC Hydro. Under this NDA BC Hydro was prevented from discussing the transaction with any entities other than those approved by Teck, and from publicly disclosing the existence of the discussions regarding the Waneta 2/3 Interest."

1.23.8 Please describe more fully the non-disclosure agreement between Teck and BC Hydro. Was this NDA included in an existing agreement between Teck and BC Hydro, such as the Canal Plant Agreement or the Co-owners and Operating Agreement?

1.23.8.1 Is this NDA still in effect? When and why did it, or will it, end?

RESPONSE:

This Teck NDA is still in effect and will remain in effect for the term of the COPOA.

23.0 Topic: June 2016 ROFO Sale Notice

Reference: Exhibit B-1, Appendix N, Waneta 2/3 Interest Business Case, p. 8, pdf p. 523

BC Hydro states: "Other potential buyers were interested in discussing a possible transaction with BC Hydro, but Teck did not enable discussions with these parties. BC Hydro worked with the third party on a transaction, but elected not to participate in a bid."

BC Hydro goes on to state: "Both the initial discussions with Teck and discussions with the third party were covered by a non-disclosure agreement ("NDA") between Teck and BC Hydro. Under this NDA BC Hydro was prevented from discussing the transaction with any entities other than those approved by Teck, and from publicly disclosing the existence of the discussions regarding the Waneta 2/3 Interest."

1.23.9 Regarding the initial discussions between BC Hydro and Teck, confirm, or otherwise explain, that the effect of the NDA was that neither BC Hydro nor Teck was allowed to disclose the existence or content of the discussions to third parties.

RESPONSE:

Please refer to BC Hydro's response to BCSEA IR 1.23.8.

23.0 Topic: June 2016 ROFO Sale Notice

Reference: Exhibit B-1, Appendix N, Waneta 2/3 Interest Business Case, p. 8, pdf p. 523

BC Hydro states: "Other potential buyers were interested in discussing a possible transaction with BC Hydro, but Teck did not enable discussions with these parties. BC Hydro worked with the third party on a transaction, but elected not to participate in a bid."

BC Hydro goes on to state: "Both the initial discussions with Teck and discussions with the third party were covered by a non-disclosure agreement ("NDA") between Teck and BC Hydro. Under this NDA BC Hydro was prevented from discussing the transaction with any entities other than those approved by Teck, and from publicly disclosing the existence of the discussions regarding the Waneta 2/3 Interest."

1.23.10 Regarding the discussions between BC Hydro and the third party approved by Teck, was the effect of the NDA that neither BC Hydro nor Teck was allowed to disclose the existence or content of the discussions between BC Hydro and the third party?

RESPONSE:

Please refer to BC Hydro's response to BCSEA IR 1.23.8.

23.0 Topic: June 2016 ROFO Sale Notice

Reference: Exhibit B-1, Appendix N, Waneta 2/3 Interest Business Case, p. 8, pdf p. 523

BC Hydro states: "Other potential buyers were interested in discussing a possible transaction with BC Hydro, but Teck did not enable discussions with these parties. BC Hydro worked with the third party on a transaction, but elected not to participate in a bid."

BC Hydro goes on to state: "Both the initial discussions with Teck and discussions with the third party were covered by a non-disclosure agreement ("NDA") between Teck and BC Hydro. Under this NDA BC Hydro was prevented from discussing the transaction with any entities other than those approved by Teck, and from publicly disclosing the existence of the discussions regarding the Waneta 2/3 Interest."

1.23.10 Regarding the discussions between BC Hydro and the third party approved by Teck, was the effect of the NDA that neither BC Hydro nor Teck was allowed to disclose the existence or content of the discussions between BC Hydro and the third party?

1.23.10.1 Was the third party also bound by this or a similar NDA?

RESPONSE:

Please refer to BC Hydro's response to BCSEA IR 1.23.8.

23.0 Topic: June 2016 ROFO Sale Notice

Reference: Exhibit B-1, Appendix N, Waneta 2/3 Interest Business Case, p. 8, pdf p. 523

BC Hydro states: "Other potential buyers were interested in discussing a possible transaction with BC Hydro, but Teck did not enable discussions with these parties. BC Hydro worked with the third party on a transaction, but elected not to participate in a bid."

BC Hydro goes on to state: "Both the initial discussions with Teck and discussions with the third party were covered by a non-disclosure agreement ("NDA") between Teck and BC Hydro. Under this NDA BC Hydro was prevented from discussing the transaction with any entities other than those approved by Teck, and from publicly disclosing the existence of the discussions regarding the Waneta 2/3 Interest."

1.23.10 Regarding the discussions between BC Hydro and the third party approved by Teck, was the effect of the NDA that neither BC Hydro nor Teck was allowed to disclose the existence or content of the discussions between BC Hydro and the third party?

1.23.10.2 Was Teck privy to the content of the discussions between BC Hydro and the third party?

RESPONSE:

Please refer to BC Hydro's response to BCSEA IR 1.23.8.

23.0 Topic: June 2016 ROFO Sale Notice

Reference: Exhibit B-1, Appendix N, Waneta 2/3 Interest Business Case, p. 8, pdf p. 523

BC Hydro states: "Other potential buyers were interested in discussing a possible transaction with BC Hydro, but Teck did not enable discussions with these parties. BC Hydro worked with the third party on a transaction, but elected not to participate in a bid."

BC Hydro goes on to state: "Both the initial discussions with Teck and discussions with the third party were covered by a non-disclosure agreement ("NDA") between Teck and BC Hydro. Under this NDA BC Hydro was prevented from discussing the transaction with any entities other than those approved by Teck, and from publicly disclosing the existence of the discussions regarding the Waneta 2/3 Interest."

1.23.11 Did the NDA provisions that Teck invoked prevent BC Hydro from discussing with its shareholder (the B.C. government) the existence or content of BC Hydro's discussions with Teck and with the third party approved by Teck?

RESPONSE:

No.

23.0 Topic: June 2016 ROFO Sale Notice

Reference: Exhibit B-1, Appendix N, Waneta 2/3 Interest Business Case, p. 8, pdf p. 523

BC Hydro states: "Other potential buyers were interested in discussing a possible transaction with BC Hydro, but Teck did not enable discussions with these parties. BC Hydro worked with the third party on a transaction, but elected not to participate in a bid."

BC Hydro goes on to state: "Both the initial discussions with Teck and discussions with the third party were covered by a non-disclosure agreement ("NDA") between Teck and BC Hydro. Under this NDA BC Hydro was prevented from discussing the transaction with any entities other than those approved by Teck, and from publicly disclosing the existence of the discussions regarding the Waneta 2/3 Interest."

1.23.11 Did the NDA provisions that Teck invoked prevent BC Hydro from discussing with its shareholder (the B.C. government) the existence or content of BC Hydro's discussions with Teck and with the third party approved by Teck?

1.23.11.1 Did BC Hydro discuss with the B.C. government the existence and content of BC Hydro's discussions with Teck, and with the third party, about the possible purchase of Teck's interest in Waneta?

RESPONSE:

Please refer to BC Hydro's response to BCSEA IR 1.40.2.

23.0 Topic: June 2016 ROFO Sale Notice

Reference: Exhibit B-1, Appendix N, Waneta 2/3 Interest Business Case, p. 8, pdf p. 523

BC Hydro states: "Other potential buyers were interested in discussing a possible transaction with BC Hydro, but Teck did not enable discussions with these parties. BC Hydro worked with the third party on a transaction, but elected not to participate in a bid."

BC Hydro goes on to state: "Both the initial discussions with Teck and discussions with the third party were covered by a non-disclosure agreement ("NDA") between Teck and BC Hydro. Under this NDA BC Hydro was prevented from discussing the transaction with any entities other than those approved by Teck, and from publicly disclosing the existence of the discussions regarding the Waneta 2/3 Interest."

1.23.12 To BC Hydro's knowledge, was the Columbia Basin Trust one of the entities that Teck invited to make a bid for purchase of Teck's interest in Waneta?

RESPONSE:

BC Hydro has no knowledge of whether Columbia Basin Trust was one of the entities that Teck invited to make a bid for the purchase of Teck's interest in Waneta.

23.0 Topic: June 2016 ROFO Sale Notice

Reference: Exhibit B-1, Appendix N, Waneta 2/3 Interest Business Case, p. 8, pdf p. 523

BC Hydro states: "Other potential buyers were interested in discussing a possible transaction with BC Hydro, but Teck did not enable discussions with these parties. BC Hydro worked with the third party on a transaction, but elected not to participate in a bid."

BC Hydro goes on to state: "Both the initial discussions with Teck and discussions with the third party were covered by a non-disclosure agreement ("NDA") between Teck and BC Hydro. Under this NDA BC Hydro was prevented from discussing the transaction with any entities other than those approved by Teck, and from publicly disclosing the existence of the discussions regarding the Waneta 2/3 Interest."

1.23.13 What is the relationship between BC Hydro and the Columbia Basin Trust as it affects any potential transaction involving the purchase of Teck's interest in Waneta? Are BC Hydro and Columbia Basin Trust at arm's length?

RESPONSE:

There is no relationship between BC Hydro and Columbia Basin Trust as it affects BC Hydro's interest in the Waneta 2017 Transaction. Moreover BC Hydro and Columbia Basin Trust are at arm's length.

23.0 Topic: June 2016 ROFO Sale Notice

Reference: Exhibit B-1, Appendix N, Waneta 2/3 Interest Business Case, p. 8, pdf p. 523

BC Hydro states: "Other potential buyers were interested in discussing a possible transaction with BC Hydro, but Teck did not enable discussions with these parties. BC Hydro worked with the third party on a transaction, but elected not to participate in a bid."

BC Hydro goes on to state: "Both the initial discussions with Teck and discussions with the third party were covered by a non-disclosure agreement ("NDA") between Teck and BC Hydro. Under this NDA BC Hydro was prevented from discussing the transaction with any entities other than those approved by Teck, and from publicly disclosing the existence of the discussions regarding the Waneta 2/3 Interest."

1.23.14 With what other entities, if any, did Teck allow BC Hydro to discuss the transaction?

RESPONSE:

Teck did not allow BC Hydro to discuss a transaction as part of Teck's sales process with any entities other than the third-party. Please also refer to BC Hydro's response to BCSEA IR 1.23.8 with regard to the effect of the COA and the Teck NDA on discussion between BC Hydro and third-parties.

23.0 Topic: June 2016 ROFO Sale Notice

Reference: Exhibit B-1, Appendix N, Waneta 2/3 Interest Business Case, p. 8, pdf p. 523

BC Hydro states: "Other potential buyers were interested in discussing a possible transaction with BC Hydro, but Teck did not enable discussions with these parties. BC Hydro worked with the third party on a transaction, but elected not to participate in a bid."

BC Hydro goes on to state: "Both the initial discussions with Teck and discussions with the third party were covered by a non-disclosure agreement ("NDA") between Teck and BC Hydro. Under this NDA BC Hydro was prevented from discussing the transaction with any entities other than those approved by Teck, and from publicly disclosing the existence of the discussions regarding the Waneta 2/3 Interest."

1.23.15 To BC Hydro's knowledge, what non-disclosure terms were applicable to the other entities that Teck invited to make bids or proposals for purchase of Teck's Waneta interest?

RESPONSE:

BC Hydro had no knowledge of the non-disclosure terms applicable to the entities that Teck invited to make bids; however, BC Hydro confirmed with Teck that it had granted permission for the Third-Party to have discussions with BC Hydro.

23.0 Topic: June 2016 ROFO Sale Notice

Reference: Exhibit B-1, Appendix N, Waneta 2/3 Interest Business Case, p. 8, pdf p. 523

BC Hydro states: "Other potential buyers were interested in discussing a possible transaction with BC Hydro, but Teck did not enable discussions with these parties. BC Hydro worked with the third party on a transaction, but elected not to participate in a bid."

BC Hydro goes on to state: "Both the initial discussions with Teck and discussions with the third party were covered by a non-disclosure agreement ("NDA") between Teck and BC Hydro. Under this NDA BC Hydro was prevented from discussing the transaction with any entities other than those approved by Teck, and from publicly disclosing the existence of the discussions regarding the Waneta 2/3 Interest."

1.23.15 To BC Hydro's knowledge, what non-disclosure terms were applicable to the other entities that Teck invited to make bids or proposals for purchase of Teck's Waneta interest?

1.23.15.1 Without limitation, did Teck allow the other entities to discuss among themselves the possibility of joint bids?

RESPONSE:

BC Hydro does not know whether Teck allowed other entities to discuss amongst themselves the possibility of joint bids.

23.0 Topic: June 2016 ROFO Sale Notice

Reference: Exhibit B-1, Appendix N, Waneta 2/3 Interest Business Case, p. 8, pdf p. 523

BC Hydro states: "Other potential buyers were interested in discussing a possible transaction with BC Hydro, but Teck did not enable discussions with these parties. BC Hydro worked with the third party on a transaction, but elected not to participate in a bid."

BC Hydro goes on to state: "Both the initial discussions with Teck and discussions with the third party were covered by a non-disclosure agreement ("NDA") between Teck and BC Hydro. Under this NDA BC Hydro was prevented from discussing the transaction with any entities other than those approved by Teck, and from publicly disclosing the existence of the discussions regarding the Waneta 2/3 Interest."

1.23.16 Is BC Hydro confident that Teck's exercise of contractual rights to limit the entities with which BC Hydro was entitled to discuss the possible purchase of Teck's Waneta interest has not prejudiced BC Hydro's ability to obtain terms at fair market value?

RESPONSE:

Based on how the ROFO provisions of the COA are structured, BC Hydro is indeed confident that BC Hydro's ability to obtain terms at fair market value was not prejudiced by Teck limiting the number of entities with which BC Hydro was entitled to discuss the possible purchase of Teck's interest in Waneta.

Specifically, the Sale Notice provided to BC Hydro by Teck included a transaction with Fortis Inc. for the purchase of Teck's Waneta assets that would have been binding on Teck and Fortis Inc. had BC Hydro elected not to exercise its ROFO.

24.0 Topic: No-Go Scenario

Reference: Exhibit B-1, Appendix N, pdf p. 515

BC Hydro states: "This business case compares the costs and benefits of BC Hydro completing the Transaction to the costs and benefits of declining participation in the Transaction (the "No-Go Scenario"). [Exhibit B-1, pdf p. 524]

1.24.1 Please describe in more detail the "No-Go Scenario" analyzed in the Business Case.

RESPONSE:

The no-go scenario represents a case where BC Hydro does not purchase the Waneta Assets and they are instead purchased by another entity. The identity of the alternate purchaser is not explicitly assumed – it could be Fortis Inc. or another entity.

It is assumed that the structure of this alternate transaction is reasonably similar to the Waneta 2017 Transaction other than the identity of the purchaser.

24.0 Topic: No-Go Scenario

Reference: Exhibit B-1, Appendix N, pdf p. 515

BC Hydro states: "This business case compares the costs and benefits of BC Hydro completing the Transaction to the costs and benefits of declining participation in the Transaction (the "No-Go Scenario"). [Exhibit B-1, pdf p. 524]

1.24.1 Please describe in more detail the "No-Go Scenario" analyzed in the Business Case.

1.24.1.1 Is the No-Go Scenario analyzed in the Business Case a scenario in which (a) BC Hydro does not issue the Reply Notice, (b) a scenario in which BC Hydro does not issue the Reply Notice and the Fortis Transaction <u>does</u> complete, or (c) a scenario in which BC Hydro does not issue the Reply Notice and the Fortis Transaction does <u>not</u> complete?

RESPONSE:

Please refer to BC Hydro's response to BCSEA IR 1.24.1.

24.0 Topic: No-Go Scenario

Reference: Exhibit B-1, Appendix N, pdf p. 515

BC Hydro states: "This business case compares the costs and benefits of BC Hydro completing the Transaction to the costs and benefits of declining participation in the Transaction (the "No-Go Scenario"). [Exhibit B-1, pdf p. 524]

1.24.2 Please confirm, or otherwise explain, that the Business Case did not evaluate a scenario in which BC Hydro issues the Reply Notice, the Fortis Transaction is terminated, and the Waneta 2017 Transaction is not completed.

RESPONSE:

A scenario in which no transaction occurs is the underlying base case to all analysis. Please refer to BC Hydro's response to BCOAPO IR 1.12.1.

24.0 Topic: No-Go Scenario

Reference: Exhibit B-1, Appendix N, pdf p. 515

BC Hydro states: "This business case compares the costs and benefits of BC Hydro completing the Transaction to the costs and benefits of declining participation in the Transaction (the "No-Go Scenario"). [Exhibit B-1, pdf p. 524]

1.24.3 Are the results of the Business Case affected by the assumption that the No-Go Scenario involves completion of the Fortis Transaction (if there was such an assumption)? Would the results of the Business Case be any different if the counterfactual scenario was that there is no sale of the 2/3 Interest at the present time?

RESPONSE:

As stated on page 39 of Appendix N to the Application:

> **"The role of Fortis Inc. as the purchaser of the 2/3 Interest in the case where BC Hydro does not execute its ROFO rights may affect the probabilities of the [no-go scenarios]."**

As stated in BC Hydro's response to BCSEA IR 1.24.2, the Waneta 2017 Business Case includes the scenario with no sale of the two-thirds interest in Waneta as an underlying base case.

25.0 Topic: Alternative Transaction Structures

Reference: Exhibit B-1, Appendix N, p. 9, pdf p. 524

BC Hydro states: "As part of the analysis process BC Hydro also considered the potential for alternative transaction structures including direct discussions with two counterparties. As these structures have not been practically available options for BC Hydro during the consideration timeframe of the ROFO they have not been included as part of the base analysis in this business case. The analysis of these alternative structures is included in Appendix E."

1.25.1 For greater certainty, confirm that BC Hydro did not have discussions, with two counterparties or otherwise, regarding alternative transaction structures as part of or in parallel with the analysis process that BC Hydro engaged upon after receiving the June 2017 Sale Notice.

RESPONSE:

Not confirmed. After receipt of the Sale Notice BC Hydro did have discussions with the Third-Party that it previously spoke to and an additional third-party approached BC Hydro (with Teck's consent). These discussions were very preliminary and high level. In the limited time available to issue the Reply Notice BC Hydro determined there was no incremental ratepayer value in continuing discussions and they were terminated shortly thereafter.

25.0 Topic: Alternative Transaction Structures

Reference: Exhibit B-1, Appendix N, p. 9, pdf p. 524

BC Hydro states: "As part of the analysis process BC Hydro also considered the potential for alternative transaction structures including direct discussions with two counterparties. As these structures have not been practically available options for BC Hydro during the consideration timeframe of the ROFO they have not been included as part of the base analysis in this business case. The analysis of these alternative structures is included in Appendix E."

1.25.2 What are the names of the two counterparties that BC Hydro would have direct discussion with in the event BC Hydro had carried out such discussions?

RESPONSE:

This information cannot be provided as it is confidential information as defined in the NDAs that exists between each of those parties and BC Hydro.

BC Hydro has not sought the consent at those parties to provide their identities on the record at this proceeding, BC Hydro is reasonably confident that they would not consent, and quite confident that such information is not relevant to the issues before the Commission that arise from the Application.

25.0 Topic: Alternative Transaction Structures

Reference: Exhibit B-1, Appendix N, p. 9, pdf p. 524

BC Hydro states: "As part of the analysis process BC Hydro also considered the potential for alternative transaction structures including direct discussions with two counterparties. As these structures have not been practically available options for BC Hydro during the consideration timeframe of the ROFO they have not been included as part of the base analysis in this business case. The analysis of these alternative structures is included in Appendix E."

1.25.2 What are the names of the two counterparties that BC Hydro would have direct discussion with in the event BC Hydro had carried out such discussions?

1.25.2.1 Are the two counterparties that BC Hydro would have direct discussion with in the event BC Hydro had carried out such discussions Fortis Inc. or FortisBC Inc.?

RESPONSE:

Neither FortisBC nor Fortis Inc. were the counterparties referenced above.

25.0 Topic: Alternative Transaction Structures

Reference: Exhibit B-1, Appendix N, p. 9, pdf p. 524

BC Hydro states: "As part of the analysis process BC Hydro also considered the potential for alternative transaction structures including direct discussions with two counterparties. As these structures have not been practically available options for BC Hydro during the consideration timeframe of the ROFO they have not been included as part of the base analysis in this business case. The analysis of these alternative structures is included in Appendix E."

1.25.3 Did BC Hydro conduct a business case analysis of the June 2016 Sale Notice similar to the business case analysis that resulted in the report filed as Appendix N? If so, please file it. If not, why not?

RESPONSE:

Disclosure of the 2016 Sale Notice and its substantive terms are subject to the confidentiality agreement between BC Hydro and Teck. Teck has not waived the restriction on disclosure of the 2016 Sale Notice or its terms in response to this request on the basis that disclosure of the 2016 Sale Notice or its substantive terms would commercially disadvantage Teck in the event that the Waneta 2017 Transaction does not proceed for any reason and Teck sought to sell the Waneta assets in a subsequent process. Providing BC Hydro's analysis of the 2016 Sale Notice would require disclosure of the material terms. Nevertheless BC Hydro offers the following response. Please also refer to BC Hydro's response to BCSEA IR 1.23.8.

BC Hydro conducted analysis of the 2016 Sale Notice that was generally similar in methodology to the Waneta 2017 Business Case. However, no formal business case document similar to the Waneta 2017 Business Case was prepared.

While the overall methodology was similar in the use of discounted cash flow analysis, the 2016 Sales Notice envisioned a different type of transaction. The associated revenues, costs and risks associated with the 2016 Sales Notice were different than those contemplated in the Waneta 2017 Business Case.

Please also refer to BC Hydro's response to BCSEA IR 1.20.4 for an explanation of BC Hydro's qualitative assessment of the merits of entering into a transaction based on the 2016 Sale Notice.

26.0 Topic: Break Fees

Reference: Exhibit C1-3, p. 2; Exhibit B-1, Appendix Q, pdf p. 627

As noted above, FBC says that as the result of the termination of the Fortis Agreement due to BC Hydro's exercise of the ROFO Teck is obligated to pay Fortis a break fee of approximately $28,000,000.

Similarly, Teck states in its August 1, 2017 media release that ""Under the Waneta purchase agreement with Fortis, Teck expects to pay Fortis a break fee of approximately $28 million."

1.26.1 Please confirm, or otherwise explain, that the $28-million break fee from Teck to Fortis Inc. under the Fortis Transaction is not reimbursed in any way by BC Hydro under the Waneta 2017 Transaction.

RESPONSE:

Confirmed.

26.0 Topic: Break Fees

Reference: Exhibit C1-3, p. 2; Exhibit B-1, Appendix Q, pdf p. 627

As noted above, FBC says that as the result of the termination of the Fortis Agreement due to BC Hydro's exercise of the ROFO Teck is obligated to pay Fortis a break fee of approximately $28,000,000.

Similarly, Teck states in its August 1, 2017 media release that ""Under the Waneta purchase agreement with Fortis, Teck expects to pay Fortis a break fee of approximately $28 million."

1.26.2 Is there a break fee in the Waneta 2017 Transaction? If so, of what size? Would it be triggered by Commission rejection of approval of BC Hydro's participation in the Transaction? Would such a break fee be to the account of BC Hydro and its ratepayers, or would that remain to be determined?

RESPONSE:

There is no break fee in the Waneta 2017 Transaction.

27.0 Topic: Consequences of Denial of Approval

Reference: General; Exhibit B-1, Appendix E, Waneta Purchase Agreement, section 6.3(a) and 6.2(c), pages 37 and 35, pdf pages 194 and 192

The Waneta Purchase Agreement states in section 6.3(a):

6.3 Actions to Satisfy Closing Condition

(a) Each of the Vendor and Covenantor shall take all such actions, steps and proceedings as are reasonably within its control as may be necessary to ensure that all of the conditions set forth in Section 6.2 are fulfilled at or before the time specified in such Section.

The Waneta Purchase Agreement states in section 6.2(c):

6.2 Conditions for the Benefit of the Vendor and Covenantor. The obligation of the Vendor and Covenantor to complete the purchase and sale of the Purchased Interest as described herein is subject to the following conditions to be fulfilled or performed, to the reasonable satisfaction of the Vendor, on or before the date specified, or if no date is specified prior to or contemporaneous with the Closing, which conditions are for the exclusive benefit of the Vendor and Covenantor and may be waived, in whole or in part, by the Vendor in its sole discretion: ...

(c) Regulatory Approvals. The Regulatory Approvals shall have been obtained and remain in effect (whether or not any directives, orders, judgments or decrees have been granted in connection with any appeal or review of the Regulatory Approvals).

1.27.1 Please confirm, or otherwise explain, that BC Hydro is required by the terms of the Waneta Purchase Agreement to “take all such actions, steps and proceedings as are reasonably within its control as may be necessary” to obtain Commission approval of the Waneta 2017 Transaction.

RESPONSE:

Please refer to BC Hydro’s response to BCSEA IR 1.14.3.

27.0 Topic: Consequences of Denial of Approval

Reference: General; Exhibit B-1, Appendix E, Waneta Purchase Agreement, section 6.3(a) and 6.2(c), pages 37 and 35, pdf pages 194 and 192

The Waneta Purchase Agreement states in section 6.3(a):

6.3 Actions to Satisfy Closing Condition

(a) Each of the Vendor and Covenantor shall take all such actions, steps and proceedings as are reasonably within its control as may be necessary to ensure that all of the conditions set forth in Section 6.2 are fulfilled at or before the time specified in such Section.

The Waneta Purchase Agreement states in section 6.2(c):

6.2 Conditions for the Benefit of the Vendor and Covenantor. The obligation of the Vendor and Covenantor to complete the purchase and sale of the Purchased Interest as described herein is subject to the following conditions to be fulfilled or performed, to the reasonable satisfaction of the Vendor, on or before the date specified, or if no date is specified prior to or contemporaneous with the Closing, which conditions are for the exclusive benefit of the Vendor and Covenantor and may be waived, in whole or in part, by the Vendor in its sole discretion: ...

(c) Regulatory Approvals. The Regulatory Approvals shall have been obtained and remain in effect (whether or not any directives, orders, judgments or decrees have been granted in connection with any appeal or review of the Regulatory Approvals).

1.27.2 If, through no fault of BC Hydro, the Commission declines to approve BC Hydro's participation in the Waneta 2017 Transaction is BC Hydro exposed to a claim from Teck? Or from Fortis Inc.? If so:

RESPONSE:

No.

27.0 Topic: Consequences of Denial of Approval

Reference: General; Exhibit B-1, Appendix E, Waneta Purchase Agreement, section 6.3(a) and 6.2(c), pages 37 and 35, pdf pages 194 and 192

The Waneta Purchase Agreement states in section 6.3(a):

6.3 Actions to Satisfy Closing Condition

(a) Each of the Vendor and Covenantor shall take all such actions, steps and proceedings as are reasonably within its control as may be necessary to ensure that all of the conditions set forth in Section 6.2 are fulfilled at or before the time specified in such Section.

The Waneta Purchase Agreement states in section 6.2(c):

6.2 Conditions for the Benefit of the Vendor and Covenantor. The obligation of the Vendor and Covenantor to complete the purchase and sale of the Purchased Interest as described herein is subject to the following conditions to be fulfilled or performed, to the reasonable satisfaction of the Vendor, on or before the date specified, or if no date is specified prior to or contemporaneous with the Closing, which conditions are for the exclusive benefit of the Vendor and Covenantor and may be waived, in whole or in part, by the Vendor in its sole discretion: ...

(c) Regulatory Approvals. The Regulatory Approvals shall have been obtained and remain in effect (whether or not any directives, orders, judgments or decrees have been granted in connection with any appeal or review of the Regulatory Approvals).

1.27.2 If, through no fault of BC Hydro, the Commission declines to approve BC Hydro's participation in the Waneta 2017 Transaction is BC Hydro exposed to a claim from Teck? Or from Fortis Inc.? If so:

1.27.2.1 Please explain the nature of the exposure and comment in general terms on its materiality.

RESPONSE:

Please refer to BC Hydro's response to BCSEA IR 1.27.2.

27.0 Topic: Consequences of Denial of Approval

Reference: General; Exhibit B-1, Appendix E, Waneta Purchase Agreement, section 6.3(a) and 6.2(c), pages 37 and 35, pdf pages 194 and 192

The Waneta Purchase Agreement states in section 6.3(a):

6.3 Actions to Satisfy Closing Condition

(a) Each of the Vendor and Covenantor shall take all such actions, steps and proceedings as are reasonably within its control as may be necessary to ensure that all of the conditions set forth in Section 6.2 are fulfilled at or before the time specified in such Section.

The Waneta Purchase Agreement states in section 6.2(c):

6.2 Conditions for the Benefit of the Vendor and Covenantor. The obligation of the Vendor and Covenantor to complete the purchase and sale of the Purchased Interest as described herein is subject to the following conditions to be fulfilled or performed, to the reasonable satisfaction of the Vendor, on or before the date specified, or if no date is specified prior to or contemporaneous with the Closing, which conditions are for the exclusive benefit of the Vendor and Covenantor and may be waived, in whole or in part, by the Vendor in its sole discretion: ...

(c) Regulatory Approvals. The Regulatory Approvals shall have been obtained and remain in effect (whether or not any directives, orders, judgments or decrees have been granted in connection with any appeal or review of the Regulatory Approvals).

1.27.2 If, through no fault of BC Hydro, the Commission declines to approve BC Hydro's participation in the Waneta 2017 Transaction is BC Hydro exposed to a claim from Teck? Or from Fortis Inc.? If so:

1.27.2.2 In BC Hydro's view, is this a factor the Commission should take into account in determining whether to approved BC Hydro's participation in the Waneta 2017 Transaction? If so, explain how the Commission should do so. If not, why not?

RESPONSE:

Please refer to BC Hydro's response to BCSEA IR 1.27.2.

28.0 Topic: Portfolio Analysis

Reference: Exhibit B-1, Appendix N, section 4 Assessment of Transaction Option Cost-Effectiveness, p. 22, pdf p. 537

The Business Case uses an adjusted unit energy cost methodology, an NPV methodology, and a ratepayer impact analysis.

1.28.1 Did BC Hydro conduct a portfolio analysis of the Waneta 2017 Transaction and the No-Go option?

RESPONSE:

BC Hydro's portfolio analysis involves the use of the System Optimizer modelling tools to analyze potential long-term resource options. BC Hydro did not conduct a separate portfolio analysis of the Waneta 2017 Transaction and the no-go scenarios. As discussed on page 4-1 of the Application, there are several reasons for not conducting portfolio analysis:

- **The majority of the Waneta 2017 Transaction value is provided by the Lease, during which there is no impact on BC Hydro's LRB requiring portfolio analysis;**
- **The analysis of the Waneta 2017 Transaction appropriately considered factors not normally included in BC Hydro's planning environment and for which BC Hydro's portfolio analysis tools are not set up to evaluate, such as:**
  - **The assessment of the value of the Lease;**
  - **The assessment of Teck default risk; and**
  - **The assessment of Teck's Lease extension option.**

Note that, as stated on page 16 of the Waneta 2017 Business Case, for consistency with BC Hydro portfolio analysis the NPV and ratepayer impact analysis utilize key components of portfolio analysis as used in BC Hydro's Energy Planning processes.

28.0 Topic: Portfolio Analysis

Reference: Exhibit B-1, Appendix N, section 4 Assessment of Transaction Option Cost-Effectiveness, p. 22, pdf p. 537

The Business Case uses an adjusted unit energy cost methodology, an NPV methodology, and a ratepayer impact analysis.

1.28.1 Did BC Hydro conduct a portfolio analysis of the Waneta 2017 Transaction and the No-Go option?

1.28.1.1 If so, please provide the results.

RESPONSE:

Please refer to BC Hydro's response to BCSEA IR 1.28.1.

28.0 Topic: Portfolio Analysis

Reference: Exhibit B-1, Appendix N, section 4 Assessment of Transaction Option Cost-Effectiveness, p. 22, pdf p. 537

The Business Case uses an adjusted unit energy cost methodology, an NPV methodology, and a ratepayer impact analysis.

1.28.1 Did BC Hydro conduct a portfolio analysis of the Waneta 2017 Transaction and the No-Go option?

1.28.1.2 If not, why not?

RESPONSE:

Please refer to BC Hydro's response to BCSEA IR 1.28.1.

28.0 Topic: Portfolio Analysis

Reference: Exhibit B-1, Appendix N, section 4 Assessment of Transaction Option Cost-Effectiveness, p. 22, pdf p. 537

The Business Case uses an adjusted unit energy cost methodology, an NPV methodology, and a ratepayer impact analysis.

1.28.1.2.1 Would a portfolio analysis be an effective way to compare scenarios in which the 2/3 Interest is, or is not, owned by BC Hydro, the smelter continues in operation, or is shut down,

RESPONSE:

Please refer to BC Hydro's response to BCSEA IR 1.28.1.

29.0 Topic: Unit Energy Costs

Reference: Exhibit B-1, Appendix N, section 4.2.1 Unit Energy Cost Assessment, p. 22, pdf p. 537

1.29.1 Please confirm, or otherwise explain, that what is referred to as "Unit Energy Cost" or "effective Unit Energy Cost" in this section could also be understood as a capacity-adjusted unit energy cost or a blended capacity and energy unit cost.

RESPONSE:

The Unit Energy Cost in section 4.2.1 of the Waneta 2017 Business Case is the cost per unit energy delivered. There is no adjustment for capacity amounts. Please refer to BC Hydro's response to BCUC IR 1.15.2 for the formulas used to calculate the UECs.

Given the Waneta 2017 Transaction provides capacity as well as energy, it is reasonable to characterize the UECs in section 4.2.1 of the Waneta 2017 Business Case as being for a combined energy and capacity product.

29.0 Topic: Unit Energy Costs

Reference: Exhibit B-1, Appendix N, section 4.2.1 Unit Energy Cost Assessment, p. 22, pdf p. 537

1.29.2 Please explain the rationale for creating an adjusted UEC on a $/MWh basis for the Lease Period during which BC Hydro receives no entitlement energy or capacity.

RESPONSE:

BC Hydro has not created an adjusted UEC for the Lease Period. BC Hydro has created UECs for the full evaluation period (years one to 40) and the post-Lease Period (years 21 to 40, assuming Teck does not extend the Lease Period).

29.0 Topic: Unit Energy Costs

Reference: Exhibit B-1, Appendix N, section 4.2.1 Unit Energy Cost Assessment, p. 22, pdf p. 537

1.29.3 Please explain the rationale for determining a cost of service figure in $/MWh for the post-Lease period in which the figure excludes financing and amortization costs.

RESPONSE:

The cost of service excluding financing and amortization costs represents the operations costs of the project, and is provided for illustrative purposes only. BC Hydro has provided a full cost of service including financing and amortization costs in section 2.5 of Appendix N.

29.0 Topic: **Unit Energy Costs**

Reference: **Exhibit B-1, Appendix N, section 4.2.1 Unit Energy Cost Assessment, p. 22, pdf p. 537**

1.29.4 Please confirm, or otherwise explain, that the statement "the output of the 2/3 Interest is effectively pledged to serve the smelter load under the Lease Agreement for the initial 20-30 years" is not intended to be an literal representation of the structure of the Transaction. That is, under the Waneta 2017 Transaction, the output of the 2/3 Interest is leased by Teck during the Lease Period; and from BC Hydro's perspective there is no generation output of the 2/3 Interest during the Lease Period.

RESPONSE:

Confirmed.

30.0 Topic: Unit Energy Costs

Reference: Exhibit B-1, Appendix N, section 4.2.1 Unit Energy Cost Assessment, p. 23, pdf p. 538, Table 4, Unit Energy Costs for Transaction

BC Hydro states on p. 23 (pdf p. 538):

"The value of this initial Lease Term is substantial, as can be seen by calculating the net present value of the lease revenues less the administration costs of the Lease Term:

- The net present value of a 20-year lease is $792 million

- The net present value of a 20-year lease with a 10-year extension is $1,118 million" [Exhibit B-1, Appendix N, p. 23, pdf p. 538]

1.30.1 Please explain the rationale for discussing "the net present value of the lease revenues less the administration costs of the Lease Term" in the context of explaining the determination of an adjusted UEC for the energy provided by the 2/3 Interest.

RESPONSE:

Please refer to BC Hydro's response to BCUC IRs 1.15.2 and 1.15.6.

30.0 Topic: Unit Energy Costs

Reference: Exhibit B-1, Appendix N, section 4.2.1 Unit Energy Cost Assessment, p. 23, pdf p. 538, Table 4, Unit Energy Costs for Transaction

BC Hydro states on p. 23 (pdf p. 538):

"The value of this initial Lease Term is substantial, as can be seen by calculating the net present value of the lease revenues less the administration costs of the Lease Term:

- The net present value of a 20-year lease is $792 million

- The net present value of a 20-year lease with a 10-year extension is $1,118 million" [Exhibit B-1, Appendix N, p. 23, pdf p. 538]

1.30.2 Please confirm, or otherwise explain, that "the net present value of the lease revenues less the administration costs of the Lease Term" does not take into account either the $1.2 billion purchase price or the cost of financing the purchase price.

RESPONSE:

Confirmed. The Lease provides net cash flows representing a NPV of $792 million for 20-year lease and $1,118 million for a 30-year lease. BC Hydro's assessment is that these figures represent substantial value.

The question of whether the substantial value provided by the Lease and post-Lease value is sufficient to justify the purchase price is addressed later in the Waneta 2017 Business Case as part of the consolidated valuation.

30.0 Topic: Unit Energy Costs

Reference: Exhibit B-1, Appendix N, section 4.2.1 Unit Energy Cost Assessment, p. 23, pdf p. 538, Table 4, Unit Energy Costs for Transaction

BC Hydro states on p. 23 (pdf p. 538):

"The value of this initial Lease Term is substantial, as can be seen by calculating the net present value of the lease revenues less the administration costs of the Lease Term:

- The net present value of a 20-year lease is $792 million

- The net present value of a 20-year lease with a 10-year extension is $1,118 million" [Exhibit B-1, Appendix N, p. 23, pdf p. 538]

1.30.2 Please confirm, or otherwise explain, that "the net present value of the lease revenues less the administration costs of the Lease Term" does not take into account either the $1.2 billion purchase price or the cost of financing the purchase price.

1.30.2.1 Please explain how it can be seen that "the value of this initial Lease Term is substantial" by looking at a figure ("the net present value of the lease revenues less the administration costs of the Lease Term") that does not take into account the purchase price or the cost of financing the purchase price.

RESPONSE:

Please refer to BC Hydro's response to BCSEA IR 1.30.2.

30.0 Topic: Unit Energy Costs

Reference: Exhibit B-1, Appendix N, section 4.2.1 Unit Energy Cost Assessment, p. 23, pdf p. 538, Table 4, Unit Energy Costs for Transaction

BC Hydro states on p. 23 (pdf p. 538):

"The value of this initial Lease Term is substantial, as can be seen by calculating the net present value of the lease revenues less the administration costs of the Lease Term:

- The net present value of a 20-year lease is $792 million

- The net present value of a 20-year lease with a 10-year extension is $1,118 million" [Exhibit B-1, Appendix N, p. 23, pdf p. 538]

1.30.2 Please confirm, or otherwise explain, that "the net present value of the lease revenues less the administration costs of the Lease Term" does not take into account either the $1.2 billion purchase price or the cost of financing the purchase price.

1.30.2.2 Both the NPV of 20-year lease revenue less administrative costs ($792 million) and the NVP of 30-year lease revenue less administrative costs ($1,118 million) is less than the cash purchase price ($1,203 million) not taking into account the cost of financing the purchase price. How does this show that the Lease has substantial value?

RESPONSE:

Please refer to BC Hydro's response to BCSEA IR 1.30.2.

30.0 Topic: Unit Energy Costs

Reference: Exhibit B-1, Appendix N, section 4.2.1 Unit Energy Cost Assessment, p. 23, pdf p. 538, Table 4, Unit Energy Costs for Transaction

BC Hydro states on p. 23 (pdf p. 538):

"The value of this initial Lease Term is substantial, as can be seen by calculating the net present value of the lease revenues less the administration costs of the Lease Term:

- The net present value of a 20-year lease is $792 million

- The net present value of a 20-year lease with a 10-year extension is $1,118 million" [Exhibit B-1, Appendix N, p. 23, pdf p. 538]

1.30.3 Please explain Table 4, "Unit Energy Costs for Transaction," showing "Full term (years 1-40)" and "Post-Lease Term (years 22-40)" for a 20-year Lease in $2018.

RESPONSE:

Please refer to BC Hydro's response to BCUC IR 1.15.2.

30.0 Topic: Unit Energy Costs

Reference: Exhibit B-1, Appendix N, section 4.2.1 Unit Energy Cost Assessment, p. 23, pdf p. 538, Table 4, Unit Energy Costs for Transaction

BC Hydro states on p. 23 (pdf p. 538):

"The value of this initial Lease Term is substantial, as can be seen by calculating the net present value of the lease revenues less the administration costs of the Lease Term:

- The net present value of a 20-year lease is $792 million

- The net present value of a 20-year lease with a 10-year extension is $1,118 million" [Exhibit B-1, Appendix N, p. 23, pdf p. 538]

1.30.3 Please explain Table 4, "Unit Energy Costs for Transaction," showing "Full term (years 1-40)" and "Post-Lease Term (years 22-40)" for a 20-year Lease in $2018.

1.30.3.1 Given that there is no energy or capacity in years 1-20 and no Lease revenue in years 21-40, what is the meaning of a capacity-adjusted unit energy price in $/MWh limited to the Post-Lease Term (years 21-40), when the generation in the post-Lease period cannot be acquired without the purchase and lease-back portion of the transaction?

RESPONSE:

Please refer to BC Hydro's response to BCUC IR 1.15.2 and BCSEA IR 1.29.1.

30.0 Topic: Unit Energy Costs

Reference: Exhibit B-1, Appendix N, section 4.2.1 Unit Energy Cost Assessment, p. 23, pdf p. 538, Table 4, Unit Energy Costs for Transaction

BC Hydro states on p. 23 (pdf p. 538):

"The value of this initial Lease Term is substantial, as can be seen by calculating the net present value of the lease revenues less the administration costs of the Lease Term:

- The net present value of a 20-year lease is $792 million

- The net present value of a 20-year lease with a 10-year extension is $1,118 million" [Exhibit B-1, Appendix N, p. 23, pdf p. 538]

1.30.3 Please explain Table 4, "Unit Energy Costs for Transaction," showing "Full term (years 1-40)" and "Post-Lease Term (years 22-40)" for a 20-year Lease in $2018.

1.30.3.2 How can the capacity-adjusted unit price be different in different years of the deemed 40-year Transaction term – doesn't that contradict the concept of a unit price? There is only one Transaction; how can there be more than one adjusted unit energy cost?

RESPONSE:

Please refer to BC Hydro's response to BCUC IR 1.15.2 and BCSEA IR 1.29.1.

30.0 Topic: Unit Energy Costs

Reference: Exhibit B-1, Appendix N, section 4.2.1 Unit Energy Cost Assessment, p. 23, pdf p. 538, Table 4, Unit Energy Costs for Transaction

BC Hydro states on p. 23 (pdf p. 538):

"The value of this initial Lease Term is substantial, as can be seen by calculating the net present value of the lease revenues less the administration costs of the Lease Term:

- The net present value of a 20-year lease is $792 million

- The net present value of a 20-year lease with a 10-year extension is $1,118 million" [Exhibit B-1, Appendix N, p. 23, pdf p. 538]

1.30.3 Please explain Table 4, "Unit Energy Costs for Transaction," showing "Full term (years 1-40)" and "Post-Lease Term (years 22-40)" for a 20-year Lease in $2018.

1.30.3.3 Does that fact that the results show a higher capacity-adjusted UEC for the Post-Lease Term ($48.25/MWh) than for the Full Term ($41.25/MWh) imply that the capacity-adjusted UEC for the Lease Term would be a positive number that is less than the UEC of the Full Term? If so, how can there be an adjusted unit energy cost for the Lease Period when there is no capacity or energy during the Lease Period?

RESPONSE:

The UEC for the full term includes energy and capacity amounts from the two-thirds interest in Waneta for the Lease Period as if the asset was not leased to Teck. If a UEC was calculated for the Lease Period which also included energy and capacity for the Lease Period it would be a positive number less than the UEC for the full term.

BC Hydro agrees that inclusion of capacity or energy from the Lease Period is of limited value due to the Lease to Teck. This was the part of the rationale behind the development of the UEC for the post-Lease Period.

Please note that the UECs are not "capacity-adjusted". Please refer to BC Hydro's response to BCUC IRs 1.15.2 and BCSEA IR 1.29.1.

30.0 Topic: Unit Energy Costs

Reference: Exhibit B-1, Appendix N, section 4.2.1 Unit Energy Cost Assessment, p. 23, pdf p. 538, Table 4, Unit Energy Costs for Transaction

BC Hydro states on p. 23 (pdf p. 538):

"The value of this initial Lease Term is substantial, as can be seen by calculating the net present value of the lease revenues less the administration costs of the Lease Term:

- The net present value of a 20-year lease is $792 million

- The net present value of a 20-year lease with a 10-year extension is $1,118 million" [Exhibit B-1, Appendix N, p. 23, pdf p. 538]

1.30.4 Why did BC Hydro choose not to include all its costs and revenues, including the cost of financing the purchase price, and the lease revenues, in determining a capacity-adjusted unit energy cost for the full deemed 40-year Transaction analysis period?

RESPONSE:

Please refer to BC Hydro's response to BCUC IR 1.15.3.

30.0 Topic: Unit Energy Costs

Reference: Exhibit B-1, Appendix N, section 4.2.1 Unit Energy Cost Assessment, p. 23, pdf p. 538, Table 4, Unit Energy Costs for Transaction

BC Hydro states on p. 23 (pdf p. 538):

"The value of this initial Lease Term is substantial, as can be seen by calculating the net present value of the lease revenues less the administration costs of the Lease Term:

- The net present value of a 20-year lease is $792 million

- The net present value of a 20-year lease with a 10-year extension is $1,118 million" [Exhibit B-1, Appendix N, p. 23, pdf p. 538]

1.30.5 Why did BC Hydro choose to use a capacity adjusted unit energy cost as a measure of the cost-effectiveness of the Transaction when both the lease revenue and the generation are starkly discontinuous over the period of analysis? Is this what is addressed by Section 4.2.2 Core NPV Analysis?

RESPONSE:

Please refer to BC Hydro's response to BCUC IR 1.15.2 and BCSEA IR 1.29.1.

31.0 Topic: Unit Energy Costs

Reference: Exhibit B-1, Appendix N-1, Figure 4 from Waneta 2017 Business Case: Post-Lease UEC Comparison to Valuation Indices Without "Extrapolated" Market Price Curve

BC Hydro states:

"Figure 4 shows a comparison of the post-lease UEC to the capacity-adjusted valuation indices discussed in Section 3.2." Figure 4 is entirely redacted, however a less-redacted version of Figure 4 is provided in Appendix N-1, pdf p. 608. BC Hydro states that "As shown [in Figure 4], the post-Lease Term UEC is below all capacity-adjusted valuation indices." [Appendix N, p. 24, pdf p. 538]

1.31.1 Please provide a graph showing the Full Term (Years 1-40) "capacity-adjusted valuation indices" and Transaction adjusted UEC that includes financing charges, amortization costs and lease revenue.

RESPONSE:

The post-Lease UEC already includes the impact of the initial purchase price and lease revenue. Please refer to BC Hydro's response to BCUC IRs 1.15.2 and 1.15.3.

32.0 Topic: Core NPV Analysis

Reference: Exhibit B-1, Appendix N, pp. 24-25, pdf pp. 539-540

BC Hydro describes one of the scenarios it used for the Core NPV Analysis as follows:

"**BCH Industrial Tariff** <u>where the 2/3 Interest generation continues to serve the smelter load at industrial tariff rates following the end of the lease</u>. In this case there is minimal net effect on the long-term LRB as BC Hydro is both purchasing a generation asset and gaining new load roughly equivalent to the output of the purchased generation asset." [underline added]

1.32.1 Please confirm, or otherwise explain, that the underlined phrase refers to a scenario in which during the Lease Period Teck serves the smelter load with power from Waneta under the Lease, and at end of the Lease Period Teck, for the first time, takes electricity service from BC Hydro to power Teck's smelter.

RESPONSE:

Confirmed.

32.0 Topic: Core NPV Analysis

Reference: Exhibit B-1, Appendix N, pp. 24-25, pdf pp. 539-540

BC Hydro describes one of the scenarios it used for the Core NPV Analysis as follows:

"**BCH Industrial Tariff** where the 2/3 Interest generation continues to serve the smelter load at industrial tariff rates following the end of the lease. In this case there is minimal net effect on the long-term LRB as BC Hydro is both purchasing a generation asset and gaining new load roughly equivalent to the output of the purchased generation asset." [underline added]

1.32.2 How does BC Hydro's NPV model for the Transaction evaluate the NPV of the No-Go option?

RESPONSE:

Please refer to BC Hydro's response to BCUC IRs 1.29.3 and 1.30.1.

32.0 Topic: Core NPV Analysis

Reference: Exhibit B-1, Appendix N, pp. 24-25, pdf pp. 539-540

BC Hydro describes one of the scenarios it used for the Core NPV Analysis as follows:

"**BCH Industrial Tariff** where the 2/3 Interest generation continues to serve the smelter load at industrial tariff rates following the end of the lease. In this case there is minimal net effect on the long-term LRB as BC Hydro is both purchasing a generation asset and gaining new load roughly equivalent to the output of the purchased generation asset." [underline added]

1.32.2 How does BC Hydro's NPV model for the Transaction evaluate the NPV of the No-Go option?

1.32.2.1 More specifically, how does BC Hydro's use of the Transmission Service Rate for post-Lease Period 2/3 Interest generation as a proxy for Teck taking BC Hydro service for the smelter at the end of the Lease Period in the NPV model for the Transaction take into account the possibility that in the No-Go scenario Teck takes BC Hydro service for the smelter in year 21, or earlier?

RESPONSE:

Please refer to BC Hydro's response to BCUC IRs 1.29.3 and 1.30.1.

33.0 Topic: Counterparty Default Risk

Reference: Exhibit B-1, Appendix N, Business Case, p. 26, pdf p. 541

BC Hydro uses an assessment from Moody's of the yearly probability of Teck Resources Limited defaulting on the lease payments over the next 10 years and extrapolated the default probabilities for the following period.

1.33.1 What is the definition of the event for which Moody's provided a yearly probability? Is it the probability that the subject company will become insolvent? Seek protection from creditors? Declare bankruptcy?

RESPONSE:

The annual probability provided by Moody's is for an event of "default", which is defined as the failure of an entity to make scheduled principal and interest payments.

33.0 Topic: Counterparty Default Risk

Reference: Exhibit B-1, Appendix N, Business Case, p. 26, pdf p. 541

BC Hydro uses an assessment from Moody's of the yearly probability of Teck Resources Limited defaulting on the lease payments over the next 10 years and extrapolated the default probabilities for the following period.

1.33.2 In BC Hydro's assessment of counterparty risk is a Lease default by Teck essentially one and the same thing as a shut-down of the smelter?

RESPONSE:

No. Shut-down of the smelter is not an event of default under the Lease. Further, the Lease obligations of Teck Metals are guaranteed by Teck Resources. BC Hydro's assessment of counterparty risk is therefore an assessment of the potential for Teck Resources to default on its obligations. Please refer to BC Hydro's response to BCUC IR 1.5.3.

33.0 Topic: Counterparty Default Risk

Reference: Exhibit B-1, Appendix N, Business Case, p. 26, pdf p. 541

BC Hydro uses an assessment from Moody's of the yearly probability of Teck Resources Limited defaulting on the lease payments over the next 10 years and extrapolated the default probabilities for the following period.

1.33.2 In BC Hydro's assessment of counterparty risk is a Lease default by Teck essentially one and the same thing as a shut-down of the smelter?

1.33.2.1 If so, does that mean that a Lease default not only terminates the Lease revenue and lands BC Hydro with the 2/3 Interest generation resources but also eliminates or reduces the likelihood of BC Hydro being called upon to serve the smelter load?

RESPONSE:

Please refer to BC Hydro's response to BCSEA IR 1.33.2.

33.0 Topic: Counterparty Default Risk

Reference: Exhibit B-1, Appendix N, Business Case, p. 26, pdf p. 541

BC Hydro uses an assessment from Moody's of the yearly probability of Teck Resources Limited defaulting on the lease payments over the next 10 years and extrapolated the default probabilities for the following period.

1.33.3 Please provide a high level analysis of the impact of smelter contingencies (e.g., operation or shut-down) at material points in time (e.g., during the Initial Lease Period, during Lease Renewal Period, after the Lease Period) on the value of the Waneta 2017 Transaction to ratepayers. Include the impact of a shut-down of the smelter on the possibility and financial consequences of BC Hydro serving the smelter load.

RESPONSE:

As discussed in BC Hydro's response to BCSEA IR 1.33.2, a shut-down of the smelter would not directly impact the Lease as it is not an event of default.

For an assessment of the impact of Teck default in specific years of the Lease, please refer to BC Hydro's response to BCUC IR 1.19.2.

34.0 Topic: Lease Counterparty Risk

Reference: Exhibit B-1, Appendix N, Table 6 Impact of Counterparty Risk on Value of Transaction, 20-year lease (Present value to 2018, $millions), p. 27, pdf p. 542

Table 6 Impact of Counterparty Risk on Value of Transaction, 20-year lease (Present value to 2018, $ millions)

Basis for Post-Lease Value[4]	Value of Assets / Lease to BC Hydro		
	Un-risked	w/ Default Risk	Default Risk Impact
LRMC (Clean)	792	898	107
LRMC (Clean + Gas)	792	856	64
Market Prices (ABB)	792	792	1
Extrapolated Prices	792	738	(54)

1.34.1 Please confirm that the Value of Assets/Lease to BC Hydro is the same Un-risked ($792 million) as With Default Risk ($792) when the Basis for Post-Lease Value is "Market Prices (ABB)."

RESPONSE:

The two numbers are not exactly the same, but round to the same value when rounded to the nearest million dollars.

The values in the Market Prices (ABB) row of Table 6 are as follows (in $ millions, present values to fiscal 2018):

Market Prices (ABB) $million	Un-risked	w/ Default Risk	Default Risk Impact
Rounded to nearest 0.1	**791.6**	**792.1**	**0.5**
Rounded to nearest 1	**792**	**792**	**1**

34.0 Topic: Lease Counterparty Risk

Reference: Exhibit B-1, Appendix N, Table 6 Impact of Counterparty Risk on Value of Transaction, 20-year lease (Present value to 2018, $millions), p. 27, pdf p. 542

Table 6 Impact of Counterparty Risk on Value of Transaction, 20-year lease (Present value to 2018, $ millions)

Basis for Post-Lease Value[4]	Value of Assets / Lease to BC Hydro		
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LRMC (Clean)	792	898	107
LRMC (Clean + Gas)	792	856	64
Market Prices (ABB)	792	792	1
Extrapolated Prices	792	738	(54)

1.34.2 Does this indicate that when the 2/3 Interest generation entitlement is valued at the ABB market price forecast the impact of a hypothetical default is to reduce the Lease revenue by the same amount (subject to rounding) as the increase in revenue (or value) from the sale (or valuation) of the generation entitlement?

RESPONSE:

No. Default is assessed through probabilistic analysis of the impact of default in any potential year. Table 6 indicates that the probability-weighted present value cost or benefit of default is $1 million (rounded to the nearest million). The cost or benefit of default in a specific year will depend on the year in which the default occurs.

34.0 Topic: Lease Counterparty Risk

Reference: Exhibit B-1, Appendix N, Table 6 Impact of Counterparty Risk on Value of Transaction, 20-year lease (Present value to 2018, $millions), p. 27, pdf p. 542

Table 6 Impact of Counterparty Risk on Value of Transaction, 20-year lease (Present value to 2018, $ millions)

Basis for Post-Lease Value[4]	Value of Assets / Lease to BC Hydro		
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LRMC (Clean)	792	898	107
LRMC (Clean + Gas)	792	856	64
Market Prices (ABB)	792	792	1
Extrapolated Prices	792	738	(54)

1.34.3 If so, does this mean that the Lease payments are the same (subject to rounding) as the ABB market price forecast?

RESPONSE:

No.

34.0 Topic: Lease Counterparty Risk

Reference: Exhibit B-1, Appendix N, Table 6 Impact of Counterparty Risk on Value of Transaction, 20-year lease (Present value to 2018, $millions), p. 27, pdf p. 542

Table 6 Impact of Counterparty Risk on Value of Transaction, 20-year lease (Present value to 2018, $ millions)

Basis for Post-Lease Value[4]	Value of Assets / Lease to BC Hydro		
	Un-risked	w/ Default Risk	Default Risk Impact
LRMC (Clean)	792	898	107
LRMC (Clean + Gas)	792	856	64
Market Prices (ABB)	792	792	1
Extrapolated Prices	792	738	(54)

1.34.4 Please confirm, or otherwise explain, that the size of the Lease payments ($40/MWh for 20 years escalating at 2% per year – Appendix N, p. 2, pdf p. 517) is the result of the negotiations between Teck and Fortis Inc. that resulted in the Fortis Transaction, the key terms of which are included in the Sale Notice.

RESPONSE:

Confirmed.

34.0 Topic: Lease Counterparty Risk

Reference: Exhibit B-1, Appendix N, Table 6 Impact of Counterparty Risk on Value of Transaction, 20-year lease (Present value to 2018, $millions), p. 27, pdf p. 542

Table 6 Impact of Counterparty Risk on Value of Transaction, 20-year lease (Present value to 2018, $ millions)

Basis for Post-Lease Value[4]	Value of Assets / Lease to BC Hydro		
	Un-risked	w/ Default Risk	Default Risk Impact
LRMC (Clean)	792	898	107
LRMC (Clean + Gas)	792	856	64
Market Prices (ABB)	792	792	1
Extrapolated Prices	792	738	(54)

1.34.5 What does BC Hydro know about the basis for the size of the Lease payment agreed between Teck and Fortis Inc.?

RESPONSE:

The Lease payments were determined as part of the Teck sales process leading to the Fortis Transaction and associated ROFO. BC Hydro was not part of this process and has no information regarding the basis for the size of the Lease payment.

34.0 Topic: Lease Counterparty Risk

Reference: Exhibit B-1, Appendix N, Table 6 Impact of Counterparty Risk on Value of Transaction, 20-year lease (Present value to 2018, $millions), p. 27, pdf p. 542

Table 6 Impact of Counterparty Risk on Value of Transaction, 20-year lease (Present value to 2018, $ millions)

Basis for Post-Lease Value[4]	Value of Assets / Lease to BC Hydro		
	Un-risked	w/ Default Risk	Default Risk Impact
LRMC (Clean)	792	898	107
LRMC (Clean + Gas)	792	856	64
Market Prices (ABB)	792	792	1
Extrapolated Prices	792	738	(54)

1.34.5 What does BC Hydro know about the basis for the size of the Lease payment agreed between Teck and Fortis Inc.?

1.34.5.1 Does BC Hydro have an explanation of why Teck and Fortis Inc. agreed on a Lease price that happens to be equivalent to the ABB market price forecast?

RESPONSE:

BC Hydro does not agree that the Lease price is equivalent to the ABB Forecast.

It is BC Hydro's understanding that the Lease payments were derived by arm's length negotiations between Teck and Fortis Inc. following a competitive bid process. BC Hydro was not party to the negotiation of these prices.

34.0 Topic: Lease Counterparty Risk

Reference: Exhibit B-1, Appendix N, Table 6 Impact of Counterparty Risk on Value of Transaction, 20-year lease (Present value to 2018, $millions), p. 27, pdf p. 542

Table 6 Impact of Counterparty Risk on Value of Transaction, 20-year lease (Present value to 2018, $ millions)

Basis for Post-Lease Value[4]	Value of Assets / Lease to BC Hydro		
	Un-risked	w/ Default Risk	Default Risk Impact
LRMC (Clean)	792	898	107
LRMC (Clean + Gas)	792	856	64
Market Prices (ABB)	792	792	1
Extrapolated Prices	792	738	(54)

1.34.5 What does BC Hydro know about the basis for the size of the Lease payment agreed between Teck and Fortis Inc.?

1.34.5.2 In BC Hydro's view, does the reliance by Teck and Fortis Inc. on the ABB market price forecast to establish the size of the Lease payment support the use of the ABB market price forecast as a valuation index for assessing counterparty risk?

RESPONSE:

BC Hydro has no knowledge of Teck or Fortis Inc. relying on the ABB Forecast to establish the size of the Lease payment. Please refer to BC Hydro's response to BCSEA IR 1.34.5.

35.0 Topic: Discount Rate

Reference: Exhibit B-1, Appendix N, Business Case, section 4.2.3 Sensitivity Analysis, p. 29, pdf p. 544

Table 9 shows the results for "Sensitivity to Discount Rate – LRMC w/ Clean." BC Hydro states:

"As shown, the valuation of the Transaction is highly sensitive to discount rates. This is because the Transaction includes an up-front payment followed by generation benefits over an extended term – a change to how BC Hydro values these long-term benefits (which is the effect of the discount rate) will materially affect the overall valuation."

1.35.1 Please confirm, or otherwise explain, that in the 2009 Waneta Transaction application BC Hydro used a discount rate of 8%.

RESPONSE:

BC Hydro used an 8 per cent (nominal) discount rate in its assessment of the Waneta 2010 Transaction. The methodology BC Hydro used then and continues to use for the purpose of developing a discount rate arose from the Commission hearing into BC Hydro's 2008 Long Term Acquisition Plan. Only the inputs into the methodology have changed as circumstances have changed including, for example, BC Hydro's target debt-equity ratio. Please refer to section 4.1.2 of the Application.

35.0 Topic: Discount Rate

Reference: Exhibit B-1, Appendix N, Business Case, section 4.2.3 Sensitivity Analysis, p. 29, pdf p. 544

Table 9 shows the results for "Sensitivity to Discount Rate – LRMC w/ Clean." BC Hydro states:

"As shown, the valuation of the Transaction is highly sensitive to discount rates. This is because the Transaction includes an up-front payment followed by generation benefits over an extended term – a change to how BC Hydro values these long-term benefits (which is the effect of the discount rate) will materially affect the overall valuation."

1.35.2 Please explain whether BC Hydro's use of a 6% discount rate to assessment the Waneta 2017 Transaction involves a different methodology for determining the appropriate discount rate, or different parameter values.

RESPONSE:

Please refer to BC Hydro's response to BCSEA IR 1.35.1.

36.0 Topic: Counterparty Risk

Reference: Exhibit B-1, Appendix N, Business Case, p. 34, pdf p. 549

In its qualitative risk assessment BC Hydro lists certain specific risks events under the heading "Counterparty Risk." The first is as follows:

"There is the risk Teck defaults on the Lease Agreement. This would leave BC Hydro with the Waneta generation but <u>no customer for the balance of the Lease Agreement term</u>. This period coincides with the period that BC Hydro expects to be in surplus, and during this period the cost of service of the 2/3 Interest may be higher than market sales prices. This means that Teck default could result in additional costs to ratepayers." [underline added]

The second is:"There is a risk Teck [6 lines redacted]"

1.36.1 Please explain what is meant by a Teck default on the lease payments leaving BC Hydro with "no customer for the balance of the Lease Agreement term."

RESPONSE:

The use of the word "customer" in the Waneta 2017 Business Case is inaccurate. The sentence is intended to indicate that Teck default would result in BC Hydro holding a substantial amount of generation capability from Waneta but having lost the contractual arrangement with Teck (i.e., the Lease) that utilized Waneta. This would result in a large net increase to BC Hydro's available resources. It remains possible that BC Hydro would have domestic customers for Waneta energy and capacity depending on BC Hydro's LRB position at the time of default.

36.0 Topic: Counterparty Risk

Reference: Exhibit B-1, Appendix N, Business Case, p. 34, pdf p. 549

In its qualitative risk assessment BC Hydro lists certain specific risks events under the heading "Counterparty Risk." The first is as follows:

"There is the risk Teck defaults on the Lease Agreement. This would leave BC Hydro with the Waneta generation but <u>no customer for the balance of the Lease Agreement term</u>. This period coincides with the period that BC Hydro expects to be in surplus, and during this period the cost of service of the 2/3 Interest may be higher than market sales prices. This means that Teck default could result in additional costs to ratepayers." [underline added]

The second is:"There is a risk Teck [6 lines redacted]"

1.36.1 Please explain what is meant by a Teck default on the lease payments leaving BC Hydro with "no customer for the balance of the Lease Agreement term."

1.36.1.1 Is this a reference to a Teck default implying a shut-down of the smelter and that implying reduced (eliminated?) risk of BC Hydro being required to serve the smelter load?

RESPONSE:

Please refer to BC Hydro's response to BCSEA IR 1.36.1.

36.0 Topic: Counterparty Risk

Reference: Exhibit B-1, Appendix N, Business Case, p. 34, pdf p. 549

In its qualitative risk assessment BC Hydro lists certain specific risks events under the heading "Counterparty Risk." The first is as follows:

"There is the risk Teck defaults on the Lease Agreement. This would leave BC Hydro with the Waneta generation but <u>no customer for the balance of the Lease Agreement term</u>. This period coincides with the period that BC Hydro expects to be in surplus, and during this period the cost of service of the 2/3 Interest may be higher than market sales prices. This means that Teck default could result in additional costs to ratepayers." [underline added]

The second is:"There is a risk Teck [6 lines redacted]"

1.36.2 Please state in detail the basis for the assertion of confidentiality for the redacted text regarding a specific counterparty risk event.

RESPONSE:

Please refer to BC Hydro's letter of January 17, 2018 (Exhibit B-7) for a description of the information redacted in BC Hydro's previous submissions and the rationale for these redactions.

36.0 Topic: Counterparty Risk

Reference: Exhibit B-1, Appendix N, Business Case, p. 34, pdf p. 549

In its qualitative risk assessment BC Hydro lists certain specific risks events under the heading "Counterparty Risk." The first is as follows:

"There is the risk Teck defaults on the Lease Agreement. This would leave BC Hydro with the Waneta generation but <u>no customer for the balance of the Lease Agreement term</u>. This period coincides with the period that BC Hydro expects to be in surplus, and during this period the cost of service of the 2/3 Interest may be higher than market sales prices. This means that Teck default could result in additional costs to ratepayers." [underline added]

The second is:"There is a risk Teck [6 lines redacted]"

1.36.3 Please provide a provide a non-redacted summary of the redacted text regarding a specific counterparty risk event.

RESPONSE:

Please refer to BC Hydro's letter of January 17, 2018 (Exhibit B-7) for a description of the information redacted in BC Hydro's previous submissions and the rationale for these redactions.

37.0 Topic: Regulatory Risk

Reference: Exhibit B-1, Appendix N, Business Case, pp. 35-36, pdf pp. 550-551

In the discussion on regulatory risk, BC Hydro states:

"Following the Transaction, there is the possibility [14 lines redacted]".

1.37.1 Please provide a non-redacted summary of the redacted text.

RESPONSE:

Please refer to BC Hydro's letter of January 17, 2018 (Exhibit B-7) for a description of the information redacted in BC Hydro's previous submissions and the rationale for these redactions.

37.0 Topic: Regulatory Risk

Reference: Exhibit B-1, Appendix N, Business Case, pp. 35-36, pdf pp. 550-551

In the discussion on regulatory risk, BC Hydro states:

"Following the Transaction, there is the possibility [14 lines redacted]".

1.37.2 Please respond to the following questions:

1.37.2.1 Is the regulatory risk following the Transaction to do with matters within the jurisdiction of the BCUC? If not, please specify the jurisdiction and the regulatory framework.

RESPONSE:

Please refer to BC Hydro's letter of January 17, 2018 (Exhibit B-7) for a description of the information redacted in BC Hydro's previous submissions and the rationale for these redactions.

37.0 Topic: Regulatory Risk

Reference: Exhibit B-1, Appendix N, Business Case, pp. 35-36, pdf pp. 550-551

In the discussion on regulatory risk, BC Hydro states:

"Following the Transaction, there is the possibility [14 lines redacted]".

1.37.2 Please respond to the following questions:

1.37.2.2 Is the regulatory risk following the Transaction to do with the Canal Plant Agreement?

RESPONSE:

Please refer to BC Hydro's letter of January 17, 2018 (Exhibit B-7) for a description of the information redacted in BC Hydro's previous submissions and the rationale for these redactions.

37.0 Topic: Regulatory Risk

Reference: Exhibit B-1, Appendix N, Business Case, pp. 35-36, pdf pp. 550-551

In the discussion on regulatory risk, BC Hydro states:

"Following the Transaction, there is the possibility [14 lines redacted]".

1.37.2 Please respond to the following questions:

1.37.2.3 Is the regulatory risk following the Transaction to do with the Power Purchase Agreement between BC Hydro and FBC?

RESPONSE:

Please refer to BC Hydro's letter of January 17, 2018 (Exhibit B-7) for a description of the information redacted in BC Hydro's previous submissions and the rationale for these redactions.

37.0 Topic: Regulatory Risk

Reference: Exhibit B-1, Appendix N, Business Case, pp. 35-36, pdf pp. 550-551

In the discussion on regulatory risk, BC Hydro states:

"Following the Transaction, there is the possibility [14 lines redacted]".

1.37.2 Please respond to the following questions:

1.37.2.4 Is the regulatory risk following the Transaction to do with Line 71?

RESPONSE:

Please refer to BC Hydro's letter of January 17, 2018 (Exhibit B-7) for a description of the information redacted in BC Hydro's previous submissions and the rationale for these redactions.

37.0 Topic: Regulatory Risk

Reference: Exhibit B-1, Appendix N, Business Case, pp. 35-36, pdf pp. 550-551

In the discussion on regulatory risk, BC Hydro states:

"Following the Transaction, there is the possibility [14 lines redacted]".

1.37.2 Please respond to the following questions:

1.37.2.5 Is the regulatory risk following the Transaction to do with a request that BC Hydro serve the smelter load?

RESPONSE:

Please refer to BC Hydro's letter of January 17, 2018 (Exhibit B-7) for a description of the information redacted in BC Hydro's previous submissions and the rationale for these redactions.

37.0 Topic: Regulatory Risk

Reference: Exhibit B-1, Appendix N, Business Case, pp. 35-36, pdf pp. 550-551

In the discussion on regulatory risk, BC Hydro states:

"Following the Transaction, there is the possibility [14 lines redacted]".

1.37.2 Please respond to the following questions:

1.37.2.6 Is the regulatory risk following the Transaction to do with the Columbia River Treaty?

RESPONSE:

Please refer to BC Hydro's letter of January 17, 2018 (Exhibit B-7) for a description of the information redacted in BC Hydro's previous submissions and the rationale for these redactions.

38.0 Topic: Transaction Cost Risk

Reference: Exhibit B-1, Appendix N, Business Case, p. 36, pdf p. 551

Regarding transaction cost risk, BC Hydro refers to an estimate prepared by BC Hydro Finance of the property transfer tax required for the Transaction. Then five lines of text are redacted.

1.38.1 Please provide a non-redacted summary of the redacted text.

RESPONSE:

Please refer to BC Hydro's letter of January 17, 2018 (Exhibit B-7) for a description of the information redacted in BC Hydro's previous submissions and the rationale for these redactions.

39.0 Topic: Risk to Existing Agreements

Reference: Exhibit B-1, Appendix N, Business Case, p. 37, pdf p. 552

BC Hydro states:

"Risk to Existing Agreements: The change in ownership of the 2/3 Interest has the potential to affect a number of agreements that are not solely related to the assets themselves. The most critical of these agreements is the Canal Plant Agreement (CPA). The CPA is an agreement between BC Hydro, Teck, as well as several other parties including Fortis BC (the Entitlement Parties). [5 lines redacted]

1.39.1 Please provide a non-redacted summary of the redacted text.

RESPONSE:

Please refer to BC Hydro's letter of January 17, 2018 (Exhibit B-7) for a description of the information redacted in BC Hydro's previous submissions and the rationale for these redactions.

39.0 Topic: Risk to Existing Agreements

Reference: Exhibit B-1, Appendix N, Business Case, p. 37, pdf p. 552

BC Hydro states:

"Risk to Existing Agreements: The change in ownership of the 2/3 Interest has the potential to affect a number of agreements that are not solely related to the assets themselves. The most critical of these agreements is the Canal Plant Agreement (CPA). The CPA is an agreement between BC Hydro, Teck, as well as several other parties including Fortis BC (the Entitlement Parties). [5 lines redacted]

1.39.2 Please explain how the change in ownership of the 2/3 Interest could potentially affect the Canal Plant Agreement.

RESPONSE:

Amendments have yet to be negotiated amongst the parties to the CPA. However, BC Hydro expects that during the Lease Period, there will be effectively no impact on the CPA.

39.0 Topic: Risk to Existing Agreements

Reference: Exhibit B-1, Appendix N, Business Case, p. 37, pdf p. 552

BC Hydro states:

"Risk to Existing Agreements: The change in ownership of the 2/3 Interest has the potential to affect a number of agreements that are not solely related to the assets themselves. The most critical of these agreements is the Canal Plant Agreement (CPA). The CPA is an agreement between BC Hydro, Teck, as well as several other parties including Fortis BC (the Entitlement Parties). [5 lines redacted]

1.39.2 Please explain how the change in ownership of the 2/3 Interest could potentially affect the Canal Plant Agreement.

1.39.2.1 Please discuss how a change in ownership of the 2/3 Interest to Fortis Inc. or some other third could potentially affect the Canal Plant Agreement.

RESPONSE:

BC Hydro cannot speculate on what changes may be required, or requested, by a third-party (including Fortis Inc.) and/or Teck in relation to a change of ownership of the Waneta Assets. The impact to the CPA will be dependent on the structure of the sales transaction as might be agreed to as between Teck and a third-party.

41.0 Topic: Valuation Risk – Linked Scenarios

Reference: Exhibit B-1, Appendix N, Business Case, p. 37, pdf p. 552

BC Hydro states:

"Valuation Risk: The analysis of the Transaction value provided in Section 4.2.2 is based on assumptions that have uncertainty associated with them. The key assumptions that affect the analysis include:...

BC Hydro's long-term forecast of its industrial tariff. For scenarios where the 2/3 Interest generation and the smelter load are linked the generation will be valued against the revenue from selling at the industrial tariff. As a result, variability in tariff pricing will affect the valuation of the Transaction in such linked scenarios..." [underline added]

In Section 4.2.2 Core NPV Analysis, one of the scenarios in the Un-risked Assessment is "BCH Industrial Tariff," which is described as follows:

"**BCH Industrial Tariff** where the 2/3 Interest generation continues to serve the smelter load at industrial tariff rates following the end of the lease. In this case there is minimal net effect on the long-term LRB as BC Hydro is both purchasing a generation asset and gaining new load roughly equivalent to the output of the purchased generation asset."

Under the heading "Consideration of Default Risk," Table 6, Impact of Counterparty Risk on Value of Transaction, 20-year lease, does not present results for the "BCH Industrial Tariff" scenario."

1.41.1 Why does Table 6 not present results for the BCH Industrial Tariff scenario? Is it because BC Hydro assumes that a lease default coincides with a shut-down of the smelter? I.e., in the Industrial Tariff scenario BC Hydro serves the smelter load following the end of the lease, and if the lease ends because of a default and a default assumes the shut-down of the smelter then there is no smelter load to be served following a default.

RESPONSE:

The explanation is contained in redacted footnote 4 to Appendix N.

Please refer to BC Hydro's letter of January 17, 2018 (Exhibit B-7) for a description of the information redacted in BC Hydro's previous submissions and the rationale for these redactions.

42.0 Topic: No-Go Scenario

Reference: Exhibit B-1, Appendix N, Business Case, p. 39, pdf p. 554, *et seq.*

Table 14 presents results where the smelter is Served, and Not-Served by BC Hydro and where the Power Purchase Agreement between BC Hydro and FBC is Renewed and Not Renewed. The results are fully redacted.

1.42.1 Please provide a non-redacted description of the implications of redacted lines in Table 14.

RESPONSE:

Please refer to BC Hydro's letter of January 17, 2018 (Exhibit B-7) for a description of the information redacted in BC Hydro's previous submissions and the rationale for these redactions.

42.0 Topic: No-Go Scenario

Reference: Exhibit B-1, Appendix N, Business Case, p. 39, pdf p. 554, *et seq.*

BC Hydro states:

"The role of Fortis Inc. as the purchaser of the 2/3 Interest in the case where BC Hydro does not execute its ROFO rights may affect the probabilities of the scenarios above. While Fortis Inc. is a non-regulated entity, it is the sole shareholder of FortisBC which is a regulated utility in British Columbia. As a result, ownership of the 2/3 Interest may have the following effects: [12 lines redacted]."

1.42.2 Please provide a non-redacted summary of the redacted text regarding the effects of Fortis Inc. ownership of the 2/3 Interest.

RESPONSE:

Please refer to BC Hydro's letter of January 17, 2018 (Exhibit B-7) for a description of the information redacted in BC Hydro's previous submissions and the rationale for these redactions.

42.0 Topic: No-Go Scenario

Reference: Exhibit B-1, Appendix N, Business Case, p. 39, pdf p. 554, *et seq.*

The results in Table 15, Sensitivity to Discount Rate – No-Go Scenario, are fully redacted.

1.42.3 Please provide a non-redacted description of the implications of the redacted lines in Table 15.

RESPONSE:

Please refer to BC Hydro's letter of January 17, 2018 (Exhibit B-7) for a description of the information redacted in BC Hydro's previous submissions and the rationale for these redactions.

42.0 Topic: No-Go Scenario

Reference: Exhibit B-1, Appendix N, Business Case, p. 39, pdf p. 554, *et seq.*

In Table 16, Sensitivity to LRMC – No-Go Scenario with Smelter Load and 3808 Renewal, the results for the Cost Impact to BC Hydro are redacted.

1.42.4 Please provide a non-redacted description of the implications of the redacted lines in Table 16.

RESPONSE:

Please refer to BC Hydro's letter of January 17, 2018 (Exhibit B-7) for a description of the information redacted in BC Hydro's previous submissions and the rationale for these redactions.

42.0 Topic: No-Go Scenario

Reference: Exhibit B-1, Appendix N, Business Case, p. 39, pdf p. 554, *et seq.*

The results in Table 17, Sensitivity to Load Resource Balance – No-Go Scenario, are fully redacted. The description states, enigmatically, "As shown, the costs/benefits of the No-Go scenario are substantially reduced when BC Hydro is in surplus rather than deficit, and could be reversed under low market price scenarios." [p. 41]

1.42.5 Please provide a non-redacted description of the implications of the redacted lines in Table 17.

RESPONSE:

Please refer to BC Hydro's letter of January 17, 2018 (Exhibit B-7) for a description of the information redacted in BC Hydro's previous submissions and the rationale for these redactions.

42.0 Topic: No-Go Scenario

Reference: Exhibit B-1, Appendix N, Business Case, p. 39, pdf p. 554, *et seq.*

In section 4.3.3 regarding Risk Assessment of the No-Go Scenario, BC Hydro states:

"BC Hydro has performed a qualitative risk assessment of the No-Go Scenario. The following provides the key risks associated with the No-Go Scenario:

- Counterparty Risk: BC Hydro does not have a transactional counterparty under the No-Go scenario. However, the purchaser (Fortis Inc.) would become BC Hydro's counterparty for the Co-Ownership Agreement (COA) and other contracts (for example CPA). As a result, BC Hydro would be impacted by the actions of Fortis Inc. Specific risk events that could occur are: [one bullet point with three lines redacted, a second bullet point with seven lines redacted]." [p. 41]

1.42.6 Please provide a non-redacted summary of the redacted text.

RESPONSE:

Please refer to BC Hydro's letter of January 17, 2018 (Exhibit B-7) for a description of the information redacted in BC Hydro's previous submissions and the rationale for these redactions.

43.0 Topic: Ratepayer Impact Analysis

Reference: Exhibit B-1, Appendix N, Business Case, Figure 7, Cumulative Incremental Rate Impact – Additional Scenarios, p. 45, pdf p. 560

1.43.1 Are the labels correct? If not, please provide a corrected version.

RESPONSE:

Confirmed the labels are correct.

44.0 Topic: Comparative Analysis

Reference: Exhibit B-1, Appendix N, Business Case, Table 20, Comparative Value of Transaction Options, p. 48, pdf p. 563

The results for No-Go, Smelter not served by BCH, and No-Go, Smelter served by BC Hydro are redacted. There is note to Table 20 that states: "Note: All scenarios assume [five lines redacted].

1.44.1 Please provide a non-redacted description of the implications of the redacted lines in Table 20. Please provide the description on a row by row basis to allow comparison with Transaction Value @ ROFO Offer Price.

RESPONSE:

Please refer to BC Hydro's letter of January 17, 2018 (Exhibit B-7) for a description of the information redacted in BC Hydro's previous submissions and the rationale for these redactions.

44.0 Topic: Comparative Analysis

Reference: Exhibit B-1, Appendix N, Business Case, Table 20, Comparative Value of Transaction Options, p. 48, pdf p. 563

The results for No-Go, Smelter not served by BCH, and No-Go, Smelter served by BC Hydro are redacted. There is note to Table 20 that states: "Note: All scenarios assume [five lines redacted].

1.44.2 Please provide a non-redacted summary of the Note to Table 20.

RESPONSE:

Please refer to BC Hydro's letter of January 17, 2018 (Exhibit B-7) for a description of the information redacted in BC Hydro's previous submissions and the rationale for these redactions.

45.0 Topic: Comparative Analysis

Reference: Exhibit B-1, Appendix N, Business Case, Comparative Analysis p. 48, pdf p. 563

BC Hydro states:

"BC Hydro's downside scenario is represented by sensitivity scenarios, where load does not grow materially over 40 years and where market prices remain well below new-build prices."

1.45.1 What is the likelihood of the downside scenario occurring, i.e., that load does not grow materially over 40 years and where market prices remain well below new-build prices?

RESPONSE:

The downside scenario is one of a number of long term planning scenarios used by BC Hydro to conduct a sensitivity analysis of the Waneta 2017 Transaction. The scenario descriptions and how they were applied in the sensitivity analysis are summarized in Appendix D of the Waneta 2017 Business Case. These long term planning scenarios where developed as "what-if" scenarios only and we have not developed likelihood probabilities for any of them.

45.0 Topic: Comparative Analysis

Reference: Exhibit B-1, Appendix N, Business Case, Comparative Analysis p. 48, pdf p. 563

BC Hydro states: "This assessment indicates that the Transaction is cost-effective under all but the most risk-<u>averse</u> assumptions." [underline added]

1.45.2 Should this read "risk <u>adverse</u>"?

RESPONSE:

No.

46.0 Topic: Seismic Risk

Reference: Exhibit B-1, Section 2.2.2 Dam and Water Passages, p. 2-6, pdf p. 45; 2009 Waneta Transaction Proceeding, Exhibit B-11-4,[1] Klohn Krippen Berger report; 2009 Waneta Transaction Proceeding, BC Hydro response to BCOAPO 1.7.1, pdf p. 552[2]

BC Hydro says that among the potential issues and/or possible upgrades related to dam and water passages identified to date that it has identified is "Seismic and reliability upgrades to the spillway gates." [underline added]

BC Hydro continues:

"BC Hydro and Teck are continuing to assess these potential issues to determine an appropriate response, if required. The risk of emergent issues affecting the dam or water passages during the Lease Period are accounted for in the COPOA and through the negotiation of new terms that will allow BC Hydro to direct Teck, in its capacity as Operator,[52] to undertake any action and/or project with respect to dam safety at BC Hydro's cost[53] - see section 3.2.5.1 for further information.[54]" [underline added]

Footnote 53: Note that as currently contemplated, it is only if BC Hydro directs actions or projects over and above what is required to meet the "Operating Standard" outlined in the COPOA (see section 7.1 of the COPOA) that BC Hydro will be responsible for all costs."

In the 2009 Waneta Transaction proceeding BC Hydro filed as Exhibit B-11-4 a September 2009 report by Klohn Krippen Berger titled "Due Diligence Regarding the Acquisition of the Generating Assets of Waneta Generating Station Technical Due Diligence, Condition Assessment and Capital Plan Review." This report addresses seismic risks among other issues. The authors state:

"Waneta Dam is currently rated as a High Consequence dam with respect to dam safety, under the 1999 CDA [Canadian Dam Association] dam safety guidelines, whereas Seven Mile Dam upstream of Waneta is Very High Consequence. Waneta has not undergone a dam safety review since the 2007 CDA dam safety guidelines were issued. After a proposed seismic upgrade (anchoring the dam) is implemented, Waneta Dam would be just stable under IDF [Inflow Design Flood] conditions, implying that the dam is not stable under PMF [Probable Maximum Flood] conditions. Should Waneta be raised to a Very High (1999 CDA) or Extreme (2007 CDA) Consequence category, significant expenditures may be

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required to address issues associated with the PMF (additional anchorage of the dam for stability; increased spillway capacity, if overtopping the dam is considered unacceptable)." [underline added]

In the 2009 Waneta Transaction proceeding BCOAPO asked "What is the likelihood of Waneta being raised to a "Very High Consequence " dam?" In Exhibit B-13, BCOAPO 1.7.1, pdf p. 552, BC Hydro responded:

"There is a possibility that in future reviews, the consequence category could be raised to Very High. This would be dependent on the results of studies on downstream effects of a dam breach. Downstream consequences can change with time, dependent on future developments. However, were the consequence category revised, it would likely be recognized that overtopping of the concrete dam would be acceptable, providing additional anchors were installed to ensure its stability. This would be much less costly than increasing spillway capacity. There are a number of BC Hydro concrete dams which will overtop under Probable Maximum Flood (PMF) conditions, and are similarly protected by means of foundation anchors."

1.46.1 Please discuss the seismic risk associated with the 2/3 Interest, both during the Lease Period and the Post-Lease Period.

RESPONSE:

The two components of risk are likelihood and consequence. The likelihood of a seismic event occurring does not change with a change in ownership, nor do the actual consequences of the seismic event. Generally the consequence directly to BC Hydro of a seismic event as a full owner can reasonably be expected to be three times the consequence to BC Hydro as a one-third owner.

46.0 Topic: Seismic Risk

Reference: Exhibit B-1, Section 2.2.2 Dam and Water Passages, p. 2-6, pdf p. 45; 2009 Waneta Transaction Proceeding, Exhibit B-11-4,[1] Klohn Krippen Berger report; 2009 Waneta Transaction Proceeding, BC Hydro response to BCOAPO 1.7.1, pdf p. 552[2]

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1.46.2 What more-recent dam safety reviews or updates to the 2009 Klohn Krippen Berger report has BC Hydro obtained?

RESPONSE:

BC Hydro has obtained the following reports since 2009:

- **Hatch, 2010. Waneta Dam Dam Safety Reivew. Report H334281, October 2010. (2.8.1);**
- **Austin Engineering, 2015. Waneta Dam Safety – 2014 Annual Inspection Report. January 2015. (2.8.2);**
- **Hatch, 2012. Waneta Dam Stabilization Design Report. April 30 2012. (8.3.2.1.4.7);**
- **Austin, R., 2015. 2014 Dam Safety Status Report Form for Owners of High, Very High & Extreme Consequence Dams. Completed B.C. Water Management Branch Form for Waneta Dam, January 24 2015. (8.3.2.1.4.9);**
- **Hatch, 2015. Waneta Dam Stability – 3D Nonlinear Analysis for Waneta Dam Stabilization. Report H349012-00000-220-230-0002, September 15 2015. (8.3.2.1.4.10);**

- **Hall, R.L., Little, T.E. and Nuss, L.K., 2015. Waneta Dam – 3D Stability Analyses Independent Review Team Meeting – September 24, 2015. Waneta Dam Independent Review Team Report, October 2015. (8.3.2.1.4.11);**

- **Hatch, 2016. Report Potential Failure Mode Analysis. Report No. H349012-00000-220-230-0004, July 18 2016. (8.3.2.1.4.14);**

- **Fortis BC, 2017. Functional Description No. 161204S02 P6 – Waneta Spillgate Automation User Requirements Document, January 9 2017. (8.3.2.1.4.15);**

- **BC Hydro, 2015. Waneta Dam (WAN) – Probabilistic Seismic Hazard Analysis (PSHA). Inter-office memo from M. Li to Allen Woo, May 6 2015. (8.3.2.1.11.1);**

- **Hatch, 2016. FortisBC – Waneta Dam Stability Evaluation Desk-Top Geological Assessment. Project Memo H349012-00000-229-030-0002, May 4 2016. (8.3.2.1.11.2); and**

- **Hatch, 2017. Teck Metals Ltd. Waneta Dam Condition Assessment. Independent Engineer's Report on the Condition of the Waneta Dam and Generating Station Assets, H35366000000-200-230-0001, March 15 2017.**

46.0 Topic: Seismic Risk

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"BC Hydro and Teck are continuing to assess these potential issues to determine an appropriate response, if required. The risk of emergent issues affecting the dam or water passages during the Lease Period are accounted for in the COPOA and through the negotiation of new terms that will allow BC Hydro to direct Teck, in its capacity as Operator,[52] to undertake any action and/or project with respect to dam safety at BC Hydro's cost[53] - see section 3.2.5.1 for further information.[54]" [underline added]

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In the 2009 Waneta Transaction proceeding BCOAPO asked "What is the likelihood of Waneta being raised to a "Very High Consequence " dam?" In Exhibit B-13, BCOAPO 1.7.1, pdf p. 552, BC Hydro responded:

"There is a possibility that in future reviews, the consequence category could be raised to Very High. This would be dependent on the results of studies on downstream effects of a dam breach. Downstream consequences can change with time, dependent on future developments. However, were the consequence category revised, it would likely be recognized that overtopping of the concrete dam would be acceptable, providing additional anchors were installed to ensure its stability. This would be much less costly than increasing spillway capacity. There are a number of BC Hydro concrete dams which will overtop under Probable Maximum Flood (PMF) conditions, and are similarly protected by means of foundation anchors."

1.46.3 What is the current rating of the Waneta Dam under the 1999 Canadian Dam Association dam safety guidelines? Is the Waneta Dam now a Very High Consequence dam?

RESPONSE:

The dam currently has a High Consequence classification under the BC Dam Regulations. The regulations take precedence over any past (1999) or current (2013) Canadian Dam Association guidelines.

However, the recent completion of the Waneta Expansion Project powerhouse has increased the consequences of a Waneta Dam failure. Based on loss of life criteria, the dam remains as a "high" consequence structure, however it is unclear whether the total cost to replace all structures in the inundation zone, and the potential economic loss of the train bridge used by Teck for delivery of concentrate to their smelter, could result in the dam becoming classified as a Very High Consequence dam in future dam safety reviews.

46.0 Topic: Seismic Risk

Reference: Exhibit B-1, Section 2.2.2 Dam and Water Passages, p. 2-6, pdf p. 45; 2009 Waneta Transaction Proceeding, Exhibit B-11-4,[1] Klohn Krippen Berger report; 2009 Waneta Transaction Proceeding, BC Hydro response to BCOAPO 1.7.1, pdf p. 552[2]

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"BC Hydro and Teck are continuing to assess these potential issues to determine an appropriate response, if required. The risk of emergent issues affecting the dam or water passages during the Lease Period are accounted for in the COPOA and through the negotiation of new terms that will allow BC Hydro to direct Teck, in its capacity as Operator,[52] to undertake any action and/or project with respect to dam safety at BC Hydro's cost[53] - see section 3.2.5.1 for further information.[54]" [underline added]

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1.46.4 Please provide an update to BC Hydro's response to BCOAPO IR 1.7.1 in the 2009 Waneta Transaction proceeding.

RESPONSE:

Please refer to BC Hydro's response to BCSEA IR 1.46.3.

46.0 Topic: Seismic Risk

Reference: Exhibit B-1, Section 2.2.2 Dam and Water Passages, p. 2-6, pdf p. 45; 2009 Waneta Transaction Proceeding, Exhibit B-11-4,[1] Klohn Krippen Berger report; 2009 Waneta Transaction Proceeding, BC Hydro response to BCOAPO 1.7.1, pdf p. 552[2]

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1.46.4 Please provide an update to BC Hydro's response to BCOAPO IR 1.7.1 in the 2009 Waneta Transaction proceeding.

1.46.4.1 Does BC Hydro currently consider that overtopping of the concrete dam would be acceptable?

RESPONSE:

Overtopping of any dam is an accepted retained risk at some level of likelihood. In the case of Waneta, if anchored for overtopping in the case of an extreme flood, the dam would survive, but with significant damage to the gate structures.

46.0 Topic: Seismic Risk

Reference: Exhibit B-1, Section 2.2.2 Dam and Water Passages, p. 2-6, pdf p. 45; 2009 Waneta Transaction Proceeding, Exhibit B-11-4,[1] Klohn Krippen Berger report; 2009 Waneta Transaction Proceeding, BC Hydro response to BCOAPO 1.7.1, pdf p. 552[2]

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1.46.4 Please provide an update to BC Hydro's response to BCOAPO IR 1.7.1 in the 2009 Waneta Transaction proceeding.

1.46.4.2 Is increased spillway capacity required?

RESPONSE:

There is currently no specific requirement or expectation by way of regulation for an increase in spillway capacity. Should the dam be reclassified to Very High Consequence, there would be an expectation that the dam would survive a flood with a volume two-thirds between the one-thousand year flood and the Probable Maximum Flood, which could be effected by either an increase in spillway capacity or anchoring the dam. There would still be no requirement to do so, unless so ordered by the regulator.

46.0 Topic: Seismic Risk

Reference: Exhibit B-1, Section 2.2.2 Dam and Water Passages, p. 2-6, pdf p. 45; 2009 Waneta Transaction Proceeding, Exhibit B-11-4,[1] Klohn Krippen Berger report; 2009 Waneta Transaction Proceeding, BC Hydro response to BCOAPO 1.7.1, pdf p. 552[2]

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Extreme (2007 CDA) Consequence category, significant expenditures may be required to address issues associated with the PMF (additional anchorage of the dam for stability; increased spillway capacity, if overtopping the dam is considered unacceptable)." [underline added]

In the 2009 Waneta Transaction proceeding BCOAPO asked "What is the likelihood of Waneta being raised to a "Very High Consequence " dam?" In Exhibit B-13, BCOAPO 1.7.1, pdf p. 552, BC Hydro responded:

"There is a possibility that in future reviews, the consequence category could be raised to Very High. This would be dependent on the results of studies on downstream effects of a dam breach. Downstream consequences can change with time, dependent on future developments. However, were the consequence category revised, it would likely be recognized that overtopping of the concrete dam would be acceptable, providing additional anchors were installed to ensure its stability. This would be much less costly than increasing spillway capacity. There are a number of BC Hydro concrete dams which will overtop under Probable Maximum Flood (PMF) conditions, and are similarly protected by means of foundation anchors."

1.46.5 Is BC Hydro confident that there are no seismic risks except those that would be addressed by the "Seismic and reliability upgrades to the spillway gates"? If so, why?

RESPONSE:

The stability of all the various structures under the currently known seismic hazard has not been fully evaluated. However, knowing that the seismic hazard in this area is relatively low gives some confidence that any remaining risks to large civil engineering structures, inherently stable to relatively small ground motions, are also relatively low.

46.0 Topic: Seismic Risk

Reference: Exhibit B-1, Section 2.2.2 Dam and Water Passages, p. 2-6, pdf p. 45; 2009 Waneta Transaction Proceeding, Exhibit B-11-4,[1] Klohn Krippen Berger report; 2009 Waneta Transaction Proceeding, BC Hydro response to BCOAPO 1.7.1, pdf p. 552[2]

BC Hydro says that among the potential issues and/or possible upgrades related to dam and water passages identified to date that it has identified is "Seismic and reliability upgrades to the spillway gates." [underline added]

BC Hydro continues:

"BC Hydro and Teck are continuing to assess these potential issues to determine an appropriate response, if required. The risk of emergent issues affecting the dam or water passages during the Lease Period are accounted for in the COPOA and through the negotiation of new terms that will allow BC Hydro to direct Teck, in its capacity as Operator,[52] to undertake any action and/or project with respect to dam safety at BC Hydro's cost[53] - see section 3.2.5.1 for further information.[54]" [underline added]

Footnote 53: Note that as currently contemplated, it is only if BC Hydro directs actions or projects over and above what is required to meet the "Operating Standard" outlined in the COPOA (see section 7.1 of the COPOA) that BC Hydro will be responsible for all costs."

In the 2009 Waneta Transaction proceeding BC Hydro filed as Exhibit B-11-4 a September 2009 report by Klohn Krippen Berger titled "Due Diligence Regarding the Acquisition of the Generating Assets of Waneta Generating Station Technical Due Diligence, Condition Assessment and Capital Plan Review." This report addresses seismic risks among other issues. The authors state:

"Waneta Dam is currently rated as a High Consequence dam with respect to dam safety, under the 1999 CDA [Canadian Dam Association] dam safety guidelines, whereas Seven Mile Dam upstream of Waneta is Very High Consequence. Waneta has not undergone a dam safety review since the 2007 CDA dam safety guidelines were issued. After a proposed seismic upgrade (anchoring the dam) is implemented, Waneta Dam would be just stable under IDF [Inflow Design Flood] conditions, implying that the dam is not stable under PMF [Probable Maximum Flood] conditions. Should Waneta be raised to a Very High (1999 CDA) or

[1] http://www.bcuc.com/Documents/Proceedings/2009/DOC_22931_Exhibit%20B_11_4_BCHydro_KCB-Report.pdf

[2] http://www.bcuc.com/Documents/Proceedings/2009/DOC_23286_B-13_Resps-BCUC_IR-2_Intvr_IR-1.pdf

Extreme (2007 CDA) Consequence category, significant expenditures may be required to address issues associated with the PMF (additional anchorage of the dam for stability; increased spillway capacity, if overtopping the dam is considered unacceptable)." [underline added]

In the 2009 Waneta Transaction proceeding BCOAPO asked "What is the likelihood of Waneta being raised to a "Very High Consequence " dam?" In Exhibit B-13, BCOAPO 1.7.1, pdf p. 552, BC Hydro responded:

"There is a possibility that in future reviews, the consequence category could be raised to Very High. This would be dependent on the results of studies on downstream effects of a dam breach. Downstream consequences can change with time, dependent on future developments. However, were the consequence category revised, it would likely be recognized that overtopping of the concrete dam would be acceptable, providing additional anchors were installed to ensure its stability. This would be much less costly than increasing spillway capacity. There are a number of BC Hydro concrete dams which will overtop under Probable Maximum Flood (PMF) conditions, and are similarly protected by means of foundation anchors."

1.46.6 Do Teck and BC Hydro plan upgrades according to the same, or different, dam safety standards or guidelines?

RESPONSE:

Please refer to BC Hydro's response to BCOAPO IR 1.5.2.

46.0 Topic: Seismic Risk

Reference: Exhibit B-1, Section 2.2.2 Dam and Water Passages, p. 2-6, pdf p. 45; 2009 Waneta Transaction Proceeding, Exhibit B-11-4,[1] Klohn Krippen Berger report; 2009 Waneta Transaction Proceeding, BC Hydro response to BCOAPO 1.7.1, pdf p. 552[2]

BC Hydro says that among the potential issues and/or possible upgrades related to dam and water passages identified to date that it has identified is "Seismic and reliability upgrades to the spillway gates." [underline added]

BC Hydro continues:

"BC Hydro and Teck are continuing to assess these potential issues to determine an appropriate response, if required. The risk of emergent issues affecting the dam or water passages during the Lease Period are accounted for in the COPOA and through the negotiation of new terms that will allow BC Hydro to direct Teck, in its capacity as Operator,[52] to undertake any action and/or project with respect to dam safety at BC Hydro's cost[53] - see section 3.2.5.1 for further information.[54]" [underline added]

Footnote 53: Note that as currently contemplated, it is only if BC Hydro directs actions or projects over and above what is required to meet the "Operating Standard" outlined in the COPOA (see section 7.1 of the COPOA) that BC Hydro will be responsible for all costs."

In the 2009 Waneta Transaction proceeding BC Hydro filed as Exhibit B-11-4 a September 2009 report by Klohn Krippen Berger titled "Due Diligence Regarding the Acquisition of the Generating Assets of Waneta Generating Station Technical Due Diligence, Condition Assessment and Capital Plan Review." This report addresses seismic risks among other issues. The authors state:

"Waneta Dam is currently rated as a High Consequence dam with respect to dam safety, under the 1999 CDA [Canadian Dam Association] dam safety guidelines, whereas Seven Mile Dam upstream of Waneta is Very High Consequence. Waneta has not undergone a dam safety review since the 2007 CDA dam safety guidelines were issued. After a proposed seismic upgrade (anchoring the dam) is implemented, Waneta Dam would be just stable under IDF [Inflow Design Flood] conditions, implying that the dam is not stable under PMF [Probable Maximum Flood] conditions. Should Waneta be raised to a Very High (1999 CDA) or Extreme (2007 CDA) Consequence category, significant expenditures may be

[1] http://www.bcuc.com/Documents/Proceedings/2009/DOC_22931_Exhibit%20B_11_4_BCHydro_KCB-Report.pdf

[2] http://www.bcuc.com/Documents/Proceedings/2009/DOC_23286_B-13_Resps-BCUC_IR-2_Intvr_IR-1.pdf

required to address issues associated with the PMF (additional anchorage of the dam for stability; increased spillway capacity, if overtopping the dam is considered unacceptable)." [underline added]

In the 2009 Waneta Transaction proceeding BCOAPO asked "What is the likelihood of Waneta being raised to a "Very High Consequence " dam?" In Exhibit B-13, BCOAPO 1.7.1, pdf p. 552, BC Hydro responded:

"There is a possibility that in future reviews, the consequence category could be raised to Very High. This would be dependent on the results of studies on downstream effects of a dam breach. Downstream consequences can change with time, dependent on future developments. However, were the consequence category revised, it would likely be recognized that overtopping of the concrete dam would be acceptable, providing additional anchors were installed to ensure its stability. This would be much less costly than increasing spillway capacity. There are a number of BC Hydro concrete dams which will overtop under Probable Maximum Flood (PMF) conditions, and are similarly protected by means of foundation anchors."

1.46.7 What is the estimated cost of the worked needed to bring the Waneta facility up to BC Hydro's dam safety standards or guidelines?

RESPONSE:

Please refer to Section 2.1, Appendix B of the Waneta 2017 Business Case (Appendix N of the Application).

Please refer to BC Hydro's letter of January 17, 2018 (Exhibit B-7) for a description of the information redacted in BC Hydro's previous submissions and the rationale for these redactions.

47.0 Topic: Panel Mid-C Energy Price Forecast

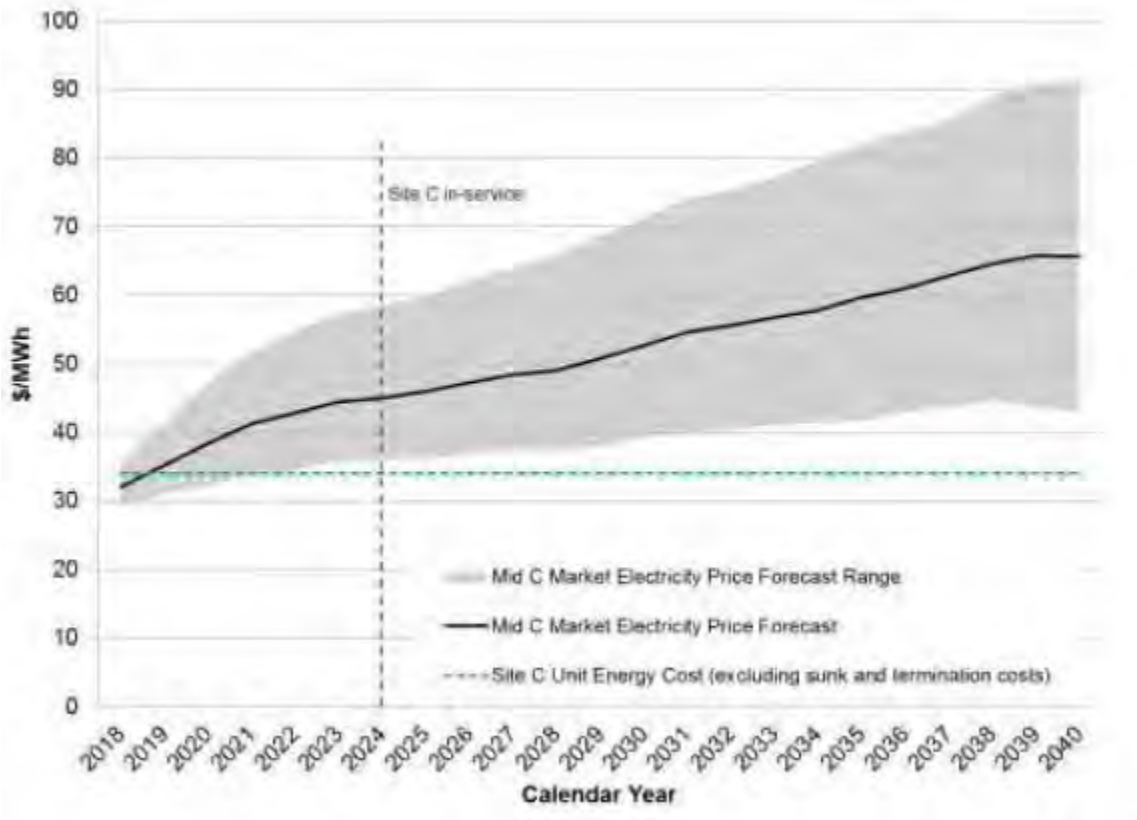
Reference: Exhibit A-4, BCUC IR 6, 7, 15, 18, 19, 24, 25, 30, 32, 33

The Commission Information Requests ask BC Hydro to provide the results of various analyses using, among other values, "the Panel Mid-C energy price forecast" from the Site C Inquiry Final Report.

1.47.1 What are BC Hydro's views regarding "the Panel Mid-C energy price forecast"?

RESPONSE:

Figure 15 Comparison of Site C Unit Energy Cost to Mid Columbia ("Mid C") Market Electricity Price (Fiscal2018$/MWh)



A forecast is a prediction or estimate of future events. Whenever possible, and to the extent important decisions are based on them, forecasts should have robust methodological underpinnings.

The ABB Forecast described in section 4.1.8 of the Application is such a forecast. It is derived from a model of the Western Interconnection that includes known and planned generation resources to determine a market clearing price on an hourly time step basis. It explicitly considers natural gas prices, generation resource buildout, and hourly generation dispatch, among other factors, using an independent and robust methodology.

The "Panel Mid-C energy price forecast" referred to does not have a robust methodological underpinning. BC Hydro understands that it was calculated as the mid-point between BC Hydro's expected and low Mid-C price forecasts. (As such, it falls within the BC Hydro market price forecast uncertainty band shown in Figure 15 of BC Hydro's August 30 submission F1-1 of the Site C Inquiry, attached). In this regard it is very similar to the Extrapolated Forecast, also described in section 4.1.8 of the Application.

Like the Extrapolated Forecast, "Panel Mid-C energy price forecast" is a reasonable price curve to use for sensitivity analysis, but is not by itself an appropriate basis for long-term resource planning or market price forecasts upon which significant decisions should be made.

47.0 Topic: Panel Mid-C Energy Price Forecast

Reference: Exhibit A-4, BCUC IR 6, 7, 15, 18, 19, 24, 25, 30, 32, 33

The Commission Information Requests ask BC Hydro to provide the results of various analyses using, among other values, "the Panel Mid-C energy price forecast" from the Site C Inquiry Final Report.

1.47.2 In BC Hydro's view, is "the Panel Mid-C energy price forecast" a forecast or an assumption for sensitivity analysis purposes?

RESPONSE:

Please refer to BC Hydro's response to BCSEA IR 1.47.1.

47.0 Topic: Panel Mid-C Energy Price Forecast

Reference: Exhibit A-4, BCUC IR 6, 7, 15, 18, 19, 24, 25, 30, 32, 33

The Commission Information Requests ask BC Hydro to provide the results of various analyses using, among other values, "the Panel Mid-C energy price forecast" from the Site C Inquiry Final Report.

1.47.3 Is the "the Panel Mid-C energy price forecast" higher, or lower, than the redacted Extrapolated Market Price curve BC Hydro uses in the Application?

RESPONSE:

On a levelized basis the Commission Panel Mid-C energy price forecast is higher than the redacted Extrapolated Forecast curve for the period fiscal 2039 to fiscal 2058.

Please refer to BC Hydro's response to BCSEA IR 1.47.1 for discussion of the Panel Mid-C energy price forecast.

48.0 Topic: Panel Low Load Forecast

Reference: Exhibit A-4, BCUC IR 25, 30, 32

In BCUC IRs 25 and 32 the Commission cites the Site C Panel Final Report:

"BC Hydro's mid load forecast to be excessively optimistic and considers it more appropriate to use the low load forecast in making our applicable findings as required by the OIC. In addition, the Panel is of the view that there are risks that could result in demand being less than the low case."

In BCUC IR 25, the Commission asks BC Hydro to "discuss the implications for the valuation of the Waneta 2017 Transaction <u>if this Panel finds similarly as the Site C Panel regarding the growth in BC Hydro's LRBs</u> and the appropriate Mid-C forecast energy price to use." [underline added]

In BCUC IR 32, the Commission asks:

"Please discuss the implications for the valuation of the no-go scenario if this Panel finds, <u>similarly as the Site C Panel, that it is appropriate to use the low load forecast</u> and that the future market price for 2024 and beyond should be a point mid-way between the proposed forecast and the low end of BC Hydro's Mid-C market price forecast." [underline added]

1.48.1 What are BC Hydro's views regarding the Site C Inquiry Panel's statement in the Inquiry Final Report regarding the mid load forecast and the low load forecast?

RESPONSE:

BC Hydro believes its current mid load forecast, as provided in its Fiscal 2017 to Fiscal 2019 Revenue Requirements Application and Site C Inquiry Submissions, represents an appropriate expectation of future load growth recognizing there are a number of uncertainties which could result in future load being higher or lower than the mid forecast. Given these load and other uncertainties, the Waneta 2017 Transaction was evaluated against a range of key sensitivities, including low load growth scenarios and scenarios where the full Waneta output was exported to external markets. We believe it is appropriate for the Commission to similarly assess the Waneta 2017 Transaction over this range of key sensitivities.

48.0 Topic: Panel Low Load Forecast

Reference: Exhibit A-4, BCUC IR 25, 30, 32

In BCUC IRs 25 and 32 the Commission cites the Site C Panel Final Report:

"BC Hydro's mid load forecast to be excessively optimistic and considers it more appropriate to use the low load forecast in making our applicable findings as required by the OIC. In addition, the Panel is of the view that there are risks that could result in demand being less than the low case."

In BCUC IR 25, the Commission asks BC Hydro to "discuss the implications for the valuation of the Waneta 2017 Transaction <u>if this Panel finds similarly as the Site C Panel regarding the growth in BC Hydro's LRBs</u> and the appropriate Mid-C forecast energy price to use." [underline added]

In BCUC IR 32, the Commission asks:

"Please discuss the implications for the valuation of the no-go scenario if this Panel finds, <u>similarly as the Site C Panel, that it is appropriate to use the low load forecast</u> and that the future market price for 2024 and beyond should be a point mid-way between the proposed forecast and the low end of BC Hydro's Mid-C market price forecast." [underline added]

1.48.2 Does BC Hydro consider that the record in the current proceeding is adequate to support a Commission determination that the low load forecast is appropriate for making findings regarding the Waneta 2017 Transaction?

RESPONSE:

No. However, we believe the record in the current proceeding is adequate to support Commission findings regarding the value of the Waneta 2017 Transaction to ratepayers across a range of LRB and market price sensitivity scenarios, including scenarios based on low load growth or full export of Waneta generation to external markets.

48.0 Topic: Panel Low Load Forecast

Reference: Exhibit A-4, BCUC IR 25, 30, 32

In BCUC IRs 25 and 32 the Commission cites the Site C Panel Final Report:

"BC Hydro's mid load forecast to be excessively optimistic and considers it more appropriate to use the low load forecast in making our applicable findings as required by the OIC. In addition, the Panel is of the view that there are risks that could result in demand being less than the low case."

In BCUC IR 25, the Commission asks BC Hydro to "discuss the implications for the valuation of the Waneta 2017 Transaction <u>if this Panel finds similarly as the Site C Panel regarding the growth in BC Hydro's LRBs</u> and the appropriate Mid-C forecast energy price to use." [underline added]

In BCUC IR 32, the Commission asks:

"Please discuss the implications for the valuation of the no-go scenario if this Panel finds, <u>similarly as the Site C Panel, that it is appropriate to use the low load forecast</u> and that the future market price for 2024 and beyond should be a point mid-way between the proposed forecast and the low end of BC Hydro's Mid-C market price forecast." [underline added]

1.48.3 Please confirm, or otherwise explain, that low-carbon electrification in B.C. pursuant to the August 2016 Climate Leadership Plan and the March 2017 OICs 100 and 101 is a factor that will tend to push future load toward the high-load forecast.

RESPONSE:

While low-carbon electrification was not assumed in the development of the May 2016 Load Forecast and uncertainty band, low-carbon electrification would certainly increase expected load growth towards the high-load forecast.

1.0 Reference: Exhibit B-1, Application, Section 1.2, page 1-3, Summary Project Description

1.1.1 Does the following statement correctly summarize the core elements of this transaction?
The transaction consists of the purchase and lease-back of a 2/3 interest in a 64 year old run-of-river hydro dam and its accompanying 490 MW generating station and 25 km transmission line. More particularly, it is a $1.203 billion purchase, by BC Hydro from Teck, with Teck having a 20 year lease-back and an option to extend that lease-back to 30 years. After the Lease Period BC Hydro will have unencumbered ownership of 100% of the facility (when combined with the BC Hydro's existing 1/3 ownership). However, during the Lease Period, Teck will have the rights to all of the energy and capacity associated with the 2/3 share, which it can use to serve its smelter load or sell on the wholesale market.

RESPONSE:

The Waneta 2017 Transaction is accurately summarized on pages 1 to 5 of the cover letter to the Application.

1.0 Reference: Exhibit B-1, Application, Section 1.2, page 1-3, Summary Project Description

1.1.2 As the lessee, what will be Teck's obligations to fund ongoing capital expenditures to sustain or extend the life of the facilities? Please explain how the appropriate maintenance expenditures and sustaining or extending capital expenditures will be determined, and how they will be shared between BC Hydro and Teck.

RESPONSE:

Please refer to BC Hydro's response to CEC IR 1.19.2 for a discussion of decision-making processes around capital investment.

The methodology for sharing capital expenditures between BC Hydro and Teck is covered in the COPOA (please refer to section 1.1(q) of Appendix H of the Application).

1.0 Reference: Exhibit B-1, Application, Section 1.2, page 1-3, Summary Project Description

1.1.3 Since sustaining or extending capital expenditures will have benefits that extend well beyond the 20 year lease period, how will Teck's payment obligations be adjusted for these extended benefits?

RESPONSE:

Please refer to section 1.1(q) of Appendix H to the Application.

3.0 Reference: Exhibit B-1, Application, Section 1.2, page 1-3, Summary Project Description

Regarding the Teck lease-back, BC Hydro states:

"Teck's annual lease payments will start at approximately $74 million, escalating at 2 per cent per year, for the first 20 years. If Teck exercises its option to extend the Lease Period to thirty years, annual lease payments will commence in year 21 at approximately $144 million, again escalating at 2 per cent per year;…"

1.3.1 Is the 2% escalation a simple or compound rate? Assuming it's a compound rate of increase, the annual payment should only reach a level of $110 million by year 21. Please explain why it jumps to $144 million at that time.

RESPONSE:

The 2 per cent escalation compounds on an annual basis.

The lease payments for the potential extension period (starting in year 21) as are set out in the Lease to be higher than would result from 2 per cent annual escalation from year 20 to 30 lease payments.

3.0 Reference: Exhibit B-1, Application, Section 1.2, page 1-3, Summary Project Description

Regarding the Teck lease-back, BC Hydro states:

"Teck's annual lease payments will start at approximately $74 million, escalating at 2 per cent per year, for the first 20 years. If Teck exercises its option to extend the Lease Period to thirty years, annual lease payments will commence in year 21 at approximately $144 million, again escalating at 2 per cent per year;…"

1.3.2 If we consider the purchase and lease-back as an isolated financial transaction, what is the present value of this transaction to BC Hydro, if: a) it is terminated after 20 years, or if b) it is extended, at Teck's option, to 30 years.

RESPONSE:

Isolating the lease payments and calculating a rate of return against the original purchase price is not a meaningful calculation with respect to the value of the transaction. The $1.203 billion purchase price is not only for the Lease Period but also for the value of the post-Lease Period. Further, the purchase price also includes taking on accountability for certain additional costs during the Lease and post-Lease period. As such, the Waneta 2017 Transaction is not separable into components as implied by the request and should be analyzed as a consolidated transaction.

Moreover, the Waneta 2017 Transaction follows the terms of the Fortis Transaction. Thus there is no commercial basis for the proposed isolation of the Lease from the other agreements.

Nonetheless, to be responsive we have calculated the present values requested by this request and by CEABC IR 1.3.3. Please refer to Attachment 1 to this response for calculation details and results.

BC Hydro
Power smart

REFER TO LIVE SPREADSHEET MODEL

Provided in electronic format only

(Accessible by opening the Attachments Tab in Adobe)

3.0 Reference: Exhibit B-1, Application, Section 1.2, page 1-3, Summary Project Description

Regarding the Teck lease-back, BC Hydro states:

"Teck's annual lease payments will start at approximately $74 million, escalating at 2 per cent per year, for the first 20 years. If Teck exercises its option to extend the Lease Period to thirty years, annual lease payments will commence in year 21 at approximately $144 million, again escalating at 2 per cent per year;…"

1.3.3 If we isolate the purchase and lease-back as a financial transaction, what is the implicit interest rate of the lease payments versus the $1.203 billion principal sum (i.e. what is the interest rate that equates the present value of the payments to the present value of the principal sum?):

a) if the lease payments run for the initial period of 20 years, or
b) if the lease payments are extended for the full 30 years?

RESPONSE:

Please refer to BC Hydro's response to CEABC IR 1.3.2.

3.0 Reference: Exhibit B-1, Application, Section 1.2, page 1-3, Summary Project Description

Regarding the Teck lease-back, BC Hydro states:

"Teck's annual lease payments will start at approximately $74 million, escalating at 2 per cent per year, for the first 20 years. If Teck exercises its option to extend the Lease Period to thirty years, annual lease payments will commence in year 21 at approximately $144 million, again escalating at 2 per cent per year;…"

1.3.4 Please provide a spreadsheet analysis (in a working Excel model), showing BC Hydro's calculation of the present values of this sale and lease-back transaction, and also demonstrating the implied interest rates as given in the responses to the previous two questions.

RESPONSE:

Please refer to BC Hydro's letter of January 17, 2018 (Exhibit B-7) for public versions of the spreadsheet models used to calculate the present value of the Waneta 2017 Transaction.

Please refer to the attachment to BC Hydro's response to CEABC IR 1.3.2 for the spreadsheets calculating implied rates of return and present values of the Lease.

3.0 Reference: Exhibit B-1, Application, Section 1.2, page 1-3, Summary Project Description

Regarding the Teck lease-back, BC Hydro states:

"Teck's annual lease payments will start at approximately $74 million, escalating at 2 per cent per year, for the first 20 years. If Teck exercises its option to extend the Lease Period to thirty years, annual lease payments will commence in year 21 at approximately $144 million, again escalating at 2 per cent per year;…"

1.3.5 Under what conditions would BC Hydro expect Teck to exercise its option to extend the lease from 20 to 30 years? What would be the benefits to Teck of such an extension, and what would be its costs? Under what circumstances would Teck's benefits, by extending the lease, exceed its costs?

RESPONSE:

Please refer to BC Hydro's response to BCSEA IR 1.12.2.

5.0 Reference: Exhibit B-1, Application, Section 1.5, page 1-15, the positive NPV of the 2017 Waneta Transaction

BC Hydro states that, "Even if the $50 million transaction costs are incurred, the transaction still has a positive NPV."

1.5.1 Please provide the working Excel model that calculates the NPV to support this statement.

RESPONSE:

Please refer to BC Hydro's letter of January 17, 2018 (Exhibit B-7) for public versions of the spreadsheet models used to calculate the present value of the Waneta 2017 Transaction.

6.0 Reference: Exhibit B-1, Application, Section 1.5.3.2, page 1-15, Additional Consideration (OMA and Capex)

BC Hydro states, "Under the terms of COPOA, Teck is required to pay operating and sustaining capital cost to BC Hydro associated with its two-thirds (lease hold) interest in Waneta."

1.6.1 During the lease period, if Teck reduces the amount of energy it takes from the project below the two-thirds share, will its payments of either operating or capital costs be reduced proportionately?

RESPONSE:

No. Under the Lease, Teck is required to pay pre-set lease payments, plus cover all operating and sustaining capital costs attributable to the two-thirds share. These payments do not vary based on the actual amount of energy used by Teck.

7.0 Reference: Exhibit B-1, Application, Section 4.11, page 4-30-31, Due Diligence

On page 4-30, in referring to the 2010 Waneta Transaction, BC Hydro states that, "Studies and reviews were done in regard to the condition of the plant, environmental and public safety issues, as well as legal and financial due diligence. Outside experts were retained on a number of topics."

And, on page 4-31, BC Hydro concludes that, "No new material environmental risks were identified, although it was recognized that BC Hydro's 100 per cent ownership of Waneta and the evolving focus of environmental regulators could result in increased environmental-regulatory risks over time, consistent with risks of the same nature BC Hydro has with its current facilities."

1.7.3 On pages 39-40 of the KCB report, it states that the Probable Maximum Flood (PMF) for the Waneta dam is 10,860 cms, whereas the spillway capacity is only 7,960 cms and, therefore: "Under PMF flood conditions, the dam crest would be overtopped by 3.1 m.… this implies that the dam is not adequately stable under PMF conditions. If Waneta Dam were to be rated as a Very High or Extreme Consequence dam, additional anchoring would be required to satisfy stability requirements."
What would be the consequences of this degree of overtopping, for the dam, the powerhouse, the Waneta Expansion powerhouse, or any downstream populations? What would be BC Hydro's liability to the owners of the Waneta Expansion powerhouse in this event?

RESPONSE:

Regardless of whether the dam was overtopped, the extreme flood in question would inundate a specific downstream area, including both powerhouses. It would be speculative to assign the liabilities from such an event.

7.0 Reference: Exhibit B-1, Application, Section 4.11, page 4-30-31, Due Diligence

On page 4-30, in referring to the 2010 Waneta Transaction, BC Hydro states that, "Studies and reviews were done in regard to the condition of the plant, environmental and public safety issues, as well as legal and financial due diligence. Outside experts were retained on a number of topics."

And, on page 4-31, BC Hydro concludes that, "No new material environmental risks were identified, although it was recognized that BC Hydro's 100 per cent ownership of Waneta and the evolving focus of environmental regulators could result in increased environmental-regulatory risks over time, consistent with risks of the same nature BC Hydro has with its current facilities."

1.7.4 What others, of BC Hydro's existing facilities, have a similar amount of overtopping risk? And what is BC Hydro doing to deal with the situation at those facilities?

RESPONSE:

Many BC Hydro dams do not have sufficient capacity to pass the entire volume of a "Probable Maximum Flood" as calculated since initial construction. However, due to the very low likelihood of such an extreme event, most of these remain as very low retained risks. In the case of Waneta, there is the additional risk of overtopping due to mis-operation of any of the spillways associated with the upstream dams, and this in general would make the likelihood of overtopping Waneta greater than at other BC Hydro dams

7.0 Reference: Exhibit B-1, Application, Section 4.11, page 4-30-31, Due Diligence

On page 4-30, in referring to the 2010 Waneta Transaction, BC Hydro states that, "Studies and reviews were done in regard to the condition of the plant, environmental and public safety issues, as well as legal and financial due diligence. Outside experts were retained on a number of topics."

And, on page 4-31, BC Hydro concludes that, "No new material environmental risks were identified, although it was recognized that BC Hydro's 100 per cent ownership of Waneta and the evolving focus of environmental regulators could result in increased environmental-regulatory risks over time, consistent with risks of the same nature BC Hydro has with its current facilities."

1.7.5 What, if any, provisions are included in the Waneta capital plan to improve the dam's stability or its ability to withstand PMF conditions?

RESPONSE:

Anchoring of the concrete dam would be to improve the dams' stability under normal, seismic and flood loadings. Please refer to section 2.1, Appendix B of the Waneta 2017 Business Case (Appendix N of the Application).

Please refer to BC Hydro's letter of January 17, 2018 (Exhibit B-7) for a description of the information redacted in BC Hydro's previous submissions and the rationale for these redactions.

7.0 Reference: Exhibit B-1, Application, Section 4.11, page 4-30-31, Due Diligence

On page 4-30, in referring to the 2010 Waneta Transaction, BC Hydro states that, "Studies and reviews were done in regard to the condition of the plant, environmental and public safety issues, as well as legal and financial due diligence. Outside experts were retained on a number of topics."

And, on page 4-31, BC Hydro concludes that, "No new material environmental risks were identified, although it was recognized that BC Hydro's 100 per cent ownership of Waneta and the evolving focus of environmental regulators could result in increased environmental-regulatory risks over time, consistent with risks of the same nature BC Hydro has with its current facilities."

1.7.7 What others, of BC Hydro's existing facilities, have a similar amount of heavy metals contamination? And what is BC Hydro doing to deal with the situation at those facilities?

RESPONSE:

BC Hydro has no objective reason to believe that any of our other facilities have a similar level of heavy metals in the sediment of the forebay as is present in the forebay of Waneta. Nevertheless given the proximity of Waneta and Seven Mile and the history in the region it would not be unreasonable to infer that there may be some contamination at Seven Mile.

8.0 Reference: Exhibit B-1, Application, Appendix N, page 2 of 90 (Executive Summary) and Sub-Appendix B (Review of Waneta Capital Expenditure Forecasts)

In the Executive Summary on page 2, BC Hydro states:

"During the term of this lease:

- *Teck will receive the full entitlement energy and capacity from the facility*
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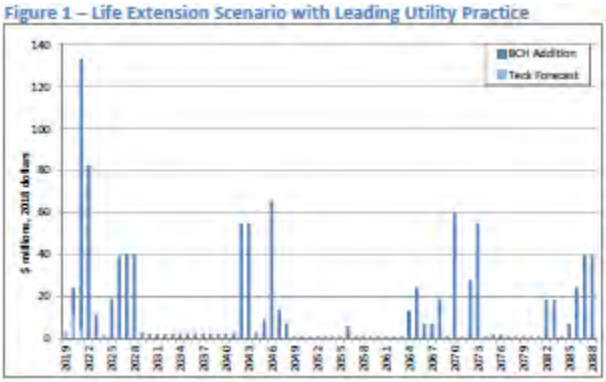

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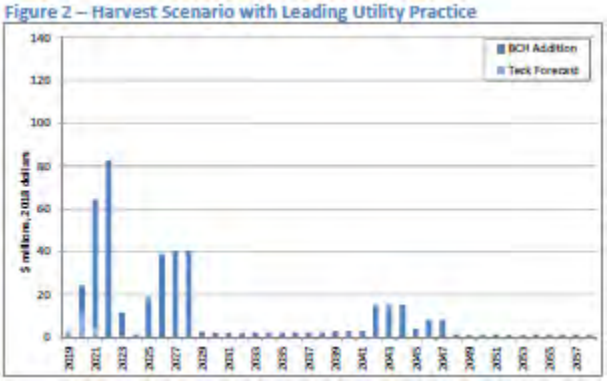

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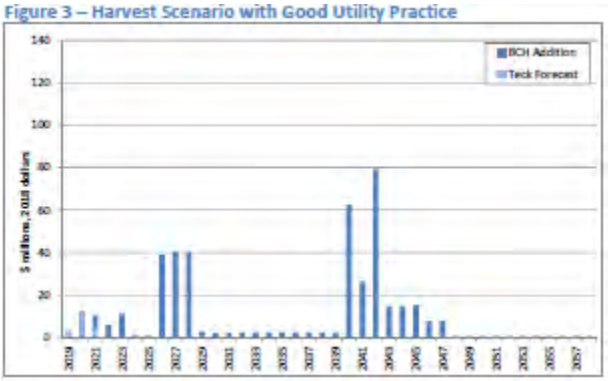

1.8.1 Why is it deemed necessary to have such an incredible amount of redaction? Since all the terms of this deal have already been worked out, and these are only forecasts of possible future needs, what sensitive negotiations would be compromised by revealing these forecasts? Can BC Hydro please be less sweeping and more discriminatory in its use of redaction, confining it to only those specific items that could be commercially sensitive?

RESPONSE:

Please refer to BC Hydro's letter of January 17, 2018 (Exhibit B-7) for a description of the information redacted in BC Hydro's previous submissions and the rationale for these redactions. Please also refer to BC Hydro's response to CEC IR 1.42.2.

8.0 Reference: Exhibit B-1, Application, Appendix N, page 2 of 90 (Executive Summary) and Sub-Appendix B (Review of Waneta Capital Expenditure Forecasts)

In the Executive Summary on page 2, BC Hydro states:

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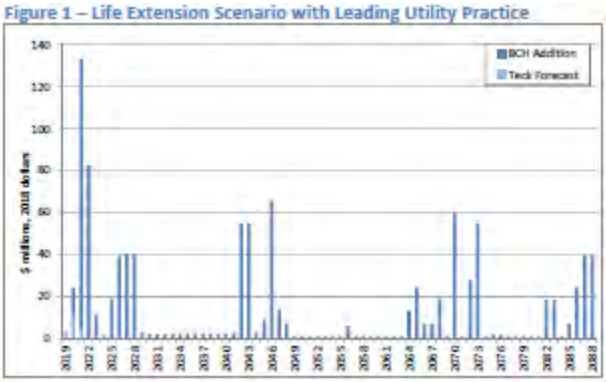

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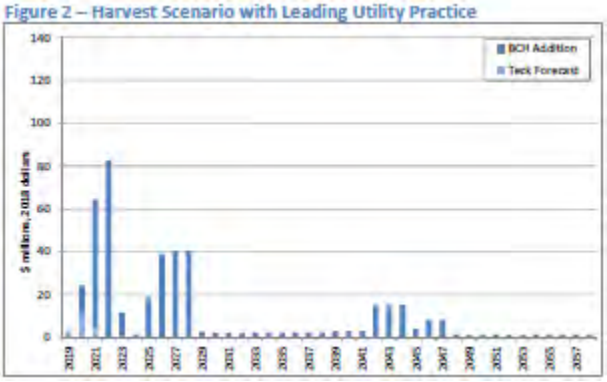

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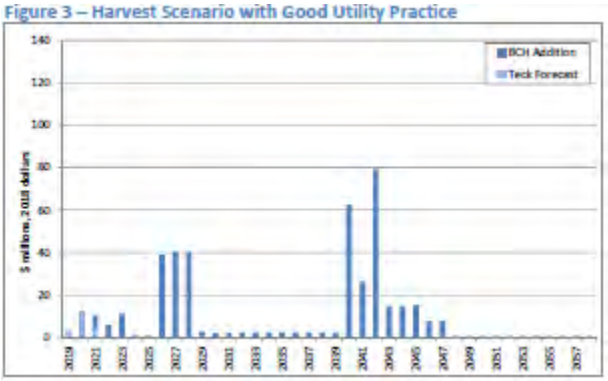

1.8.2 The charts reveal the total estimates and the differences between BC Hydro and the Seller, but it is extremely difficult, and potentially inaccurate to try to estimate the numbers from the charts. What is the total amount of the difference in each scenario: a) over the first 20 years; b) over the first 40 years; and c) over 70 years, in the case of the Live Extend scenario?

RESPONSE:

Please refer to the confidential attachment to BCUC IR 1.20.2.

BC Hydro does not have a 70-year capital forecast from Teck, and thus cannot provide a difference between BC Hydro and Teck's forecast for this period.

8.0 Reference: Exhibit B-1, Application, Appendix N, page 2 of 90 (Executive Summary) and Sub-Appendix B (Review of Waneta Capital Expenditure Forecasts)

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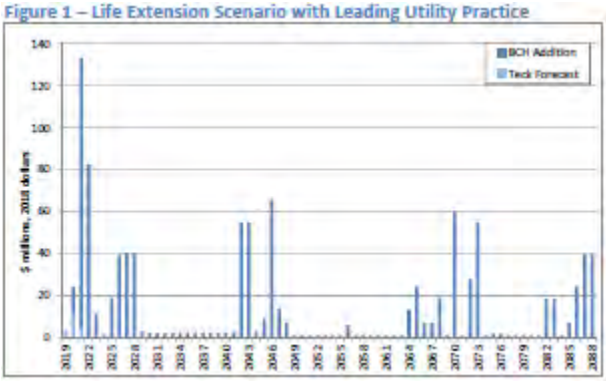

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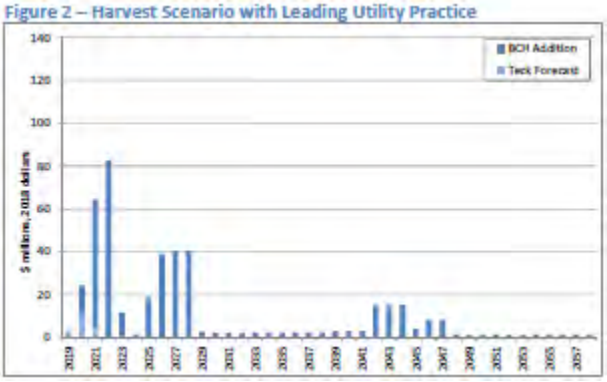

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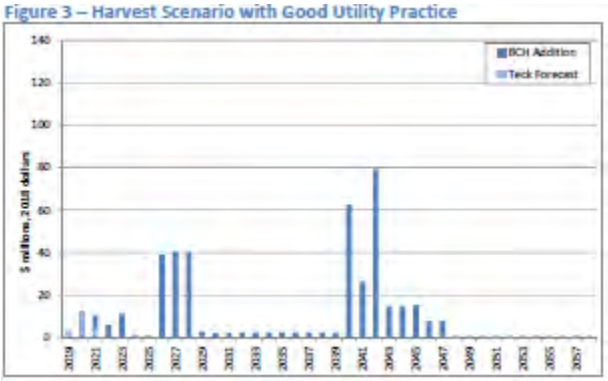

1.8.3 Please provide a working Excel model that contains the numbers that produced these charts.

RESPONSE:

Please refer to BC Hydro's response to BCUC IR 1.20.2.

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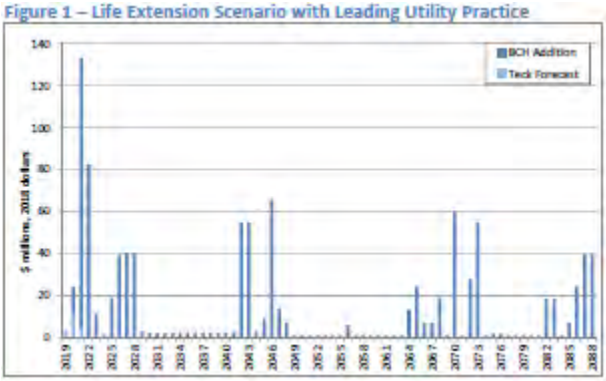

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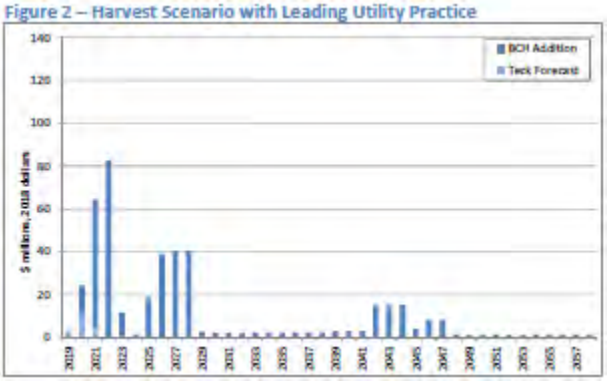

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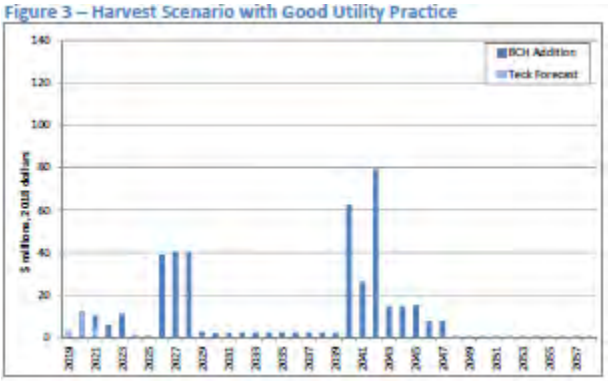

1.8.4 Why is there such an enormous difference between Teck's estimates and BC Hydro's estimates? In view of the fact that Teck will have a 2/3 majority of the votes on the Operating Committee, will BC Hydro likely have to bear this difference in cost on its own account? How much of these differences does BC Hydro expect to be responsible for?

RESPONSE:

BC Hydro believes that part of this difference is due to differences in the standards applied to required capital investments. Please refer to BC Hydro's response to BCOAPO IR 1.5.2. BC Hydro is unable to speculate further on the reason for the differences between Teck and BC Hydro's estimates.

Please refer to BC Hydro's response to CEC IR 1.19.2 for a discussion of the processes related to capital cost approvals.

Please refer to section 1.1(q) of Appendix H of the Application for the cost sharing mechanisms under the COPOA.

Please refer to BC Hydro's confidential attachment to BCUC IR 1.20.2 for detail on BC Hydro's expected share of capital costs.

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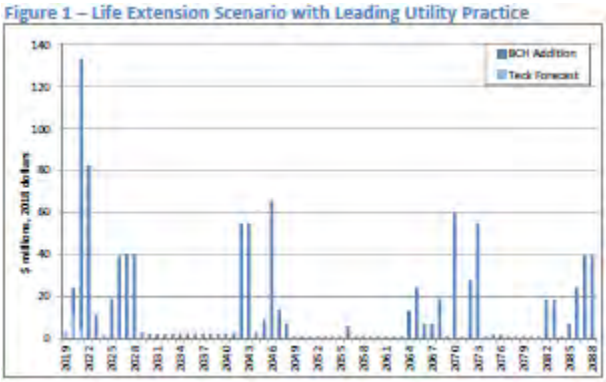

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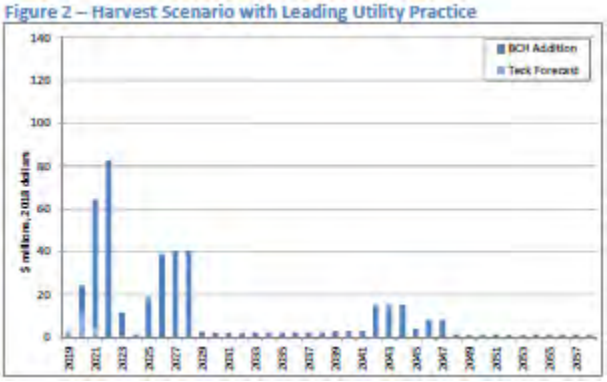

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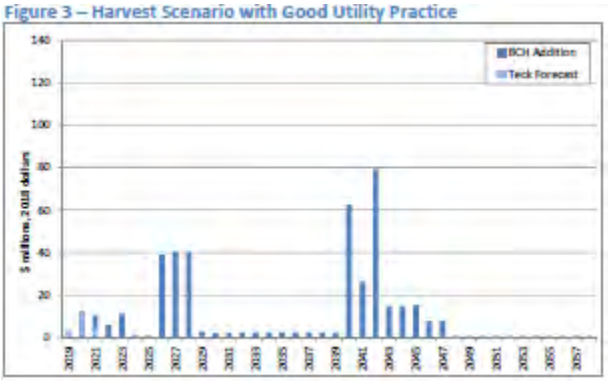

1.8.5 What amounts has BC Hydro included in its NPV analyses for these future capital expenditures?

RESPONSE:

Please refer to BC Hydro's response to BCUC IR 1.20.2. Please also refer to BC Hydro's letter of January 17, 2018 (Exhibit B-7) for public versions of the spreadsheet models used to calculate the present value of the Waneta 2017 Transaction.

8.0 Reference: Exhibit B-1, Application, Appendix N, page 2 of 90 (Executive Summary) and Sub-Appendix B (Review of Waneta Capital Expenditure Forecasts)

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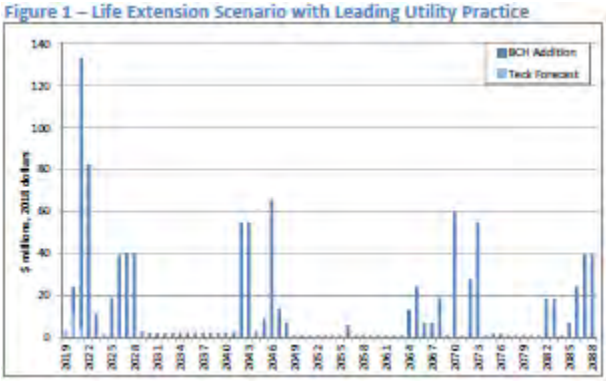

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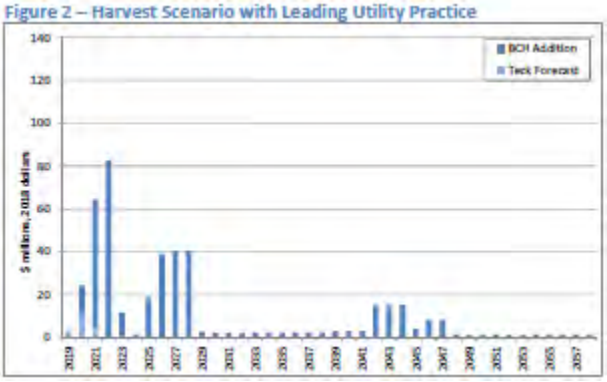

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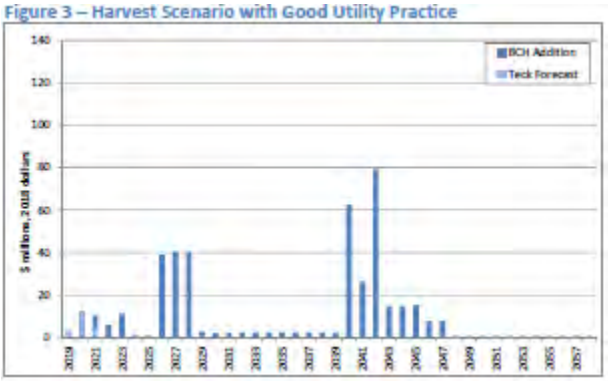

1.8.6 Presumably in each Harvesting scenario, and even in the Extended Life scenario, there must be a decommissioning at the end of the asset life. What is BC Hydro's estimate for the cost of this decommissioning? Are there different options for how the decommissioning would be performed? Please provide some degree of detail in these estimates.

RESPONSE:

BC Hydro's selection of a 40-year economic life is not the same as a 40-year asset life. BC Hydro expects the asset to operate in perpetuity, and has not prepared an estimate of the cost of decommissioning.

8.0 Reference: Exhibit B-1, Application, Appendix N, page 2 of 90 (Executive Summary) and Sub-Appendix B (Review of Waneta Capital Expenditure Forecasts)

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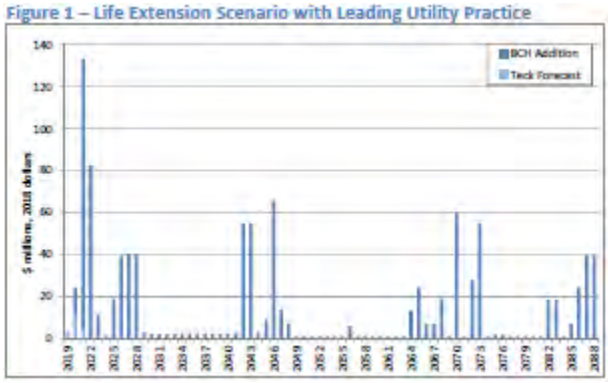

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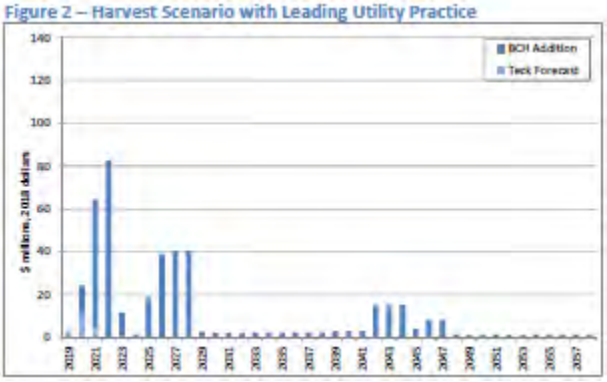

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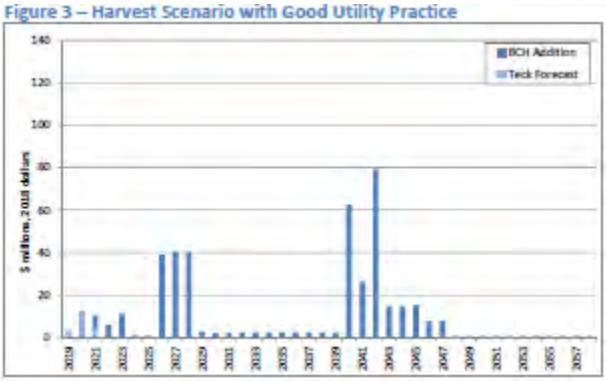


1.8.7 Please compare the decommissioning estimates in the previous answer to the estimates for the decommissioning of the John Hart dam as presented in the John Hart CPCN Application, noting that the John Hart dam had several options, but none involved dealing with the cleanup of a mass of contaminated sediments, or a Trans-border situation involving another sovereign nation.

RESPONSE:

Please refer to BC Hydro's response to CEABC IR 1.8.6.

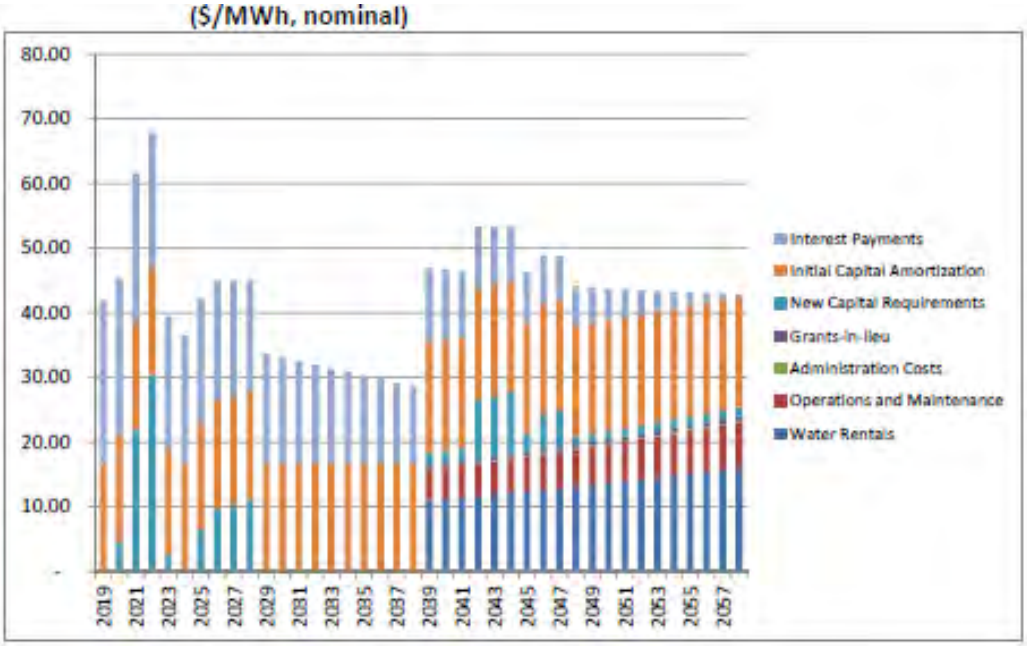
10.0 Reference: Exhibit B-1, Application (page 529 of 639), Appendix N, Section 2.5 (Cost of Service) (page 14-15 of 90)

Under Cost of Service, BC Hydro states:

"..,. the purchase price will be depreciated over the 40-year economic planning life of the 2/3 interest."

An estimated amount for the incremental interest payments that would be incurred on the financing of the initial purchase price. These amounts are based on BC Hydro's current interest rate forecast. Note that, in reality, BC Hydro finances on a portfolio basis and this there would be no debt directly attributable to the purchase of the 2/3 interest."

The chart on page 15 of 90 shows the components of the Cost of Service for the 40 year period:



1.10.1 Please provide a working Excel model that produces this chart.

RESPONSE:

Please refer to the confidential attachment to BC Hydro's response to BCUC IR 1.15.2.

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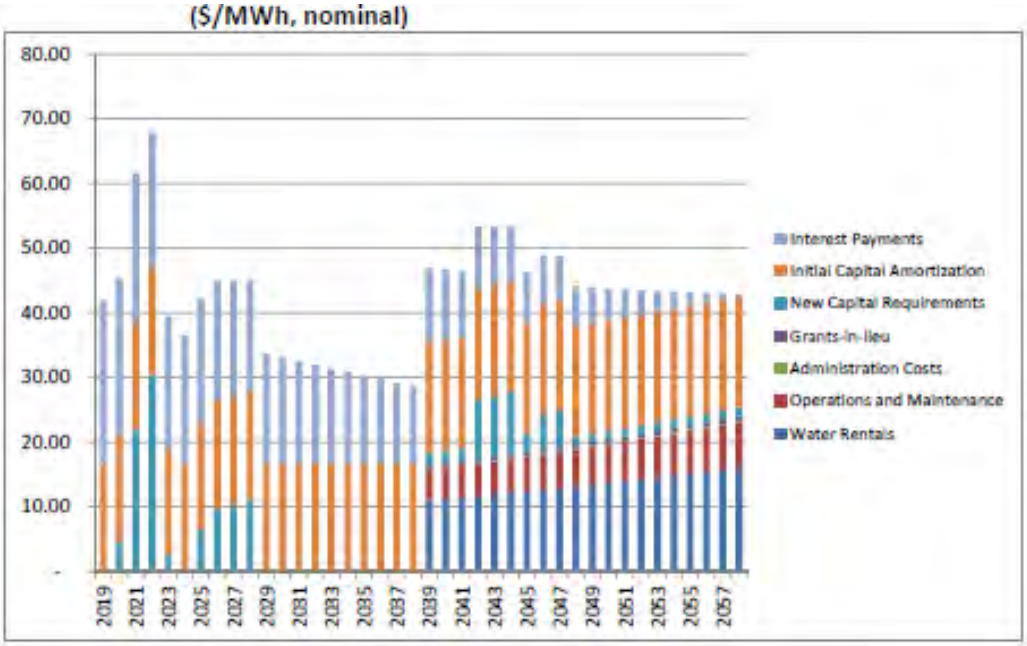

1.10.2 What is the assumed interest rate being used for the calculation of the interest payments?

RESPONSE:

Please refer to BC Hydro's response to BCUC IR 1.56.3.

10.0 Reference: Exhibit B-1, Application (page 529 of 639), Appendix N, Section 2.5 (Cost of Service) (page 14-15 of 90)

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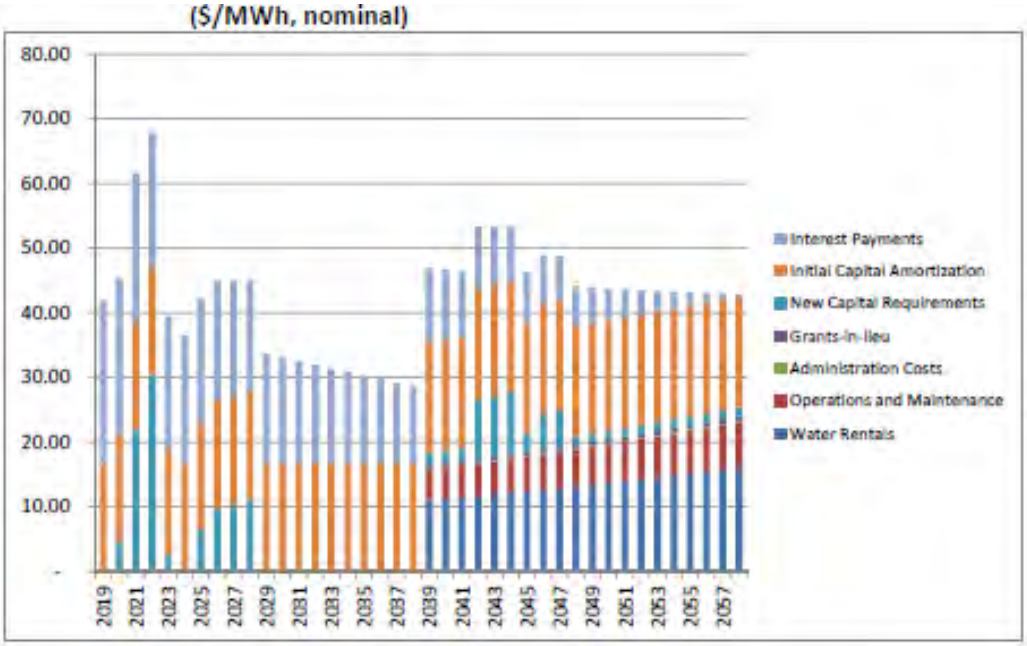

1.10.3 If BC Hydro calculates its Weighted Average Cost of Capital (WACC) at 6%, then why is that WACC not being used for this interest calculation? Is BC Hydro assuming the purchase price will be 100% financed by debt, even though it has a target debt to equity ratio of 60/40?

RESPONSE:

WACC is used to determine the appropriate discount rate to present value a series of cash flows, evaluate business cases, and to support investment decisions at BC Hydro. The WACC is not appropriate for calculating incremental interest costs.

The 3.4 per cent financing rate (as shown in section 4.1.5 of the Application) used in the Ratepayer Impact Analysis in section 5 of the Waneta 2017 Business Case (Appendix N) is the rate BC Hydro expects to issue debt at the time of the Waneta purchase and therefore was used to estimate the incremental interest costs BC Hydro would incur on the new debt issued. Please also refer to BC Hydro's response to BCUC IR 1.56.3 for further discussion regarding the interest rates used in the Waneta 2017 Business Case.

For the purposes of the Waneta 2017 Business Case, BC Hydro is assuming the purchase price will be 100 per cent financed by a mix of short and long-term debt. On a net cash flow basis, before the Waneta 2017 Transaction, BC Hydro is a borrower, as a result BC Hydro is assumed to borrow 100 per cent of the funding required for the Waneta 2017 Transaction.

11.0 Reference: Exhibit B-1, Application (page 534 of 639), Appendix N, Section 3.2.3 (Long-Run Marginal Cost) (page 19-20 of 90)

BC Hydro states that, "The 20-year blended levelized Long Run Marginal Cost from F2038 to F2057 is approximately $122/MWh ($2018) for a Clean + Gas portfolio.

… The combined energy and capacity cost of a combined cycle gas turbine would be (in 2018 dollars): $92/MWh if constructed by an IPP; $88/MWh if constructed by BC Hydro"

And Table 3 gives the following summary:

Table 3 Marginal New Resources and Related Costs

Marginal Resources	Period of Applicability	LRMC (2018 real dollars)	
		Clean + Gas	Clean Only
Energy: Greenfield IPPs	F2034 and beyond	$106/MWh	$106/MWh
Capacity Resources	F2029 and beyond	$88/kW-yr (SCGT)	$221/kW-yr (pumped storage)
Combined Cost of Energy & Capacity	Effective for F2034 and beyond	$122/MWh	$145/MWh

1.11.1 Please provide the analyses used to calculate the LRMC values in Table 3, including a working Excel model and a list of the assumptions.

RESPONSE:

Please refer to BC Hydro's response to BCUC IR 1.7.4.

11.0 Reference: Exhibit B-1, Application (page 534 of 639), Appendix N, Section 3.2.3 (Long-Run Marginal Cost) (page 19-20 of 90)

BC Hydro states that, "The 20-year blended levelized Long Run Marginal Cost from F2038 to F2057 is approximately $122/MWh ($2018) for a Clean + Gas portfolio.

… The combined energy and capacity cost of a combined cycle gas turbine would be (in 2018 dollars): $92/MWh if constructed by an IPP; $88/MWh if constructed by BC Hydro"

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Combined Cost of Energy & Capacity	Effective for F2034 and beyond	$122/MWh	$145/MWh

1.11.2 Do the quoted amounts of $92 and $88 for a combined cycle gas turbine refer to $/MWh, as quoted, or $/kw-yr, as shown in Table 3?

RESPONSE:

The quoted amounts refer to the unit energy cost for a CCGT, represented in $/MWh.

The Capacity Resources row of Table 3 refers to the unit capacity cost for an SCGT or pumped storage, represented in $/kW-yr.

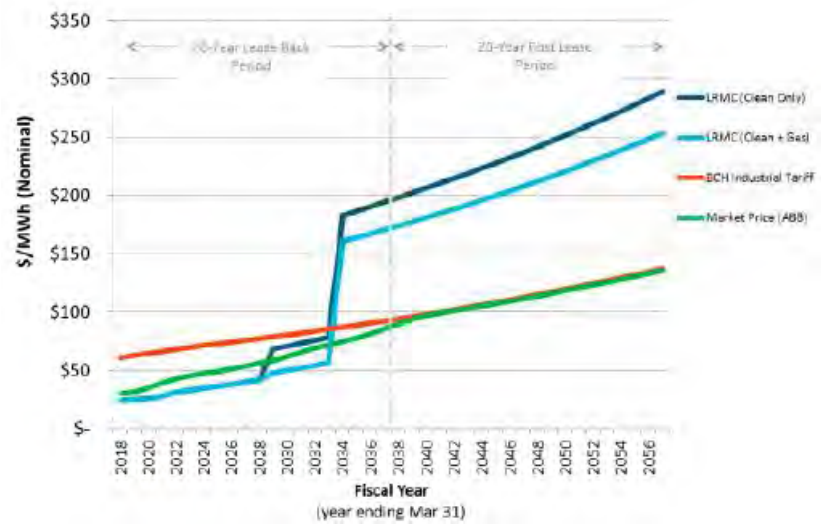
It is a coincidence that the UEC for a CCGT is the same as the UCC for an SCGT.

12.0 Reference: Exhibit B-1, Application (page 535 of 639), Appendix N, Section 3.2.4 (Price Forecast Comparison) (page 20 of 90), and Appendix N-1 (pages 607-610 of 639)

Figure 3 is intended to show the Capacity-Adjusted Energy Price Forecast Comparison, but it is entirely redacted. The same chart appears in Appendix N-1, with only the "Extrapolated" Market Price redacted.

Figure 3 from Waneta 2017 Business Case:
Capacity-Adjusted Energy Price Forecast Comparison

Without "Extrapolated" Market Price Curve



1.12.1 Why is any redaction deemed necessary and, in particular, why is the "Extrapolated" Market Price considered such a sensitive forecast that it needs to be redacted? What sensitive negotiations could possibly be compromised by revealing this forecast?

RESPONSE:

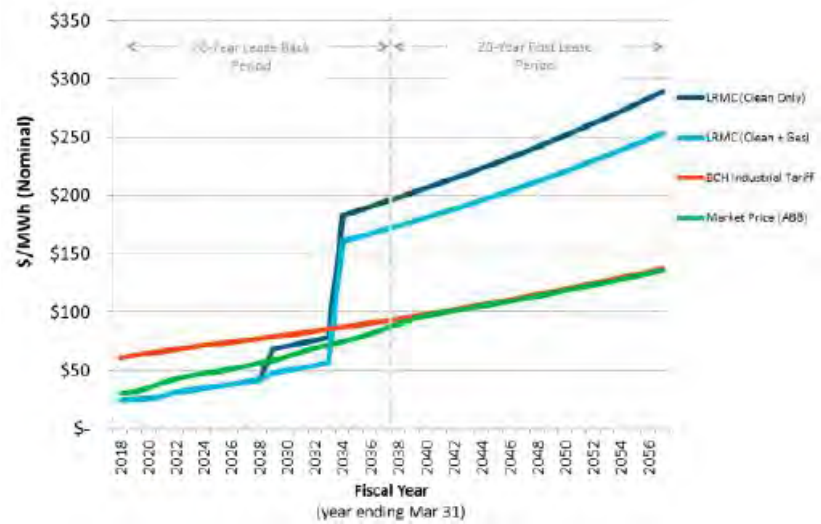
Please refer to BC Hydro's letter of January 17, 2018 (Exhibit B-7) for a description of the information redacted in BC Hydro's previous submissions and the rationale for these redactions.

12.0 Reference: Exhibit B-1, Application (page 535 of 639), Appendix N, Section 3.2.4 (Price Forecast Comparison) (page 20 of 90), and Appendix N-1 (pages 607-610 of 639)

Figure 3 is intended to show the Capacity-Adjusted Energy Price Forecast Comparison, but it is entirely redacted. The same chart appears in Appendix N-1, with only the "Extrapolated" Market Price redacted.

Figure 3 from Waneta 2017 Business Case:
Capacity-Adjusted Energy Price Forecast Comparison

Without "Extrapolated" Market Price Curve



1.12.2 Please provide a working Excel model that produces the chart in Figure 3, and also all of the other charts included in Appendix N-1 (i.e. Figures 3, 4, 5, 6, and 8), with the "Extrapolated" Market Price Curve included, if possible.

RESPONSE:

Please refer to BC Hydro's response to BCUC IR 1.7.4.

Please refer to BC Hydro's letter of January 17, 2018 (Exhibit B-7) for public versions of the spreadsheet models used to evaluate the Waneta 2017 Transaction.

13.0 Reference: Exhibit B-1, Application (page 537 of 639), Appendix N, Section 4.2.1 (Unit Energy Cost Assessment) (page 22-23 of 90)

On page 23, BC Hydro states, The value of this initial Lease Term is substantial, as can be seen by calculating the net present value of the lease revenues less the administration costs of the Lease Term:

The net present value of the 20-year lease is $792 million

The net present value of the 20year lease with a 10-year extension is $1,118 million

… the effective UEC for the period following the initial 20-year term of the Lease Agreement, as this represents a measure of the 'at risk' component of the purchase. This is calculated by subtracting the Lease Agreement PV (~$792 million as above) from the purchase price and calculating a UEC for the final 20 years based on the remaining purchase price. This provides an effective UEC for the value of the 2/3 Interest following the Lease Agreement.

Table 4 shows the effective UEC for both the full 40-year evaluation period and the 20-year period following the Lease Term."

Table 4 Unit Energy Costs for Transaction
($/MWh, 2018 dollars)

Period	20-year Lease
Full term (years 1-40)	41.25
Post-Lease Term (years 21-40)	48.25

(Above numbers rounded to the nearest 0.25)

1.13.1 Please provide a working Excel model that calculates the quoted figures of $792 million and $1,118 million, including all the assumptions being used

RESPONSE:

Please refer to BC Hydro's response to BCUC IR 1.15.5.

13.0 Reference: Exhibit B-1, Application (page 537 of 639), Appendix N, Section 4.2.1 (Unit Energy Cost Assessment) (page 22-23 of 90)

On page 23, BC Hydro states, The value of this initial Lease Term is substantial, as can be seen by calculating the net present value of the lease revenues less the administration costs of the Lease Term:

The net present value of the 20-year lease is $792 million

The net present value of the 20year lease with a 10-year extension is $1,118 million

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($/MWh, 2018 dollars)

Period	20-year Lease
Full term (years 1-40)	41.25
Post-Lease Term (years 21-40)	48.25

(Above numbers rounded to the nearest 0.25)

1.13.2 Please also provide a model that calculates the values shown in Table 4.

RESPONSE:

Please refer to the confidential attachment to BC Hydro's response to BCUC IR 1.15.2.

14.0 Reference: Exhibit B-1, Application (page 539 of 639), Appendix N, Section 4.2.2 (Core NPV Analysis) (page 24-29 of 90)

This section on core NPV Analysis displays a series of Tables (Table 5 through Table 8) showing various aspects of the calculated NPVs.

1.14.1 Please provide the working Excel models that calculate all of these Tables (Table 5 through Table 8), complete with all the assumptions being used for the calculations.

RESPONSE:

Please refer to BC Hydro's letter of January 17, 2018 (Exhibit B-7) for public versions of the spreadsheet models used to calculate the present value of the Waneta 2017 Transaction. Assumptions used for each calculation scenario are identified in the "Scenarios" worksheet.

15.0 Reference: Exhibit B-1, Application (page 544 of 639), Appendix N, Section 4.2.3 (Sensitivity Analysis) (page 29-33 of 90)

This section on core NPV Analysis displays a series of Tables (Table 9 through Table 13) showing the results of the various sensitivity analyses.

1.15.1 Please provide the working Excel models that calculate all of these Tables (Table 9 through Table 13), complete with all the assumptions being used for the calculations.

RESPONSE:

Please refer to BC Hydro's letter of January 17, 2018 (Exhibit B-7) for public versions of the spreadsheet models used to calculate the present value of the Waneta 2017 Transaction. Assumptions used for each calculation scenario are identified in the "Scenarios" worksheet.

1.0 Reference: Exhibit B-1, Cover Letter page 1 and Appendix C page 3 of 5 and page 4 of 5

BC Hydro writes to provide its application for Commission orders regarding its proposed purchase of Teck's remaining two-thirds interest in the Waneta Dam and associated assets (the **Application**). Completion of the Waneta 2017 Transaction is conditional on, among other things, the following Commission orders:

(i) Accepting the schedule of expenditures regarding the Waneta 2017 Transaction as described in the Application;

(ii) Approving the Teck Wheeling Agreement and the Waneta Interconnection Agreement; and

(iii) Making minor amendments to the Non-Heritage Deferral Account, necessary to address the timing of the transaction in the current revenue requirement cycle and certain accounting issues that arise from the nature of the transaction,

all as explained further in the Application pursuant to sections 44.2(3), 58-61 and 49(a), respectively, of the *UCA*.

E. Election and Offer by BC Hydro

The Sale Notice, together with and as modified by this Reply Notice, constitutes BC Hydro's legally binding election to purchase Teck's Offered Participation Interest, on the terms and conditions described and set out herein, including the accompanying Exhibits.

Please confirm Teck's acknowledgement and agreement that this Reply Notice meets the requirements of the COA and that Teck agrees to the terms and conditions described and set out herein, including the accompanying Exhibits, by executing the attached copy of this Reply Notice, and executing, and arranging for Teck Resources Limited and TCAI Incorporated to execute, the Waneta Purchase Agreement and Transaction Closing Matters Agreement, and returning each of those items to BC Hydro.

In addition, subject to completion of the Teck/BC Hydro Transaction, this letter constitutes BC Hydro's legally binding offer with respect to certain matters relating to Teck's Line 71 Assets and certain other transmission assets, all more fully described and set out in the Transmission Agreement Term Sheet, and to be more fully described and set out in the Transmission Agreement. By Teck executing the attached copy of this letter and returning it to BC Hydro as provided for above, BC Hydro and Teck will also have a legally binding agreement with respect

to certain matters relating to Teck's Line 71 Assets and certain other transmission assets on the terms and conditions described and set out herein.

1.1.1 Please discuss the legal ramifications for BC Hydro and Fortis if the Commission did not provide orders approving BC Hydro's proposed purchase of Teck's remaining two-thirds interest in the Waneta Dam and its associated assets. Provide quantification of any expected costs that could occur.

RESPONSE:

Generally, a failure of the Waneta Transaction to complete would not result in any of BC Hydro, Fortis Inc., or Teck suffering any legal liabilities. However, Teck would be free to enter into another transaction for the sale of Waneta with other third parties, including Fortis Inc. Teck's rights to enter into such a further transaction would not be subject to BC Hydro's ROFO rights for a 12-month period after the termination of the Waneta 2017 Transaction.

1.0 Reference: Exhibit B-1, Cover Letter page 1 and Appendix C page 3 of 5 and page 4 of 5

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to certain matters relating to Teck's Line 71 Assets and certain other transmission assets on the terms and conditions described and set out herein.

1.1.2 Please provide BC Hydro's views of the Commission's options in denying all or part of the Application.

RESPONSE:

The Commission can issue all, none, or some of the requested orders. It could not compel a new transaction between Teck and BC Hydro, or between Teck and any other third-party. Subject to the terms of such a new transaction, the Commission may not have any jurisdiction in regard to it.

1.0 Reference: Exhibit B-1, Cover Letter page 1 and Appendix C page 3 of 5 and page 4 of 5

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to certain matters relating to Teck's Line 71 Assets and certain other transmission assets on the terms and conditions described and set out herein.

1.1.4 Could Fortis renegotiate the agreement with Teck if BC Hydro does not purchase Waneta? Please explain.

RESPONSE:

Please refer to BC Hydro's response to CEC IR 1.1.1.

2.0 Reference: Exhibit B-1, page 1-5

the election of Teck, may not begin until 2048.[8] However, BC Hydro's most recent government-approved long-term load-resource plan - the **2013 IRP**[9] - extends to 2033.[10] It follows that there is a fair degree of uncertainty about when and how Waneta will fit into BC Hydro's resource stack. To account for that uncertainty, BC Hydro analyzed a wide range of future load-resource balance (**LRB**) scenarios. In all but one of the scenarios, the Waneta 2017 Transaction generates a positive net present value (**NPV**). Only in the scenario where load growth and future wholesale market prices are materially below current forecasts, and if the cost of maintaining the dam within the assumed 40-year economic life is substantially greater than currently anticipated, does the transaction look uneconomic.

1.2.1 When does BC Hydro expect to update the 2013 Integrated Resource Plan?

RESPONSE:

The timing of BC Hydro's next IRP will be informed by the Government's review of BC Hydro and the energy roadmap development.

3.0 Reference: Exhibit B-1, page 1-13 and Appendix N page 80 of 90

Teck and BC Hydro had discussions in early 2016 around a possible sale of Teck's two-thirds interest in Waneta. Following those discussions, it is BC Hydro's understanding, based on information provided by Teck, that in 2016 Teck retained the power and utilities team of CIBC World Markets to advise on the sale of Teck's two-thirds interest in the Waneta Dam and the negotiation of a long term power purchase agreement with the buyer of Teck's interest. Together with its advisors, Teck determined that a worldwide auction process would generate the greatest competitive tension and would most likely result in the best combination of sale price and future power purchase terms. Over 100 organizations were contacted and a significant number of non-binding indicative offers were received by Teck.[31] While BC Hydro did not directly participate in the auction process, at Teck's request, BC Hydro did engage in discussions with a third-party regarding a possible bid. Ultimately, BC Hydro elected not to participate in a bid with this third party.

[31] The auction process and subsequent negotiations were subject to strict non-disclosure agreements between and among the parties.

1. Background

Throughout the sales process undertaken by Teck, BC Hydro has been approached by numerous parties with a goal of potentially enhancing a bid or transaction involving BC Hydro and the 2/3 Interest. The ability of BC Hydro to engage in discussions with third parties was significantly limited by the terms and conditions of non-disclosure agreements with Teck and conditions under which Teck undertook its sale process. Within these limitations, BC Hydro undertook the following engagement with third parties.

- [redacted]
- [redacted]

This appendix describes BC Hydro's consideration of the alternative transaction structures that may be available through engagement with these third parties.

Note that, due to the limited time period (60 days) that BC Hydro has to consider the ROFO Sale Notice, as well as the relative complexity of the various agreements underlying the 2/3 Interest, it is not feasible to reach commercial terms with a third party for participation in the purchase of the 2/3 Interest within the ROFO notice period. As a result, BC Hydro has developed its business case to make a determination on whether to purchase the 2/3 Interest without third-party participation. However, the alternative transaction structures may provide the ability to enhance the value of the transaction following the ROFO period. In order to preserve this potential enhanced value, BC Hydro is negotiating a right to assign the Transaction contracts to another party following the ROFO response.

1.3.4 Why did BC Hydro elect not to participate in a bid with the third party? Please explain.

RESPONSE:

Through discussions with the Third-Party, BC Hydro came to realize that if the Third-Party bid, (as contemplated by the third-party at the time), was ultimately the winning bid, then BC Hydro expected we otherwise would have been able to acquire Teck's two-thirds interest in Waneta through a ROFO sale notice process at a price at least equal to and likely lower than the price being offered by the Third-Party to Teck.

3.0 Reference: Exhibit B-1, page 1-13 and Appendix N page 80 of 90

Teck and BC Hydro had discussions in early 2016 around a possible sale of Teck's two-thirds interest in Waneta. Following those discussions, it is BC Hydro's understanding, based on information provided by Teck, that in 2016 Teck retained the power and utilities team of CIBC World Markets to advise on the sale of Teck's two-thirds interest in the Waneta Dam and the negotiation of a long term power purchase agreement with the buyer of Teck's interest. Together with its advisors, Teck determined that a worldwide auction process would generate the greatest competitive tension and would most likely result in the best combination of sale price and future power purchase terms. Over 100 organizations were contacted and a significant number of non-binding indicative offers were received by Teck.[31] While BC Hydro did not directly participate in the auction process, at Teck's request, BC Hydro did engage in discussions with a third-party regarding a possible bid. Ultimately, BC Hydro elected not to participate in a bid with this third party.

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- [redacted]
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1.3.5 Please provide BC Hydro's view as to how its participation in the bidding process would likely have influenced the bidding process.

RESPONSE:

BC Hydro did not directly participate in the bidding process given its ROFO rights under the COA. Under such rights, Teck was required to provide a sale notice to BC Hydro prior to concluding a transaction with a third party for the transfer of the Waneta Assets. As such, BC Hydro was able to get a "last look" at any arm's length transaction developed between Teck and a third-party and determine whether the terms of such agreement would represent an attractive transaction for BC Hydro and its ratepayers. Given these rights, which were a key negotiated element from the Waneta 2010 Transaction, it would be counterproductive for BC Hydro to actively participate, as it would effectively be "bidding against itself".

- **With all else being equal, if BC Hydro participated and bid below any other parties in the process, then Teck would likely have chosen to move forward with the higher/highest bidder and issue a sale notice to BC Hydro on those terms. In this case, BC Hydro would be required to meet the higher bid price to secure ownership of the asset, reducing the potential benefits of the transaction. Alternatively, if BC Hydro elected not to exercise the ROFO, then no direct benefits would accrue to BC Hydro (or its ratepayers), as the third party would go on to own the assets (which could also have negative implications for ratepayers – see the no-go scenarios examined in the Waneta 2017 Business Case under Appendix N, section 4.3, page 38 of 90); or**

- **With all else being equal, if BC Hydro participated and bid above any other parties in the process, then Teck would have chosen BC Hydro to move forward with. However, under these circumstances, it would mean that BC Hydro would have paid more than any other third party and increases the risk of BC Hydro effectively "overpaying" – which is a negative for ratepayers.**

Only in a circumstance where there was a potential to enhance value or benefits above and beyond what BC Hydro could achieve on a standalone basis via the ROFO process was participation in the bidding process considered. While BC Hydro did have discussions with the Third-Party in this regard, based on the value and benefit enhancement criteria, BC Hydro elected not to participate in a bid with this Third Party.

3.0 Reference: Exhibit B-1, page 1-13 and Appendix N page 80 of 90

Teck and BC Hydro had discussions in early 2016 around a possible sale of Teck's two-thirds interest in Waneta. Following those discussions, it is BC Hydro's understanding, based on information provided by Teck, that in 2016 Teck retained the power and utilities team of CIBC World Markets to advise on the sale of Teck's two-thirds interest in the Waneta Dam and the negotiation of a long term power purchase agreement with the buyer of Teck's interest. Together with its advisors, Teck determined that a worldwide auction process would generate the greatest competitive tension and would most likely result in the best combination of sale price and future power purchase terms. Over 100 organizations were contacted and a significant number of non-binding indicative offers were received by Teck.[31] While BC Hydro did not directly participate in the auction process, at Teck's request, BC Hydro did engage in discussions with a third-party regarding a possible bid. Ultimately, BC Hydro elected not to participate in a bid with this third party.

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1. Background

Throughout the sales process undertaken by Teck, BC Hydro has been approached by numerous parties with a goal of potentially enhancing a bid or transaction involving BC Hydro and the 2/3 Interest. The ability of BC Hydro to engage in discussions with third parties was significantly limited by the terms and conditions of non-disclosure agreements with Teck and conditions under which Teck undertook its sale process. Within these limitations, BC Hydro undertook the following engagement with third parties.

- [redacted]
- [redacted]

This appendix describes BC Hydro's consideration of the alternative transaction structures that may be available through engagement with these third parties.

Note that, due to the limited time period (60 days) that BC Hydro has to consider the ROFO Sale Notice, as well as the relative complexity of the various agreements underlying the 2/3 Interest, it is not feasible to reach commercial terms with a third party for participation in the purchase of the 2/3 Interest within the ROFO notice period. As a result, BC Hydro has developed its business case to make a determination on whether to purchase the 2/3 Interest without third-party participation. However, the alternative transaction structures may provide the ability to enhance the value of the transaction following the ROFO period. In order to preserve this potential enhanced value, BC Hydro is negotiating a right to assign the Transaction contracts to another party following the ROFO response.

1.3.6 Please explain the advantages and/or disadvantages that would have accrued to BC Hydro and/or its ratepayers if BC Hydro had participated in the bidding process.

RESPONSE:

Please refer to BC Hydro's response to CEC IR 1.3.5.

3.0 Reference: Exhibit B-1, page 1-13 and Appendix N page 80 of 90

Teck and BC Hydro had discussions in early 2016 around a possible sale of Teck's two-thirds interest in Waneta. Following those discussions, it is BC Hydro's understanding, based on information provided by Teck, that in 2016 Teck retained the power and utilities team of CIBC World Markets to advise on the sale of Teck's two-thirds interest in the Waneta Dam and the negotiation of a long term power purchase agreement with the buyer of Teck's interest. Together with its advisors, Teck determined that a worldwide auction process would generate the greatest competitive tension and would most likely result in the best combination of sale price and future power purchase terms. Over 100 organizations were contacted and a significant number of non-binding indicative offers were received by Teck.[31] While BC Hydro did not directly participate in the auction process, at Teck's request, BC Hydro did engage in discussions with a third-party regarding a possible bid. Ultimately, BC Hydro elected not to participate in a bid with this third party.

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1.3.7 Would BC Hydro's participation in the bidding process potentially have reduced the number of potential bidders? Please explain why or why not.

RESPONSE:

Given BC Hydro's ROFO rights are set out in the COA (a public document), all participating bidders in the process would likely have been aware of the risks associated with Teck's requirements to issue a sale notice is any process. The existence of the ROFO rights could have had a damping effect on the number of potential bidders.

3.0 Reference: Exhibit B-1, page 1-13 and Appendix N page 80 of 90

Teck and BC Hydro had discussions in early 2016 around a possible sale of Teck's two-thirds interest in Waneta. Following those discussions, it is BC Hydro's understanding, based on information provided by Teck, that in 2016 Teck retained the power and utilities team of CIBC World Markets to advise on the sale of Teck's two-thirds interest in the Waneta Dam and the negotiation of a long term power purchase agreement with the buyer of Teck's interest. Together with its advisors, Teck determined that a worldwide auction process would generate the greatest competitive tension and would most likely result in the best combination of sale price and future power purchase terms. Over 100 organizations were contacted and a significant number of non-binding indicative offers were received by Teck.[31] While BC Hydro did not directly participate in the auction process, at Teck's request, BC Hydro did engage in discussions with a third-party regarding a possible bid. Ultimately, BC Hydro elected not to participate in a bid with this third party.

[31] The auction process and subsequent negotiations were subject to strict non-disclosure agreements between and among the parties.

1. Background

Throughout the sales process undertaken by Teck, BC Hydro has been approached by numerous parties with a goal of potentially enhancing a bid or transaction involving BC Hydro and the 2/3 Interest. The ability of BC Hydro to engage in discussions with third parties was significantly limited by the terms and conditions of non-disclosure agreements with Teck and conditions under which Teck undertook its sale process. Within these limitations, BC Hydro undertook the following engagement with third parties.

- [redacted]
- [redacted]

This appendix describes BC Hydro's consideration of the alternative transaction structures that may be available through engagement with these third parties.

Note that, due to the limited time period (60 days) that BC Hydro has to consider the ROFO Sale Notice, as well as the relative complexity of the various agreements underlying the 2/3 Interest, it is not feasible to reach commercial terms with a third party for participation in the purchase of the 2/3 Interest within the ROFO notice period. As a result, BC Hydro has developed its business case to make a determination on whether to purchase the 2/3 Interest without third-party participation. However, the alternative transaction structures may provide the ability to enhance the value of the transaction following the ROFO period. In order to preserve this potential enhanced value, BC Hydro is negotiating a right to assign the Transaction contracts to another party following the ROFO response.

1.3.8 Did BC Hydro ask Teck for an extension of the time period to consider the ROFO?

RESPONSE:

No, BC Hydro did not ask for an extension of the time period to respond to the Sale Notice. The COA and associated ROFO rights were negotiated documents from the Waneta 2010 Transaction, and BC Hydro did not have any rights to request an extension, nor did Teck have any obligations to provide an extension.

3.0 Reference: Exhibit B-1, page 1-13 and Appendix N page 80 of 90

Teck and BC Hydro had discussions in early 2016 around a possible sale of Teck's two-thirds interest in Waneta. Following those discussions, it is BC Hydro's understanding, based on information provided by Teck, that in 2016 Teck retained the power and utilities team of CIBC World Markets to advise on the sale of Teck's two-thirds interest in the Waneta Dam and the negotiation of a long term power purchase agreement with the buyer of Teck's interest. Together with its advisors, Teck determined that a worldwide auction process would generate the greatest competitive tension and would most likely result in the best combination of sale price and future power purchase terms. Over 100 organizations were contacted and a significant number of non-binding indicative offers were received by Teck.[31] While BC Hydro did not directly participate in the auction process, at Teck's request, BC Hydro did engage in discussions with a third-party regarding a possible bid. Ultimately, BC Hydro elected not to participate in a bid with this third party.

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1.3.8 Did BC Hydro ask Teck for an extension of the time period to consider the ROFO?

1.3.8.1 If not, why not?

RESPONSE:

Please refer to BC Hydro's response to CEC IR 1.3.8.

3.0 Reference: Exhibit B-1, page 1-13 and Appendix N page 80 of 90

Teck and BC Hydro had discussions in early 2016 around a possible sale of Teck's two-thirds interest in Waneta. Following those discussions, it is BC Hydro's understanding, based on information provided by Teck, that in 2016 Teck retained the power and utilities team of CIBC World Markets to advise on the sale of Teck's two-thirds interest in the Waneta Dam and the negotiation of a long term power purchase agreement with the buyer of Teck's interest. Together with its advisors, Teck determined that a worldwide auction process would generate the greatest competitive tension and would most likely result in the best combination of sale price and future power purchase terms. Over 100 organizations were contacted and a significant number of non-binding indicative offers were received by Teck.[31] While BC Hydro did not directly participate in the auction process, at Teck's request, BC Hydro did engage in discussions with a third-party regarding a possible bid. Ultimately, BC Hydro elected not to participate in a bid with this third party.

[31] The auction process and subsequent negotiations were subject to strict non-disclosure agreements between and among the parties.

1. Background

Throughout the sales process undertaken by Teck, BC Hydro has been approached by numerous parties with a goal of potentially enhancing a bid or transaction involving BC Hydro and the 2/3 Interest. The ability of BC Hydro to engage in discussions with third parties was significantly limited by the terms and conditions of non-disclosure agreements with Teck and conditions under which Teck undertook its sale process. Within these limitations, BC Hydro undertook the following engagement with third parties.

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1.3.8 Did BC Hydro ask Teck for an extension of the time period to consider the ROFO?

1.3.8.2 If yes, please provide Teck's response.

RESPONSE:

Please refer to BC Hydro's response to CEC IR 1.3.8.

4.0 Reference: Exhibit B-1, page 1-14

In May 2017, Teck informed BC Hydro that it had reached an agreement to sell its two-thirds interest in Waneta and related transmission assets to Fortis Inc. for $1.2 billion (the **Fortis Transaction**). The Fortis Transaction was conditional on, among other things, BC Hydro not exercising its rights under the ROFO as provided in the COA.

On June 1, 2017, Teck delivered the notice contemplated by the ROFO to BC Hydro (the **Sale Notice**). The Sale Notice provided BC Hydro with the opportunity to match the offer of Fortis Inc. and purchase Teck's two-thirds interest in Waneta under terms substantially equivalent to the Sale Notice. Under the COA, BC Hydro did not have the right to significantly vary the terms of the offered transaction and any additional terms and conditions could not be materially less favourable to Teck. The Sale Notice is attached at Appendix B.

Upon receipt of the Sale Notice, BC Hydro had 60 days to review the terms of the Fortis Transaction and determine whether or not to exercise its ROFO and purchase Teck's two-thirds interest in Waneta. During this 60-day period, BC Hydro and Teck undertook further due diligence[34] and discussions which culminated in an August 1, 2017 election by BC Hydro to purchase Teck's two-thirds interest (the **Reply Notice**). Further details with respect to the structure of the Waneta 2017

1.4.1 By not participating in the bidding process and instead relying on the ROFO how were BC Hydro's opportunities to modify the terms of the agreement to suit its own interests affected? Please explain.

RESPONSE:

Please refer to BC Hydro's response to CEC IR 1.3.5.

4.0 Reference: Exhibit B-1, page 1-14

In May 2017, Teck informed BC Hydro that it had reached an agreement to sell its two-thirds interest in Waneta and related transmission assets to Fortis Inc. for $1.2 billion (the **Fortis Transaction**). The Fortis Transaction was conditional on, among other things, BC Hydro not exercising its rights under the ROFO as provided in the COA.

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1.4.2 Please confirm that Fortis Inc. and BC Hydro could have distinct differences in the values that they attribute to new energy supply resources.

RESPONSE:

Confirmed. BC Hydro is a regulated public utility with an obligation to provide electrical service to its customers. Fortis Inc. is an unregulated entity with no public utility obligations.

4.0 Reference: Exhibit B-1, page 1-14

In May 2017, Teck informed BC Hydro that it had reached an agreement to sell its two-thirds interest in Waneta and related transmission assets to Fortis Inc. for $1.2 billion (the **Fortis Transaction**). The Fortis Transaction was conditional on, among other things, BC Hydro not exercising its rights under the ROFO as provided in the COA.

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1.4.2 Please confirm that Fortis Inc. and BC Hydro could have distinct differences in the values that they attribute to new energy supply resources.

1.4.2.1 If not confirmed, please explain why not.

RESPONSE:

Please refer to BC Hydro's response to CEC IR 1.4.2.

4.0 Reference: Exhibit B-1, page 1-14

In May 2017, Teck informed BC Hydro that it had reached an agreement to sell its two-thirds interest in Waneta and related transmission assets to Fortis Inc. for $1.2 billion (the **Fortis Transaction**). The Fortis Transaction was conditional on, among other things, BC Hydro not exercising its rights under the ROFO as provided in the COA.

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1.4.2 Please confirm that Fortis Inc. and BC Hydro could have distinct differences in the values that they attribute to new energy supply resources.

1.4.2.2 If confirmed, please provide BC Hydro's best understanding as to how Fortis Inc. and BC Hydro might differ in the value they ascribe to the purchase of energy supply, and particularly energy supply from the Waneta Dam.

RESPONSE:

BC Hydro has provided an assessment of Fortis Inc.'s. opportunity cost in the redacted portion of Appendix F of the Waneta 2017 Business Case. Please refer to BC Hydro's letter of January 17, 2018 (Exhibit B-7) for a description of the information redacted in BC Hydro's previous submissions and the rational for these redactions.

4.0 Reference: Exhibit B-1, page 1-14

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1.4.3 Please confirm that if Fortis wished to purchase the dam, and was aware that BC Hydro had a right of first offer, it could be perceived to be more in Fortis' interest to make a less favourable agreement than if BC Hydro did not have the right of first offer, because a highly favourable agreement would likely be met by BC Hydro.

RESPONSE:

The Sale Notice was only issued upon Teck reaching a binding agreement with Fortis Inc. In the event that BC Hydro did not elect to exercise its ROFO rights, Fortis Inc. would have been required to complete the transaction. Given the binding nature of the agreement, it is difficult to envision a situation where Fortis Inc. would agree to a less favourable transaction in the hopes of BC Hydro electing to exercise the ROFO.

Please refer to BC Hydro's response to BCSEA IR 1.19.5.

4.0 Reference: Exhibit B-1, page 1-14

In May 2017, Teck informed BC Hydro that it had reached an agreement to sell its two-thirds interest in Waneta and related transmission assets to Fortis Inc. for $1.2 billion (the **Fortis Transaction**). The Fortis Transaction was conditional on, among other things, BC Hydro not exercising its rights under the ROFO as provided in the COA.

On June 1, 2017, Teck delivered the notice contemplated by the ROFO to BC Hydro (the **Sale Notice**). The Sale Notice provided BC Hydro with the opportunity to match the offer of Fortis Inc. and purchase Teck's two-thirds interest in Waneta under terms substantially equivalent to the Sale Notice. Under the COA, BC Hydro did not have the right to significantly vary the terms of the offered transaction and any additional terms and conditions could not be materially less favourable to Teck. The Sale Notice is attached at Appendix B.

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1.4.4 Please confirm that Fortis will purchase the dam if BC Hydro does not purchase the dam.

RESPONSE:

Not confirmed. Please refer to BC Hydro's response to CEC IR 1.1.1.

4.0 Reference: Exhibit B-1, page 1-14

In May 2017, Teck informed BC Hydro that it had reached an agreement to sell its two-thirds interest in Waneta and related transmission assets to Fortis Inc. for $1.2 billion (the **Fortis Transaction**). The Fortis Transaction was conditional on, among other things, BC Hydro not exercising its rights under the ROFO as provided in the COA.

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1.4.4 Please confirm that Fortis will purchase the dam if BC Hydro does not purchase the dam.

1.4.4.1 If not confirmed, please provide BC Hydro's expectations as to what would happen with the dam.

RESPONSE:

Please refer to BC Hydro's response to CEC IR 1.1.1.

4.0 Reference: Exhibit B-1, page 1-14

In May 2017, Teck informed BC Hydro that it had reached an agreement to sell its two-thirds interest in Waneta and related transmission assets to Fortis Inc. for $1.2 billion (the **Fortis Transaction**). The Fortis Transaction was conditional on, among other things, BC Hydro not exercising its rights under the ROFO as provided in the COA.

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1.4.5 Please confirm that under a situation in which either Fortis or BC Hydro purchases the dam, energy ratepayers in BC, either in FortisBC territory or in BC Hydro territory could receive the benefit of the Waneta Dam sale.

RESPONSE:

Not confirmed. If the Fortis Transaction had completed, the two-thirds interest in Waneta would continue to be unregulated and free of any public utility service obligations, as it is today, regardless of any contrary inclination of the Commission, FortisBC, or the ratepayers of FortisBC. Only if the Waneta 2017 Transaction completes is it certain that Waneta is available for the long-term benefit of B.C. ratepayers (i.e., post-lease, Fortis Inc. could export its two-thirds interest in Waneta without regard for the electricity requirements of ratepayers in B.C.). The reasons are that Fortis Inc. is an unregulated entity with no public utility obligations, and no obligations to FortisBC or its ratepayers in regard to Waneta, while BC Hydro is a regulated Crown-owned public utility.

4.0 Reference: Exhibit B-1, page 1-14

In May 2017, Teck informed BC Hydro that it had reached an agreement to sell its two-thirds interest in Waneta and related transmission assets to Fortis Inc. for $1.2 billion (the **Fortis Transaction**). The Fortis Transaction was conditional on, among other things, BC Hydro not exercising its rights under the ROFO as provided in the COA.

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1.4.5.1 If not confirmed, please explain why not.

RESPONSE:

Please refer to BC Hydro's response to CEC IR 1.4.5.

4.0 Reference: Exhibit B-1, page 1-14

In May 2017, Teck informed BC Hydro that it had reached an agreement to sell its two-thirds interest in Waneta and related transmission assets to Fortis Inc. for $1.2 billion (the **Fortis Transaction**). The Fortis Transaction was conditional on, among other things, BC Hydro not exercising its rights under the ROFO as provided in the COA.

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1.4.6 If Fortis purchases the dam instead of BC Hydro, and if additional energy and/or capacity was required in the future, could BC Hydro potentially purchase energy/capacity from Fortis and/or FortisBC after the Teck Lease agreement expires?

RESPONSE:

If the Fortis Transaction had completed, Fortis Inc. would have no obligation to sell its share of available Waneta energy and/or capacity to BC Hydro, FortisBC, or any other domestic entity, at any time. Further, if some similar transaction completes within 12 months of the termination of the Waneta 2017 Transaction, Fortis Inc.'s share of available Waneta energy and/or capacity would not be available for domestic purposes except insofar as Fortis Inc. was inclined to make.

5.0 Reference: Exhibit B-1, page 1-18

year of the current three-year revenue requirement test period, as described in the Fiscal 2017 to Fiscal 2019 Revenue Requirement Application (**F17-F19 RRA**). Although BC Hydro was aware that Teck was seeking to sell its two-thirds interest in the Waneta Dam when the F17-F19 RRA was filed, the Sale Notice to BC Hydro was not delivered until well after. As such, it was not possible to include in that application any forecasts of incremental revenue associated with an unknown potential transaction that would accrue during the test period. Currently, BC Hydro anticipates that the incremental lease revenue in fiscal 2019 arising from the Waneta 2017 Transaction will be $49 million, on the assumption of an August 1, 2018 closing date.[42] In the absence of a regulatory accounting order that incremental revenue would be to the account of the shareholder. Accordingly, BC Hydro seeks an order allowing it to defer its fiscal 2019 lease revenues arising from the Waneta 2017 Transaction to the NHDA so that BC Hydro ratepayers receive the full value of the Waneta 2017 Transaction from the outset.

[42] The business case developed to inform BC Hydro's decision regarding the Waneta 2017 Transaction assumed an April 1, 2018 closing date and somewhat higher fiscal 2019 lease revenues, and somewhat lower lease revenues at the end of the Lease Period.

1.5.1 Please confirm that the BC Hydro RRA is not yet decided by the Commission, and the application could still be amended.

RESPONSE:

BC Hydro confirms that no decision has been issued with respect to the Fiscal 2017 to Fiscal 2019 Revenue Requirements Application. BC Hydro has no plan to amend the Fiscal 2017 to Fiscal 2019 Revenue Requirements Application.

5.0 Reference: Exhibit B-1, page 1-18

year of the current three-year revenue requirement test period, as described in the Fiscal 2017 to Fiscal 2019 Revenue Requirement Application (**F17-F19 RRA**). Although BC Hydro was aware that Teck was seeking to sell its two-thirds interest in the Waneta Dam when the F17-F19 RRA was filed, the Sale Notice to BC Hydro was not delivered until well after. As such, it was not possible to include in that application any forecasts of incremental revenue associated with an unknown potential transaction that would accrue during the test period. Currently, BC Hydro anticipates that the incremental lease revenue in fiscal 2019 arising from the Waneta 2017 Transaction will be $49 million, on the assumption of an August 1, 2018 closing date.[42] In the absence of a regulatory accounting order that incremental revenue would be to the account of the shareholder. Accordingly, BC Hydro seeks an order allowing it to defer its fiscal 2019 lease revenues arising from the Waneta 2017 Transaction to the NHDA so that BC Hydro ratepayers receive the full value of the Waneta 2017 Transaction from the outset.

[42] The business case developed to inform BC Hydro's decision regarding the Waneta 2017 Transaction assumed an April 1, 2018 closing date and somewhat higher fiscal 2019 lease revenues, and somewhat lower lease revenues at the end of the Lease Period.

1.5.2 Please provide details and quantification for the 'somewhat higher fiscal 2019 lease revenues, and somewhat lower lease revenues at the end of the Lease Period' assumptions.

RESPONSE:

As described in footnote 42 to the Application, the difference between the revenue assumptions in the Waneta 2017 Business Case and the quoted statement from the Application is a change from an anticipated Waneta 2017 Transaction closing date of April 1, 2018 (in the Waneta 2017 Business Case) and an anticipated Waneta 2017 Transaction closing date of August 1, 2018 (in the Application).

This shift in the timing of lease payments is anticipated to result in the following:

- **A $25 million reduction in lease payments in fiscal 2019;**
- **A less than $1 million change in lease payments for fiscal 2020 to fiscal 2038; and**
- **A $35 million additional lease payment in fiscal 2039 (no lease payment was originally expected for this year).**

5.0 Reference: Exhibit B-1, page 1-18

year of the current three-year revenue requirement test period, as described in the Fiscal 2017 to Fiscal 2019 Revenue Requirement Application (**F17-F19 RRA**). Although BC Hydro was aware that Teck was seeking to sell its two-thirds interest in the Waneta Dam when the F17-F19 RRA was filed, the Sale Notice to BC Hydro was not delivered until well after. As such, it was not possible to include in that application any forecasts of incremental revenue associated with an unknown potential transaction that would accrue during the test period. Currently, BC Hydro anticipates that the incremental lease revenue in fiscal 2019 arising from the Waneta 2017 Transaction will be $49 million, on the assumption of an August 1, 2018 closing date.[42] In the absence of a regulatory accounting order that incremental revenue would be to the account of the shareholder. Accordingly, BC Hydro seeks an order allowing it to defer its fiscal 2019 lease revenues arising from the Waneta 2017 Transaction to the NHDA so that BC Hydro ratepayers receive the full value of the Waneta 2017 Transaction from the outset.

[42] The business case developed to inform BC Hydro's decision regarding the Waneta 2017 Transaction assumed an April 1, 2018 closing date and somewhat higher fiscal 2019 lease revenues, and somewhat lower lease revenues at the end of the Lease Period.

1.5.2.1 What was the rationale behind BC Hydro's original revenue assumptions and what caused the assumptions to be incorrect.

RESPONSE:

Please refer to BC Hydro's response to CEC IR 1.5.2.

5.0 Reference: Exhibit B-1, page 1-18

year of the current three-year revenue requirement test period, as described in the Fiscal 2017 to Fiscal 2019 Revenue Requirement Application (**F17-F19 RRA**). Although BC Hydro was aware that Teck was seeking to sell its two-thirds interest in the Waneta Dam when the F17-F19 RRA was filed, the Sale Notice to BC Hydro was not delivered until well after. As such, it was not possible to include in that application any forecasts of incremental revenue associated with an unknown potential transaction that would accrue during the test period. Currently, BC Hydro anticipates that the incremental lease revenue in fiscal 2019 arising from the Waneta 2017 Transaction will be $49 million, on the assumption of an August 1, 2018 closing date.[42] In the absence of a regulatory accounting order that incremental revenue would be to the account of the shareholder. Accordingly, BC Hydro seeks an order allowing it to defer its fiscal 2019 lease revenues arising from the Waneta 2017 Transaction to the NHDA so that BC Hydro ratepayers receive the full value of the Waneta 2017 Transaction from the outset.

[42] The business case developed to inform BC Hydro's decision regarding the Waneta 2017 Transaction assumed an April 1, 2018 closing date and somewhat higher fiscal 2019 lease revenues, and somewhat lower lease revenues at the end of the Lease Period.

1.5.3 For the $1.2 billion investment, please describe to which accounts and to whose account the operating costs, interest costs and depreciation of the capital investment will be accounted.

RESPONSE:

BC Hydro assumes the question refers to the costs that BC Hydro will incur as a result of the $1.2 billion investment for the purchase of two-thirds interest in Waneta (as opposed to costs that Teck will incur that BC Hydro may need to recognize, pursuant to accounting rules).

Please refer to BC Hydro's response to BCUC IR 1.57.4 for a summary of finance charges, amortization, and operating costs and the regulatory accounts to which these costs would be deferred in fiscal 2019. With the exception of BC Hydro's operating costs (for which BC Hydro is not seeking deferral treatment), these costs are to the account of ratepayers.

In fiscal 2020 and future years, costs related to the $1.2 billion investment noted above would be included in BC Hydro's future revenue requirements and in rates, and these costs are to the account of ratepayers. Variances between forecast and actual costs related to finance changes and amortization of capital additions would be transferred to the Total Finance Charges Regulatory Account and Amortization of Capital Additions Regulatory Account, respectively and are to the account of ratepayers. Variances between forecast and actual operating costs are not eligible for deferral and are to the account of the shareholder.

6.0 Reference: Exhibit B-1, page 1-19

With regard to capital expenditures incurred by Teck, BC Hydro will have to recognize the resulting capital additions, and will also be required to recognize a corresponding amount as revenue in the year of each addition. The revenue that will be recognized offsets amortization of the capital addition in future periods that sums to the revenue. Subject to the continuance of its Amortization of Capital Additions Regulatory Account and Total Finance Charges Regulatory Account, BC Hydro proposes to defer the revenue to the NHDA, as it arises, and to allow the associated incremental amortization to flow through the existing regulatory accounts. To the extent the amortization period of the NHDA and the incremental amortization period are not the same there may be an intergenerational equity concern with this approach. However, BC Hydro expects the annual incremental revenue and offsetting amortization will be relatively modest amounts – not more than a few million dollars in any given year compared to a revenue requirement in the order of $6 billion - so that such concerns are quite minor relative to the more complex accounting arrangements that would be required to otherwise deal with the issue.

1.6.1 Could BC Hydro have both the costs and the revenues handled in a Waneta Purchase regulatory account instead of having the various components of the transaction dispersed into different regulatory accounts? Please explain why or why not.

RESPONSE:

No, BC Hydro could not handle all costs and revenues related to the Waneta 2017 Transaction in one regulatory account as suggested in the IR. The reason for this is that, as noted in Appendix N, page 14 of the Application, BC Hydro finances on a portfolio basis and thus there would be no debt (and thus no finance charges) directly attributable to the Waneta 2017 Transaction. This is further complicated by any hedging by BC Hydro, also done on a portfolio basis, and amounts that will reside in the Debt Management Regulatory Account, some of which could be related to the Waneta 2017 Transaction. As a result, it is not possible to accurately segregate forecast or actual finance charges (or amounts in the Debt Management Regulatory Account) related to a specific project such as the Waneta 2017 Transaction.

Additionally, it will be difficult for BC Hydro to accurately segregate amortization variances related to Teck incurred-capital associated with the Waneta 2017 Transaction and capital incurred by BC Hydro in respect of the Waneta Assets.

Notwithstanding the above-mentioned concerns, BC Hydro is not aware of any issues that would prevent the Commission from ordering BC Hydro, as a matter of law, to account for the Waneta 2017 Transaction in a single regulatory account.

Please also refer to BC Hydro's response to BCUC IR 1.57.3.

6.0 Reference: Exhibit B-1, page 1-19

With regard to capital expenditures incurred by Teck, BC Hydro will have to recognize the resulting capital additions, and will also be required to recognize a corresponding amount as revenue in the year of each addition. The revenue that will be recognized offsets amortization of the capital addition in future periods that sums to the revenue. Subject to the continuance of its Amortization of Capital Additions Regulatory Account and Total Finance Charges Regulatory Account, BC Hydro proposes to defer the revenue to the NHDA, as it arises, and to allow the associated incremental amortization to flow through the existing regulatory accounts. To the extent the amortization period of the NHDA and the incremental amortization period are not the same there may be an intergenerational equity concern with this approach. However, BC Hydro expects the annual incremental revenue and offsetting amortization will be relatively modest amounts – not more than a few million dollars in any given year compared to a revenue requirement in the order of $6 billion - so that such concerns are quite minor relative to the more complex accounting arrangements that would be required to otherwise deal with the issue.

1.6.2 Is BC Hydro aware of any issues that would prevent the Commission from ordering BC Hydro to account for the transaction in a single regulatory account?

RESPONSE:

Please refer to BC Hydro's response to CEC IR 1.6.1.

6.0 Reference: Exhibit B-1, page 1-19

With regard to capital expenditures incurred by Teck, BC Hydro will have to recognize the resulting capital additions, and will also be required to recognize a corresponding amount as revenue in the year of each addition. The revenue that will be recognized offsets amortization of the capital addition in future periods that sums to the revenue. Subject to the continuance of its Amortization of Capital Additions Regulatory Account and Total Finance Charges Regulatory Account, BC Hydro proposes to defer the revenue to the NHDA, as it arises, and to allow the associated incremental amortization to flow through the existing regulatory accounts. To the extent the amortization period of the NHDA and the incremental amortization period are not the same there may be an intergenerational equity concern with this approach. However, BC Hydro expects the annual incremental revenue and offsetting amortization will be relatively modest amounts – not more than a few million dollars in any given year compared to a revenue requirement in the order of $6 billion - so that such concerns are quite minor relative to the more complex accounting arrangements that would be required to otherwise deal with the issue.

1.6.3 Please describe the potential intergenerational inequity concerns and what might be BC Hydro's approach to amortization from a single Waneta purchase regulatory account.

RESPONSE:

BC Hydro recognizes the intergenerational equity concern with the approach proposed in the Application as this may result in a shorter recovery period for revenues that BC Hydro will be required to recognize related to capital expenditures incurred by Teck. However, as noted in section 1.5.3.2 of the Application, BC Hydro expects the annual incremental revenue and offsetting amortization will be relatively modest amounts – not more than a few million dollars in any given year compared to a revenue requirement in the order of $6 billion.

As noted in BC Hydro's response to BCUC IR 1.57.5.2, if BC Hydro's request was not approved, BC Hydro would recognize revenues equal to the capital expenditures incurred by Teck in the year the capital expenditures are incurred. BC Hydro would capitalize the expenditures and amortize (expense) the costs of the capital asset over the useful life of the asset. This would result in a timing difference between the recognition of the revenues and the recognition of the expenses which would impact intergenerational equity more than would be the case under BC Hydro's request in the Application.

Please also refer to BC Hydro's response to CEC IR 1.6.1 for further information regarding the use of a single regulatory account for the Waneta 2017 Transaction.

Given the above considerations, if a single regulatory account were required, BC Hydro is uncertain as to what amortization period it would propose because of the different types of costs that would be transferred to the account. For example, it may be appropriate to amortize variances over the next test period for some of these costs. Conversely, revenues that BC Hydro will be required to recognize related to capital expenditures incurred by Teck may be most appropriately amortized over the useful life of the related assets. Additionally, different assets would be added over different years and may be most appropriately amortized over different useful lives.

7.0 Reference: Exhibit B-1, page 2-ii and page 2-5

2.1 The Waneta Dam and Generating Facilities

Waneta is located southeast of Trail, BC on the Pend d'Oreille River, a tributary of the Columbia River. Waneta is approximately nine km downstream from BC Hydro's Seven Mile Dam, and about 0.5 km upstream of the confluence of the Pend d'Oreille and Columbia rivers. Construction of the Waneta Dam was completed in 1954.

As part of its due diligence for the Waneta 2017 Transaction (see section 4.11) BC Hydro re-assessed the Waneta Dam and the associated power generation assets. In addition, it also assessed the Transmission Assets. Because the Transmission Assets are a comparatively small part of the transaction in dollar terms ($20 million vs. $1.203 billion) and we do not anticipate purchasing for at least 20 years, the focus of BC Hydro's review was on the dam and the power generation assets.

All the assets to be acquired are in good condition and are comparable to BC Hydro assets of a similar vintage. All material incremental costs (both during and after the Lease Period) related to the ownership of the assets, that BC Hydro can reasonably anticipate at this time, were included in the financial analysis that is the subject in part of Chapter 4. In short, BC Hydro does not believe that the condition of any of the assets it would acquire is an impediment to the Waneta 2017 Transaction.

2.2.1 Power Generation Assets

The Waneta facility has been maintained well and the generating station is operating satisfactorily. It is in good condition for the age of the plant. The facility has had a number of upgrades and life extensions over the years, including:

1.7.1 Please provide the Global News article by Laura Kane on January 21, 2015. https://globalnews.ca/news/1785865/hydro-ceo-promises-site-c-dam-will-be-built/

RESPONSE:

Please refer to the requested Global News article by Laura Kane, from January 21, 2015, provided as Attachment 1.

bc hydro January 21, 2015 4:57 pm

Hydro CEO promises Site C dam will be built

By Laura Kane The Canadian Press

The projected BC Hydro Site C Dam is pictured in an artist's rendering. THE CANADIAN PRESS/HO, BC Hydro.

The Canadian Press

VANCOUVER – The head of BC Hydro is promising the contentious Site C hydroelectric dam will be built, despite overwhelming opposition and court challenges to the $8.8-billion project.

Jessica McDonald told a Vancouver Board of Trade luncheon that the dam in northeastern British Columbia is the “most-studied” project in the company’s history.

“We’ve researched and consulted over a period of almost eight years. It’s been evaluated against every other option. It’s the clear winner to provide affordable, reliable power,” she told the crowd.

Construction on the project is set to start this summer on the Peace River, where it will flood agricultural land, First Nations spiritual, burial and archeological sites and destroy hunting and fishing areas.

Environmental groups, ranchers and First Nations have vowed to fight Site C, with some First Nations taking their opposition to the Federal Court of Canada for a judicial review.

McDonald said after the speech that she is done selling Site C.

“We’re moving forward now into implementation,” the CEO told reporters. “(We’re) really looking forward to having continued conversations about this project, but we’re really, at this stage, past the decision point with the final investment decision being made by government.”

The province approved the project in December. Now, BC Hydro is waiting for the government to finish its permitting process while it uses the time to carry on discussions with local residents and First Nations, McDonald said.

She shrugged off questions about a contingency plan if Site C is delayed or struck down in the courts.

“Our plan is to build Site C, and as I said before we’re moving forward with implementation.”

During her speech, McDonald said the utility is facing several challenges, including aging infrastructure built in the 1960s and ’70s, and electricity demands that are expected to rise by 40 per cent over the next two decades.

“It’s a new era for BC Hydro,” she said about the scale of the Site C project. “It’s like adding a company to the company.”

BC Hydro’s capital spending will increase to $2.4 billion a year from $1.7 billion annually over the next eight or nine years as the dam is constructed, McDonald said.

Site C is expected to meet just 22 per cent of upcoming energy demand. McDonald said the remaining three quarters of demand would be met largely through conservation — by convincing consumers to use less electricity and through new technology such as smart meters.

As for the Bank of Canada cutting its key interest rate to 0.75 per cent on Wednesday, McDonald said that’s good news for her company’s capital plan.

“The longer that we see interest rates carrying on low, that’s very good for us and very good for our budgeting.”

— *With files from Dirk Meissner*

7.0 Reference: Exhibit B-1, page 2-ii and page 2-5

2.1 The Waneta Dam and Generating Facilities

Waneta is located southeast of Trail, BC on the Pend d'Oreille River, a tributary of the Columbia River. Waneta is approximately nine km downstream from BC Hydro's Seven Mile Dam, and about 0.5 km upstream of the confluence of the Pend d'Oreille and Columbia rivers. Construction of the Waneta Dam was completed in 1954.

As part of its due diligence for the Waneta 2017 Transaction (see section 4.11) BC Hydro re-assessed the Waneta Dam and the associated power generation assets. In addition, it also assessed the Transmission Assets. Because the Transmission Assets are a comparatively small part of the transaction in dollar terms ($20 million vs. $1.203 billion) and we do not anticipate purchasing for at least 20 years, the focus of BC Hydro's review was on the dam and the power generation assets.

All the assets to be acquired are in good condition and are comparable to BC Hydro assets of a similar vintage. All material incremental costs (both during and after the Lease Period) related to the ownership of the assets, that BC Hydro can reasonably anticipate at this time, were included in the financial analysis that is the subject in part of Chapter 4. In short, BC Hydro does not believe that the condition of any of the assets it would acquire is an impediment to the Waneta 2017 Transaction.

2.2.1 Power Generation Assets

The Waneta facility has been maintained well and the generating station is operating satisfactorily. It is in good condition for the age of the plant. The facility has had a number of upgrades and life extensions over the years, including:

1.7.2 Please confirm that Jessica McDonald (CEO of BC Hydro) described BC Hydro as having 'challenges as a result of aging infrastructure built in the 1960s and 1970s on or about mid-2015.

RESPONSE:

BC Hydro has acknowledged since 2011 the need to reinvest in our aging system. BC Hydro was able to find public reference to a statement in a speech given by the former CEO at a Greater Vancouver Board of Trade event that occurred on January 21, 2015. Please refer to BC Hydro's response to CEC IR 1.7.1.

7.0 Reference: Exhibit B-1, page 2-ii and page 2-5

2.1 The Waneta Dam and Generating Facilities

Waneta is located southeast of Trail, BC on the Pend d'Oreille River, a tributary of the Columbia River. Waneta is approximately nine km downstream from BC Hydro's Seven Mile Dam, and about 0.5 km upstream of the confluence of the Pend d'Oreille and Columbia rivers. Construction of the Waneta Dam was completed in 1954.

As part of its due diligence for the Waneta 2017 Transaction (see section 4.11) BC Hydro re-assessed the Waneta Dam and the associated power generation assets. In addition, it also assessed the Transmission Assets. Because the Transmission Assets are a comparatively small part of the transaction in dollar terms ($20 million vs. $1.203 billion) and we do not anticipate purchasing for at least 20 years, the focus of BC Hydro's review was on the dam and the power generation assets.

All the assets to be acquired are in good condition and are comparable to BC Hydro assets of a similar vintage. All material incremental costs (both during and after the Lease Period) related to the ownership of the assets, that BC Hydro can reasonably anticipate at this time, were included in the financial analysis that is the subject in part of Chapter 4. In short, BC Hydro does not believe that the condition of any of the assets it would acquire is an impediment to the Waneta 2017 Transaction.

2.2.1 Power Generation Assets

The Waneta facility has been maintained well and the generating station is operating satisfactorily. It is in good condition for the age of the plant. The facility has had a number of upgrades and life extensions over the years, including:

1.7.3 Please provide the BC Hydro Fact Sheet from April 1, 2016 'BC Hydro Rates' https://www.bchydro.com/news/press_centre/news_releases/2016/2016-rates-fact-sheet.html and confirm that BC Hydro states on its website that:

> 'Many of BC Hydro's facilities were built in the 1960s, 70s and 80s, and BC Hydro must make investments in aging infrastructure and new projects to meet growing demand for power'.

Please confirm that BC Hydro states on its website at https://www.bchydro.com/energy-in-bc/projects.html that:

> 'we must reinvest in our aging assets and prepare to invest in new assets like the Site C Clean Energy Project'

RESPONSE:

Please refer to Attachment 1 providing the BC Hydro Fact Sheet from April 1, 2016 showing the results of the Hydro Quebec monthly residential electricity bill comparison published annually indicating how BC Hydro's 2015 monthly residential electricity bills compare across nine cities.

BC Hydro confirms that it states on its website that: 'Many of BC Hydro's facilities were built in the 1960s, 70s and 80s, and BC Hydro must make investments in aging infrastructure and new projects to meet growing demand for power.' Refer to Attachment 1 to this response.

BC Hydro confirms that it states on its website that: "we must reinvest in our aging assets and prepare to invest in new assets like the Site C Clean Energy Project." Refer to Attachment 2 to this response.

Fact Sheet

Apr 1, 2016

BC Hydro rates

Our rates among the lowest in North America

- BC Hydro has among the lowest rates in North America: third lowest for residential customers, fourth lowest for commercial customers and fifth lowest for industrial customers.

Here's a comparison of 2015 monthly residential electricity bills (2015 Hydro Quebec report):

Montreal	$71.91
Winnipeg	$81.09
Vancouver	$102.83
Seattle	$124.37
Toronto	$143.72
Halifax	$160.30
San Francisco	$276.94
New York	$289.04
Boston	$300.33

* Based on use of 1,000 kilowatt hours/ month, excluding taxes and fees in Canadian dollars

- When adjusted for inflation, electricity costs are similar to what they were in 1976.

New rate

- April 1 marks the beginning of the third year of the 10-year plan for BC Hydro rates.
- On April 1, rates will increase by 4 per cent or about $4 per month for residential customers

https://www.bchydro.com/news...

Incremental increases for residential bills

Interim rate application

- BC Hydro filed an interim one-year rate application with the BC Utilities Commission in February.
- BC Hydro will file a full Revenue Requirements Application for the entire three-year period from fiscal 2017 to fiscal 2019 this summer.
- In addition to the four percent increase for fiscal 2017, BC Hydro will file for increases of 3.5 per cent (fiscal 2018) and three per cent (fiscal 2019) as previously announced in the 10-year rates plan.

Capital projects

- BC Hydro is investing $7.6 billion in capital projects over the next three years.
- Many of BC Hydro's facilities were built in the 1960s, 70s and 80s, and BC Hydro must make investments in aging infrastructure and new projects to meet growing demand for power.
- Over the past five years, BC Hydro has delivered more than 550 generation, substation and transmission projects, 1.8 per cent under budget overall.
- These projects include the Smart Metering program ($780 million, more than $150 million under budget), Mica Units 5 & 6 ($714 million), Interior to Lower Mainland transmission line ($743 million) and GMS Units 1 to 5 Turbine Replacement project ($185 million, about $90 million under budget).
- Upcoming projects include:
  - Site C – a third dam and hydroelectric generating station on the Peace River that will provide enough electricity to power the equivalent of about 450,000 homes per year ($8.335 billion).
  - John Hart generating station – a new generating facility and pipelines that will meet today's seismic safety expectations ($1.093 billion).

Need help with your bill?

Get answers to questions about paying your bill, rates, moving your account and more.

Get help

Careers

We look for exceptional people to bring new ideas and fresh thinking to BC Hydro.

Learn more

Get in touch with us

Call us to report a power outage in your area or to get information you couldn't find online.

Contact us

https://www.bchydro.com/news...

Projects

As B.C. grows, so does energy demand

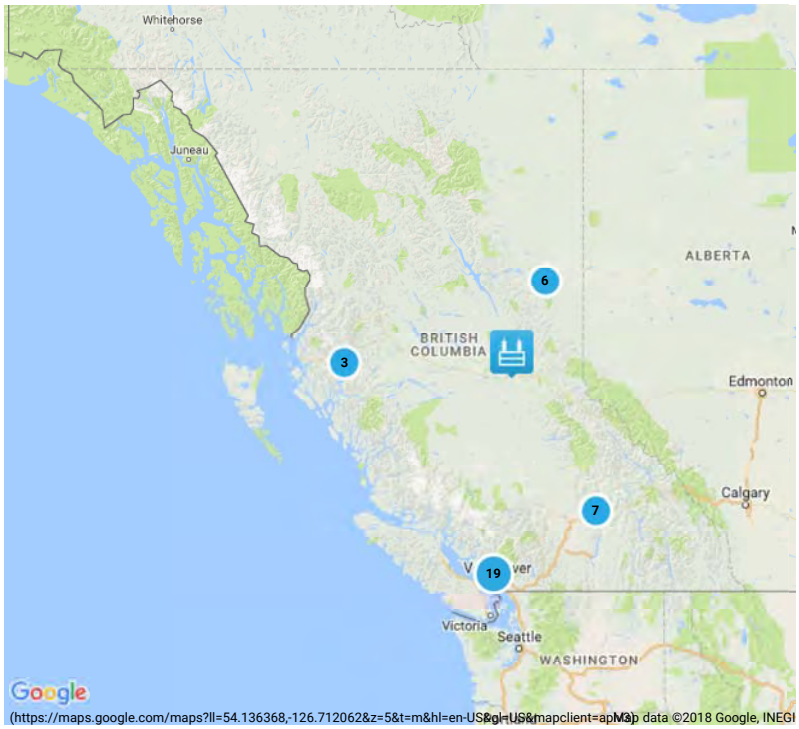
From the 1960s through the 1980s, we built six dams to meet the energy demands of a province whose population almost doubled in 25 years.

Electricity demand in B.C. is expected to grow by another 40 per cent over the next 20 years. And while we will continue to lean on conservation as the first and best way to meet demand growth, we must reinvest in our aging assets and prepare to invest in new assets like the Site C Clean Energy Project.

Learn about the major capital projects in your area by navigating through the map.

Can't find the project you're looking for? Try entering a few keywords (such as Mica or substation) into the search box at the top of this page.

https://www.bchydro.com/ener...



This map is a navigational tool and does not represent the total number of current BC Hydro infrastructure projects.

https://www.bchydro.com/ener...

7.0 Reference: Exhibit B-1, page 2-ii and page 2-5

2.1 The Waneta Dam and Generating Facilities

Waneta is located southeast of Trail, BC on the Pend d'Oreille River, a tributary of the Columbia River. Waneta is approximately nine km downstream from BC Hydro's Seven Mile Dam, and about 0.5 km upstream of the confluence of the Pend d'Oreille and Columbia rivers. Construction of the Waneta Dam was completed in 1954.

As part of its due diligence for the Waneta 2017 Transaction (see section 4.11) BC Hydro re-assessed the Waneta Dam and the associated power generation assets. In addition, it also assessed the Transmission Assets. Because the Transmission Assets are a comparatively small part of the transaction in dollar terms ($20 million vs. $1.203 billion) and we do not anticipate purchasing for at least 20 years, the focus of BC Hydro's review was on the dam and the power generation assets.

All the assets to be acquired are in good condition and are comparable to BC Hydro assets of a similar vintage. All material incremental costs (both during and after the Lease Period) related to the ownership of the assets, that BC Hydro can reasonably anticipate at this time, were included in the financial analysis that is the subject in part of Chapter 4. In short, BC Hydro does not believe that the condition of any of the assets it would acquire is an impediment to the Waneta 2017 Transaction.

2.2.1 Power Generation Assets

The Waneta facility has been maintained well and the generating station is operating satisfactorily. It is in good condition for the age of the plant. The facility has had a number of upgrades and life extensions over the years, including:

1.7.4 BC Hydro has described the Waneta assets as being 'comparable to BC Hydro assets of a similar vintage', and further to the above statements has also referenced BC Hydro assets which are newer than the Waneta Dam as 'aging infrastructure' which are in need of investment and the addition of new assets. Please confirm that the Waneta Dam can also be considered as 'aging infrastructure' and potentially in need of investment.

RESPONSE:

Confirmed.

8.0 Reference: Exhibit B-1, page 3-6

> The Lease is an important part of the Waneta 2017 Transaction. Together with the COPOA, the Lease effectively maintains the *status quo* for 20 years (renewable to 30 years) and allows Teck to continue to be an "owner" of Waneta for the purposes
>
> of the *Water Sustainability Act*.[84] During the term of the Lease, Waneta will continue to be operated substantially as it has been since the Waneta Expansion Project came into service. Furthermore, Waneta will continue to be operated as a plant under the CPA and Teck will continue to receive an entitlement to capacity and energy under the CPA for its two-thirds interest.[85]

1.8.1 Please confirm that from a ratepayer perspective, status quo is not maintained as BC Hydro will have paid $1.2 billion for the Waneta assets.

RESPONSE:

The Lease effectively maintains the operational status quo for the Lease Period.

As described throughout the Application there are financial impacts both during and after the Lease Period. These financial impacts include but are not limited to BC Hydro's initial payment for the purchase of the Waneta Assets. Financial impacts to BC Hydro and its ratepayers during the Lease Period also include lease revenue, incremental BC Hydro administration costs, and BC Hydro's share of capital expenditures.

9.0 Reference: Exhibit B-1, page 3-3

3.2.1 Sale Notice

The Sale Notice sets out Teck's offer to sell its two-thirds interest in Waneta to BC Hydro on substantially the same terms as provided for in the Fortis Transaction (with the exception of the Transmission Assets).[74] The terms and conditions set out in the Sale Notice reflect a multi-step commercial transaction to be completed pursuant to a number of key agreements that were negotiated between Teck and Fortis Inc.[75]

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[74] As outlined in the Sale Notice, the transmission assets that were included in the principal agreements forming the Fortis Transaction but which will be excluded from the principal agreements forming part of the Waneta 2017 Transaction include: provisions dealing with any sale or lease of Teck's transmission assets, the Transmission Rights of Way (**ROW**), the ROW Agreement for Sale, the Wheeling Agreement, the ESS Interconnection Agreement, the Escrow Agreement, and the Transmission Limited Partnership Agreement. Under the ROFO provision in the COA, Teck was obligated to offer the Waneta Assets but could not require BC Hydro to purchase the Transmission Assets.

[75] As noted in the previous section, under the terms of the COA, BC Hydro does not have the right to significantly vary the terms of the offered transaction and as a result, the key agreements forming the Waneta 2017 Transaction are substantially similar to the Fortis Transaction.

[76] The Fortis Transaction contemplates a transaction with a non-Crown corporation that is not a regulated utility. Accordingly, numerous provisions under the principal agreements had to be modified to reflect this change. Pursuant to section 25.3(c) of the COA, the offer by Teck cannot contain any term or condition (other than the purchase price) that would have the effect of preventing BC Hydro (by virtue that BC Hydro is a Crown corporation and/or regulated utility) from completing the purchase and sale contemplated by the offer. Accordingly, a number of terms were updated to reflect this provision, see page 2 of the Sale Notice, attached at Appendix B of this application for a description of these changes.

1.9.3 Please provide the benefits and costs of the excluded transmission assets with quantification.

RESPONSE:

The value of the "excluded transmission assets" was not quantified as their value was small enough (significantly less than the value of the $20 million Transmission Assets of which the excluded assets are a part) that it would not have changed the outcome of the analysis that supported the decision to proceed with the Waneta 2017 transaction.

Please refer to BC Hydro's response to CEC IR 1.10.2.

10.0 Reference: Exhibit B-1, page 3-2 and page 3-5

- *Waneta Purchase Agreement:* this agreement provided for the sale of Teck's two-thirds interest in Waneta and the related transmission assets to Fortis Inc. for $1.2 billion cash broken down in the following way: $1.18 billion allocated to the Waneta Assets and $20 million allocated to the Transmission Assets;
- *Waneta Lease Agreement:* this agreement provided for the lease to Teck of the two-thirds interest for 20 years with the option for Teck to extend the term of the lease for an additional 10 years;
- *Transmission Lease and Operating Agreement:* this agreement provided for the lease back to Teck of the tangible personal property included in the Transmission Assets and the operation by Teck of the Transmission Assets and Transmission Rights of Way, all for the same term as the Waneta Lease Agreement;

3.2.3 Waneta Purchase Agreement

The Waneta Purchase Agreement sets out one of the central elements of the Waneta 2017 Transaction, namely the sale by Teck Resources and the purchase by BC Hydro of the Waneta Assets. [78,79] The purchase price is $1.203 billion, broken down in the following way: $1.18 billion for the Waneta Assets and $23 million because BC Hydro is unable to make a section 16.1 election under the *Income Tax Act*.[80]

[80] The price is different from that in the Fortis Transaction in that it has been decreased by $20 million to reflect the absence of the transmission assets from the sale, and increased by $23 million to reflect that BC Hydro is unable to deliver a section 16.1 election pursuant to the *Income Tax Act*.

1.10.1 Please elaborate on why the inability to deliver a section 16.1 election pursuant to the *Income Tax Act* results in a $3 million premium in the purchase price over Fortis' purchase price.

RESPONSE:

BC Hydro's inability to make an election under section 16.1 of the *Income Tax Act* does not alone result in a $3 million premium in the purchase price over Fortis Inc.'s purchase price.

Clause 2.5 of the Waneta Purchase Agreement includes a requirement to increase the purchase price by $23 million if Fortis Inc. or BC Hydro is not able to make an election under section 16.1 of the *Income Tax Act*.

Section 3.2.3 footnote 80 of the Application explains the $3 million difference between BC Hydro's purchase price and the Fortis Transaction price. The difference results from a decrease of $20 million to reflect the absence of the Transmission Assets from the initial purchase in the Waneta 2017 Transaction, and an unrelated increase of $23 million to reflect that BC Hydro is unable to make an election under section 16.1 of the *Income Tax Act*.

10.0 Reference: Exhibit B-1, page 3-2 and page 3-5

- *Waneta Purchase Agreement:* this agreement provided for the sale of Teck's two-thirds interest in Waneta and the related transmission assets to Fortis Inc. for $1.2 billion cash broken down in the following way: $1.18 billion allocated to the Waneta Assets and $20 million allocated to the Transmission Assets;
- *Waneta Lease Agreement:* this agreement provided for the lease to Teck of the two-thirds interest for 20 years with the option for Teck to extend the term of the lease for an additional 10 years;
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[80] The price is different from that in the Fortis Transaction in that it has been decreased by $20 million to reflect the absence of the transmission assets from the sale, and increased by $23 million to reflect that BC Hydro is unable to deliver a section 16.1 election pursuant to the *Income Tax Act*.

1.10.2 Are the excluded transmission assets integral to the value of the assets as operated by Teck?

RESPONSE:

By "excluded transmission assets" in this IR, BC Hydro understands this to mean the Transmission Assets, which were included as part of the Fortis Transaction that BC Hydro will be purchasing at the end of the Lease. The Transmission Assets consist of Line 71, Lines 14 to17, Emerald Switching Station and Waneta Hydro Station. BC Hydro believes that Teck places a significant option value on

market access provided by these assets, both for imports to serve potential load deficits and for exports to market potential excess power. For the Lease Period, BC Hydro is satisfied with the transmission rights as provided currently under the COA for our one-third interest in Waneta and these rights are included in the Waneta Transmission Agreement. Upon expiration or termination of the Lease, the Waneta Transmission Agreement provides for the sale of these Transmission Assets to BC Hydro to ensure BC Hydro can receive the full output of Waneta generation under certain circumstances. For example, if the smelter load ceases operations additional transmission capacity may be required.

10.0 Reference: Exhibit B-1, page 3-2 and page 3-5

- *Waneta Purchase Agreement:* this agreement provided for the sale of Teck's two-thirds interest in Waneta and the related transmission assets to Fortis Inc. for $1.2 billion cash broken down in the following way: $1.18 billion allocated to the Waneta Assets and $20 million allocated to the Transmission Assets;
- *Waneta Lease Agreement:* this agreement provided for the lease to Teck of the two-thirds interest for 20 years with the option for Teck to extend the term of the lease for an additional 10 years;
- *Transmission Lease and Operating Agreement:* this agreement provided for the lease back to Teck of the tangible personal property included in the Transmission Assets and the operation by Teck of the Transmission Assets and Transmission Rights of Way, all for the same term as the Waneta Lease Agreement;

3.2.3 Waneta Purchase Agreement

The Waneta Purchase Agreement sets out one of the central elements of the Waneta 2017 Transaction, namely the sale by Teck Resources and the purchase by BC Hydro of the Waneta Assets. [78,79] The purchase price is $1.203 billion, broken down in the following way: $1.18 billion for the Waneta Assets and $23 million because BC Hydro is unable to make a section 16.1 election under the *Income Tax Act*.[80]

[80] The price is different from that in the Fortis Transaction in that it has been decreased by $20 million to reflect the absence of the transmission assets from the sale, and increased by $23 million to reflect that BC Hydro is unable to deliver a section 16.1 election pursuant to the *Income Tax Act*.

1.10.3 Are the excluded assets logically valuable to Fortis as they were included in the sale?

RESPONSE:

BC Hydro cannot speculate what value Fortis Inc. placed on these assets. The Fortis Transaction valued these assets at $20 million.

10.0 Reference: Exhibit B-1, page 3-2 and page 3-5

- *Waneta Purchase Agreement:* this agreement provided for the sale of Teck's two-thirds interest in Waneta and the related transmission assets to Fortis Inc. for $1.2 billion cash broken down in the following way: $1.18 billion allocated to the Waneta Assets and $20 million allocated to the Transmission Assets;
- *Waneta Lease Agreement:* this agreement provided for the lease to Teck of the two-thirds interest for 20 years with the option for Teck to extend the term of the lease for an additional 10 years;
- *Transmission Lease and Operating Agreement:* this agreement provided for the lease back to Teck of the tangible personal property included in the Transmission Assets and the operation by Teck of the Transmission Assets and Transmission Rights of Way, all for the same term as the Waneta Lease Agreement;

3.2.3 Waneta Purchase Agreement

The Waneta Purchase Agreement sets out one of the central elements of the Waneta 2017 Transaction, namely the sale by Teck Resources and the purchase by BC Hydro of the Waneta Assets. [78,79] The purchase price is $1.203 billion, broken down in the following way: $1.18 billion for the Waneta Assets and $23 million because BC Hydro is unable to make a section 16.1 election under the *Income Tax Act*.[80]

[80] The price is different from that in the Fortis Transaction in that it has been decreased by $20 million to reflect the absence of the transmission assets from the sale, and increased by $23 million to reflect that BC Hydro is unable to deliver a section 16.1 election pursuant to the *Income Tax Act*.

1.10.4 Could the excluded transmission assets be valuable to BC Hydro if acquired?

RESPONSE:

Please refer to BC Hydro's response to CEC IR 1.10.2.

10.0 Reference: Exhibit B-1, page 3-2 and page 3-5

- *Waneta Purchase Agreement:* this agreement provided for the sale of Teck's two-thirds interest in Waneta and the related transmission assets to Fortis Inc. for $1.2 billion cash broken down in the following way: $1.18 billion allocated to the Waneta Assets and $20 million allocated to the Transmission Assets;
- *Waneta Lease Agreement:* this agreement provided for the lease to Teck of the two-thirds interest for 20 years with the option for Teck to extend the term of the lease for an additional 10 years;
- *Transmission Lease and Operating Agreement:* this agreement provided for the lease back to Teck of the tangible personal property included in the Transmission Assets and the operation by Teck of the Transmission Assets and Transmission Rights of Way, all for the same term as the Waneta Lease Agreement;

3.2.3 Waneta Purchase Agreement

The Waneta Purchase Agreement sets out one of the central elements of the Waneta 2017 Transaction, namely the sale by Teck Resources and the purchase by BC Hydro of the Waneta Assets. [78,79] The purchase price is $1.203 billion, broken down in the following way: $1.18 billion for the Waneta Assets and $23 million because BC Hydro is unable to make a section 16.1 election under the *Income Tax Act*.[80]

[80] The price is different from that in the Fortis Transaction in that it has been decreased by $20 million to reflect the absence of the transmission assets from the sale, and increased by $23 million to reflect that BC Hydro is unable to deliver a section 16.1 election pursuant to the *Income Tax Act*.

1.10.4 Could the excluded transmission assets be valuable to BC Hydro if acquired?

1.10.4.1 If so, please explain and quantify the value.

RESPONSE:

As provided in section 6 of the Transmission Agreement Term Sheet, BC Hydro will pay Teck $20 million (in dollars of the day) for the Transmission Assets at the expiration or termination of the Lease. For the estimated cost for BC Hydro to rebuild the Transmission Assets to their current capacity, please refer to BC Hydro's response to BCUC IR 1.41.13. Please also refer to BC Hydro's response to CEC IR 1.10.2.

10.0 Reference: Exhibit B-1, page 3-2 and page 3-5

- *Waneta Purchase Agreement:* this agreement provided for the sale of Teck's two-thirds interest in Waneta and the related transmission assets to Fortis Inc. for $1.2 billion cash broken down in the following way: $1.18 billion allocated to the Waneta Assets and $20 million allocated to the Transmission Assets;
- *Waneta Lease Agreement:* this agreement provided for the lease to Teck of the two-thirds interest for 20 years with the option for Teck to extend the term of the lease for an additional 10 years;
- *Transmission Lease and Operating Agreement:* this agreement provided for the lease back to Teck of the tangible personal property included in the Transmission Assets and the operation by Teck of the Transmission Assets and Transmission Rights of Way, all for the same term as the Waneta Lease Agreement;

3.2.3 Waneta Purchase Agreement

The Waneta Purchase Agreement sets out one of the central elements of the Waneta 2017 Transaction, namely the sale by Teck Resources and the purchase by BC Hydro of the Waneta Assets. [78,79] The purchase price is $1.203 billion, broken down in the following way: $1.18 billion for the Waneta Assets and $23 million because BC Hydro is unable to make a section 16.1 election under the *Income Tax Act*.[80]

[80] The price is different from that in the Fortis Transaction in that it has been decreased by $20 million to reflect the absence of the transmission assets from the sale, and increased by $23 million to reflect that BC Hydro is unable to deliver a section 16.1 election pursuant to the *Income Tax Act*.

1.10.4 Could the excluded transmission assets be valuable to BC Hydro if acquired?

1.10.4.2 If no, please explain why not.

RESPONSE:

Please refer to BC Hydro's response to CEC IR 1.10.4.1.

10.0 Reference: Exhibit B-1, page 3-2 and page 3-5

- *Waneta Purchase Agreement:* this agreement provided for the sale of Teck's two-thirds interest in Waneta and the related transmission assets to Fortis Inc. for $1.2 billion cash broken down in the following way: $1.18 billion allocated to the Waneta Assets and $20 million allocated to the Transmission Assets;
- *Waneta Lease Agreement:* this agreement provided for the lease to Teck of the two-thirds interest for 20 years with the option for Teck to extend the term of the lease for an additional 10 years;
- *Transmission Lease and Operating Agreement:* this agreement provided for the lease back to Teck of the tangible personal property included in the Transmission Assets and the operation by Teck of the Transmission Assets and Transmission Rights of Way, all for the same term as the Waneta Lease Agreement;

3.2.3 Waneta Purchase Agreement

The Waneta Purchase Agreement sets out one of the central elements of the Waneta 2017 Transaction, namely the sale by Teck Resources and the purchase by BC Hydro of the Waneta Assets. [78,79] The purchase price is $1.203 billion, broken down in the following way: $1.18 billion for the Waneta Assets and $23 million because BC Hydro is unable to make a section 16.1 election under the *Income Tax Act*.[80]

[80] The price is different from that in the Fortis Transaction in that it has been decreased by $20 million to reflect the absence of the transmission assets from the sale, and increased by $23 million to reflect that BC Hydro is unable to deliver a section 16.1 election pursuant to the *Income Tax Act*.

1.10.5 How will BC Hydro's $1.203 billion investment be financed? Please provide details including capital repayment schedule, expected refinancing timeframes and rates, etc.

RESPONSE:

Please refer to BC Hydro's response to CEABC IR 1.10.3 for how the Waneta 2017 Transaction will be financed and BC Hydro's response to BCUC IR 1.23.2 for the forecast rate calculations.

BC Hydro determines borrowing requirements on a portfolio basis and does not do project specific financing. Since there will no borrowings specifically related to the Waneta 2017 Transaction, there will be no capital repayment schedule, refinancing timelines, and refinancing rates.

Notwithstanding the above, for the purpose of estimating the ratepayer impact, BC Hydro made assumptions regarding the mix of long-term and short-term debt, interest rates, and term in our rate impact model in the data underlying Figure 6 and Figure 7 of the Waneta 2017 Business Case (Appendix N). Further details regarding the underlying data can be found in Attachment 2 which was filed on December 14, 2017 as part of BC Hydro's confidential response to Exhibit A-3.

11.0 Reference: Exhibit B-1, page 3-7 and Appendix N page 2 of 90

- *Basic rent*: the initial rent payable by Teck is $74,180,644 per annum ($18,545,161 per quarter) escalated at 2 per cent per annum; if the Lease is renewed, the initial rent for the renewal term is $144,409,031 per annum ($36,102,258 per quarter), also escalated at 2 per cent;[86]

[86] These amounts are based on an assumed commencement of August 1, 2018, and will be adjusted depending on the actual commencement; however the purchase price itself will not be adjusted. The Lease will set out the agreed allocation of rent to 'tangible personal property' for purposes of PST on lease payments.

1.11.1 Please explain why 2% was chosen as the appropriate escalation rate for basic rent.

RESPONSE:

The escalation rate was determined as part of the Teck competitive sales process leading to the Fortis Transaction and associated ROFO. BC Hydro was not part of this process and has no information regarding the basis for choosing 2 per cent as the appropriate escalation rate for basic rent.

11.0 Reference: Exhibit B-1, page 3-7 and Appendix N page 2 of 90

- *Basic rent*: the initial rent payable by Teck is $74,180,644 per annum ($18,545,161 per quarter) escalated at 2 per cent per annum; if the Lease is renewed, the initial rent for the renewal term is $144,409,031 per annum ($36,102,258 per quarter), also escalated at 2 per cent;[86]

[86] These amounts are based on an assumed commencement of August 1, 2018, and will be adjusted depending on the actual commencement; however the purchase price itself will not be adjusted. The Lease will set out the agreed allocation of rent to 'tangible personal property' for purposes of PST on lease payments.

1.11.2 Please provide the evidence supporting 2% as the appropriate escalation rate.

RESPONSE:

Please refer to BC Hydro's response to CEC IR 1.11.1.

11.0 Reference: Exhibit B-1, page 3-7 and Appendix N page 2 of 90

- *Basic rent*: the initial rent payable by Teck is $74,180,644 per annum ($18,545,161 per quarter) escalated at 2 per cent per annum; if the Lease is renewed, the initial rent for the renewal term is $144,409,031 per annum ($36,102,258 per quarter), also escalated at 2 per cent;[86]

[86] These amounts are based on an assumed commencement of August 1, 2018, and will be adjusted depending on the actual commencement; however the purchase price itself will not be adjusted. The Lease will set out the agreed allocation of rent to 'tangible personal property' for purposes of PST on lease payments.

1.11.3 Please discuss the implications of having a pre-established escalation rate rather than a rate that is adjusted periodically, such as every five years, to reflect market conditions.

RESPONSE:

Utilizing a pre-established escalation rate will result in lease payments that are wholly predictable. Utilization of a rate that is adjusted periodically would result in lease payments that are less predictable beyond the period of adjustment. The level of variance in lease rates would depend on the market index selected as the basis for adjustments.

It is possible that utilization of a rate adjusted for market conditions could protect BC Hydro against the risk that the cost of operating Waneta increases more rapidly than the 2 per cent escalation rate, or protect Teck against the risk that the cost of operating Waneta increase less rapidly than the 2 per cent escalation rate. However, this would require selection of a market index with high correlation to Waneta operating costs.

Please refer to BC Hydro's response to CEC IR 1.11.1.

12.0 Reference: Exhibit B-1, Appendix F, page 6 of 50

(f) Basic Rent, excluding Rental Taxes:

Period	Per Lease Year	Per Quarter
Lease Year 13	$94,078,993	$23,519,748
Lease Year 14	$95,960,572	$23,990,143
Lease Year 15	$97,879,784	$24,469,946
Lease Year 16	$99,837,380	$24,959,345
Lease Year 17	$101,834,127	$25,458,532
Lease Year 18	$103,870,810	$25,967,702
Lease Year 19	$103,140,303	$25,785,076

Period	Per Lease Year	Per Quarter
Lease Year 20	$105,203,109	$26,300,777

1.12.1 Are the Basic Rent values in 2018 dollars? Please explain.

RESPONSE:

The Basic Rent values are in nominal dollars (i.e., dollars of the day).

12.0 Reference: Exhibit B-1, Appendix F, page 6 of 50

(f) Basic Rent, excluding Rental Taxes:

Period	Per Lease Year	Per Quarter
Lease Year 13	$94,078,993	$23,519,748
Lease Year 14	$95,960,572	$23,990,143
Lease Year 15	$97,879,784	$24,469,946
Lease Year 16	$99,837,380	$24,959,345
Lease Year 17	$101,834,127	$25,458,532
Lease Year 18	$103,870,810	$25,967,702
Lease Year 19	$103,140,303	$25,785,076

Period	Per Lease Year	Per Quarter
Lease Year 20	$105,203,109	$26,300,777

1.12.1 Are the Basic Rent values in 2018 dollars? Please explain.

1.12.1.1 If not, please present the above table in 2018 dollars.

RESPONSE:

Please refer to the following tables. BC Hydro has adjusted to 2018 dollars on the basis that Lease Year 1 is anticipated to begin August 1, 2018 while fiscal 2018 began on April 1, 2017. This represents approximately 1.33 years of adjustment for year one at an assumed interest rate of 2 per cent.

Basic Rent for initial Lease Period, excluding Rental Taxes (fiscal 2018 real dollars)

Period	Per Lease Year	Per Quarter
Lease Year 1	**72,252,416**	**18,063,104**
Lease Year 2	**72,252,415**	**18,063,104**
Lease Year 3	**72,252,416**	**18,063,104**
Lease Year 4	**72,252,415**	**18,063,104**
Lease Year 5	**72,252,415**	**18,063,104**
Lease Year 6	**72,252,416**	**18,063,104**
Lease Year 7	**72,252,415**	**18,063,104**
Lease Year 8	**72,252,415**	**18,063,104**
Lease Year 9	**72,252,415**	**18,063,104**
Lease Year 10	**72,252,415**	**18,063,104**

Period	Per Lease Year	Per Quarter
Lease Year 11	**72,252,415**	**18,063,104**
Lease Year 12	**72,252,415**	**18,063,104**
Lease Year 13	**72,252,415**	**18,063,104**
Lease Year 14	**72,252,415**	**18,063,104**
Lease Year 15	**72,252,415**	**18,063,104**
Lease Year 16	**72,252,415**	**18,063,104**
Lease Year 17	**72,252,415**	**18,063,104**
Lease Year 18	**72,252,415**	**18,063,104**
Lease Year 19	**70,337,525**	**17,584,381**
Lease Year 20	**70,337,525**	**17,584,381**

Basic Rent for potential Lease Extension Period, excluding Rental Taxes (fiscal 2018 real dollars)

Period	Per Lease Year	Per Quarter
Lease Year 21	**94,656,990**	**23,664,247**
Lease Year 22	**94,656,990**	**23,664,248**
Lease Year 23	**94,656,990**	**23,664,248**
Lease Year 24	**94,656,990**	**23,664,248**
Lease Year 25	**94,656,990**	**23,664,247**
Lease Year 26	**94,656,990**	**23,664,248**
Lease Year 27	**94,656,990**	**23,664,248**
Lease Year 28	**94,656,990**	**23,664,247**
Lease Year 29	**94,656,990**	**23,664,248**
Lease Year 30	**94,656,990**	**23,664,248**

12.0 Reference: Exhibit B-1, Appendix F, page 6 of 50

(f) Basic Rent, excluding Rental Taxes:

Period	Per Lease Year	Per Quarter
Lease Year 13	$94,078,993	$23,519,748
Lease Year 14	$95,960,572	$23,990,143
Lease Year 15	$97,879,784	$24,469,946
Lease Year 16	$99,837,380	$24,959,345
Lease Year 17	$101,834,127	$25,458,532
Lease Year 18	$103,870,810	$25,967,702
Lease Year 19	$103,140,303	$25,785,076

Period	Per Lease Year	Per Quarter
Lease Year 20	$105,203,109	$26,300,777

1.12.2 A consistent 2% increase for years 19 and 20 would result in annual payments of $105,948,226 and $108,067,191 respectively, resulting in a total difference of $5.672 million from that included in the Basic Terms. Please explain why BC Hydro included a 0.7% reduction from year 18 to year 19.

RESPONSE:

It is BC Hydro's understanding that the lease payments were derived by arm's length negotiations between Teck and Fortis Inc. following a competitive sale process. BC Hydro was not party to the negotiation of these terms, nor permitted to renegotiate these terms under the ROFO.

Please refer to BC Hydro's response to BCUC IR 1.51.1 for an explanation of the decrease in lease payments from year 18 to year 19.

12.0 Reference: Exhibit B-1, Appendix F, page 6 of 50

(f) Basic Rent, excluding Rental Taxes:

Period	Per Lease Year	Per Quarter
Lease Year 13	$94,078,993	$23,519,748
Lease Year 14	$95,960,572	$23,990,143
Lease Year 15	$97,879,784	$24,469,946
Lease Year 16	$99,837,380	$24,959,345
Lease Year 17	$101,834,127	$25,458,532
Lease Year 18	$103,870,810	$25,967,702
Lease Year 19	$103,140,303	$25,785,076

Period	Per Lease Year	Per Quarter
Lease Year 20	$105,203,109	$26,300,777

1.12.3 Are there other areas of the application in which there are variations from that presented in the write up?

RESPONSE:

BC Hydro does not agree that the referenced table represents a variation from the information presented in the write-up. The energy capacity swap that results in the reduction in lease payments from year 18 to year 19 is described in section 3.2.5.5 of the Application and further detailed in the COPOA.

12.0 Reference: Exhibit B-1, Appendix F, page 6 of 50

(f) Basic Rent, excluding Rental Taxes:

Period	Per Lease Year	Per Quarter
Lease Year 13	$94,078,993	$23,519,748
Lease Year 14	$95,960,572	$23,990,143
Lease Year 15	$97,879,784	$24,469,946
Lease Year 16	$99,837,380	$24,959,345
Lease Year 17	$101,834,127	$25,458,532
Lease Year 18	$103,870,810	$25,967,702
Lease Year 19	$103,140,303	$25,785,076

Period	Per Lease Year	Per Quarter
Lease Year 20	$105,203,109	$26,300,777

1.12.3 Are there other areas of the application in which there are variations from that presented in the write up?

1.12.3.1 If yes, please identify these areas.

RESPONSE:

Please refer to BC Hydro's response to CEC IR 1.12.3.

13.0 Reference: Exhibit B-1, Appendix F, page 24 of 50

16.2 **Renewal Basic Rent.** Effective the first day of the Renewal Term, Section 1.1(f) shall be deemed to be amended by deleting the table set out therein and replacing it with the following table:

Period	Per Lease Year	Per Quarter
Lease Year 21	$144,409,031	$36,102,258
Lease Year 22	$147,297,212	$36,824,303
Lease Year 23	$150,243,156	$37,560,789
Lease Year 24	$153,248,019	$38,312,005
Lease Year 25	$156,312,979	$39,078,245
Lease Year 26	$159,439,239	$39,859,810
Lease Year 27	$162,628,024	$40,657,006
Lease Year 28	$165,880,584	$41,470,146
Lease Year 29	$169,198,196	$42,299,549
Lease Year 30	$172,582,160	$43,145,540

[NTD: The foregoing assumes a Commencement Date of August 1, 2018. If the Commencement Date is later than August 1, 2018 then the payment for Lease Year 21 will be increased by 0.1667% for each month after August 1, 2018 that the Commencement Date occurs and the rent for subsequent years will be adjusted accordingly based on the same escalation as in the above table.]

- Teck has an option to extended the lease for an additional 10 years at a price of $53/MWh.

1.13.1 The initial rent payable at $74 million per annum escalated at 2% would be $108 million in 20 years or $40/MWh, whereas the initial rent for the renewal term is $144 million. Please show the calculation illustrating the $53/MWh price.

RESPONSE:

The $53/MWh price was determined as part of the Teck sales process leading to the Fortis Transaction and associated ROFO. BC Hydro was not part of this process and has no information or calculation related to $53/MWh price.

13.0 Reference: Exhibit B-1, Appendix F, page 24 of 50

16.2 **Renewal Basic Rent.** Effective the first day of the Renewal Term, Section 1.1(f) shall be deemed to be amended by deleting the table set out therein and replacing it with the following table:

Period	Per Lease Year	Per Quarter
Lease Year 21	$144,409,031	$36,102,258
Lease Year 22	$147,297,212	$36,824,303
Lease Year 23	$150,243,156	$37,560,789
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Lease Year 27	$162,628,024	$40,657,006
Lease Year 28	$165,880,584	$41,470,146
Lease Year 29	$169,198,196	$42,299,549
Lease Year 30	$172,582,160	$43,145,540

[NTD: The foregoing assumes a Commencement Date of August 1, 2018. If the Commencement Date is later than August 1, 2018 then the payment for Lease Year 21 will be increased by 0.1667% for each month after August 1, 2018 that the Commencement Date occurs and the rent for subsequent years will be adjusted accordingly based on the same escalation as in the above table.]

- Teck has an option to extended the lease for an additional 10 years at a price of $53/MWh.

1.13.2 Please confirm that to the extent that the renewal is entirely at Teck's discretion and the renewal prices are pre-set Teck will have the advantage of being able to choose to use market supply or BC Hydro supply depending on which price is most favourable at the end of the lease period.

RESPONSE:

Confirmed, clarifying that BC Hydro understands "BC Hydro supply" to refer to the Lease renewal option to be exercised by Teck.

13.0 Reference: Exhibit B-1, Appendix F, page 24 of 50

16.2 **Renewal Basic Rent.** Effective the first day of the Renewal Term, Section 1.1(f) shall be deemed to be amended by deleting the table set out therein and replacing it with the following table:

Period	Per Lease Year	Per Quarter
Lease Year 21	$144,409,031	$36,102,258
Lease Year 22	$147,297,212	$36,824,303
Lease Year 23	$150,243,156	$37,560,789
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Lease Year 29	$169,198,196	$42,299,549
Lease Year 30	$172,582,160	$43,145,540

[NTD: The foregoing assumes a Commencement Date of August 1, 2018. If the Commencement Date is later than August 1, 2018 then the payment for Lease Year 21 will be increased by 0.1667% for each month after August 1, 2018 that the Commencement Date occurs and the rent for subsequent years will be adjusted accordingly based on the same escalation as in the above table.]

- Teck has an option to extended the lease for an additional 10 years at a price of $53/MWh.

1.13.2.1 Please discuss the implications for BC Hydro if market prices are higher than the pre-established price that Teck would be required to pay under the Renewal Basic Rent.

RESPONSE:

If market prices are higher than the pre-established price that Teck pays under the Lease extension, BC Hydro expects this would increase the probability of Teck exercising their extension option. Please refer to BC Hydro's response to BCSEA IR 1.12.2.

Please also refer to BC Hydro's response to BCUC IR 1.15.6 for discussion of how BC Hydro valued Teck's extension option.

14.0 Reference: Exhibit B-1, page 3-10 and page 3-10 and Appendix G page 4 of 19 and page 4 of 19

- Operating Committee voting continues to be one-third BC Hydro and two-thirds Teck except for certain enumerated items where unanimous approval is required[87]; and
- Where unanimous approval is required, if the parties cannot reach agreement, then in some cases a third party referee process continues to be available to break the deadlock.

Because Teck's interest in Waneta will now only be for the term of the Lease (i.e., 20 or 30 years), new provisions have been included in the COPOA to address decision-making and cost-sharing for capital expenditures that may need to be made during the Lease Period but will have post-Lease benefits. These decision making provisions are found in sections 6.6 to 6.8 of the COPOA while the cost sharing provisions are found in the definitions of "Expected Lease Term Refurbishment Costs" as well as section 10.1 and Exhibit 1 of the COPOA.

Participation Percentages	The initial participation percentages for the co-owners are agreed as: (Section 5.2) • BC Hydro 33.333 per cent • Teck 66.667 per cent *These percentages could be adjusted.	The participation percentages for the co-possessors are agreed as: (Section 5.2) • BC Hydro 33.333 per cent • Teck 66.667 per cent *Unlike the COA, the COPOA does not allow for these percentages to be adjusted.
Operating Committee (Section 6)	There is a four-member Operating Committee with oversight over the Operator (initially Teck). The Operating Committee is comprised of two representatives of each co-owner, with voting in proportion to participation percentages. The Operating Committee meets at least quarterly, and the COA provides a detailed procedure for calling and holding such meetings. As the majority owner, Teck's decisions govern most matters. (Sections 6.1 – 6.5)	The Operating Committee operates essentially the same under the COPOA, being comprised of two representatives of each co-possessor, with voting in proportion to participation percentages. If BC Hydro steps in as Operator, then its voting percentage is to be increased to 51 per cent. (Sections 6.1 – 6.5) Because Teck's interest in Waneta will now only be for the Lease Period, new provisions have been included in the COPOA to address decision making and cost sharing for capital expenditures that may need to be made during the Lease Period, but will have post-Lease benefits.

1.14.4 Please explain the potential post-lease risk which could occur from this decision-making approach. Please quantify where possible.

RESPONSE:

The main impact of the Lease structure on post-Lease risk is the potential for Teck to seek to underinvest in the assets near the end of the Lease as they receive limited benefit from the investment. Please refer to BC Hydro's response to CEC IR 1.19.2 for discussion of the mechanisms in the decision-making process to ensure appropriate levels of investment in the Waneta Assets during the Lease Period.

15.0 Reference: Exhibit B-1, Appendix G, page 6 of 19

Section	Co-Owners and Operating Agreement	Co-Possessors and Operating Agreement
	Committee; • Determination of whether an action/expenditure constitutes an Upgrade; • Any action/expenditure that reduces capacity of any Unit by more than 5 per cent; • Non-Sustaining Capital Expenditures greater than $10 million; • Reconstruction or replacements of assets after damage or destruction; • Abandonment of all or a material portion of the Waneta assets, or permanent cessation of generation at the Waneta Plant; • Legal actions/settlements greater than $2 million. • If any such matter is not unanimously agreed, dispute resolution procedures will not apply and the Operator will not proceed with the matter.	• Essentially the same as under the COA, *except*: (i) determination of "Upgrades" is replaced with determination of "Shared Upgrades" (being upgrades unanimously approved by the Operating Committee) - Upgrades that are not unanimously agreed to be "Shared Upgrades" will be entirely BC Hydro's responsibility; (ii) Non-Sustaining Capital Expenditures and Budgets (other than Shared Upgrades) will be entirely BC Hydro's responsibility; and (iii) reconstruction or replacements of assets after damage or destruction will be entirely BC Hydro's responsibility (subject to insurance provisions). BC Hydro Upgrades are dealt with under a new section (Section 6.12), which provides that these upgrades are at BC Hydro's sole discretion and cost; and BC Hydro would have the benefit of such upgrades. Teck agrees to reasonably cooperate with and assist BC Hydro in completing BC Hydro Upgrades, with BC Hydro reimbursing Teck for such cooperation and assistance. The Upgrade referred to in the COA as the "Unit 3 Life Extension Upgrade" has been re-characterised in the COPOA as an "Expected Lease Term Refurbishment Project", meaning that its costs will be shared between BC Hydro (one-third) and Teck (two-thirds) (provided it is undertaken during the initial Lease Period; if later it will be subject to the formula governing costs of "Extraordinary Refurbishment Projects").

1.15.1 Please describe how BC Hydro would have the 'benefit of upgrades' and provide examples with quantification to the extent possible.

RESPONSE:

BC Hydro would have the benefit of BC Hydro Upgrades, as defined in the COPOA. The "benefit" to BC Hydro described in this section of Appendix G are generally expected to be delivery of additional energy and capacity resulting from and Upgrade, although the COPOA contemplates the possibility of benefits unrelated to energy and capacity.

No BC Hydro Upgrades are currently contemplated, and as such BC Hydro cannot provide examples or quantification.

15.0 Reference: Exhibit B-1, Appendix G, page 6 of 19

Section	Co-Owners and Operating Agreement	Co-Possessors and Operating Agreement
	Committee; • Determination of whether an action/expenditure constitutes an Upgrade; • Any action/expenditure that reduces capacity of any Unit by more than 5 per cent; • Non-Sustaining Capital Expenditures greater than $10 million; • Reconstruction or replacements of assets after damage or destruction; • Abandonment of all or a material portion of the Waneta assets, or permanent cessation of generation at the Waneta Plant; • Legal actions/settlements greater than $2 million. • If any such matter is not unanimously agreed, dispute resolution procedures will not apply and the Operator will not proceed with the matter.	• Essentially the same as under the COA, *except*: (i) determination of "Upgrades" is replaced with determination of "Shared Upgrades" (being upgrades unanimously approved by the Operating Committee) - Upgrades that are not unanimously agreed to be "Shared Upgrades" will be entirely BC Hydro's responsibility; (ii) Non-Sustaining Capital Expenditures and Budgets (other than Shared Upgrades) will be entirely BC Hydro's responsibility; and (iii) reconstruction or replacements of assets after damage or destruction will be entirely BC Hydro's responsibility (subject to insurance provisions). BC Hydro Upgrades are dealt with under a new section (Section 6.12), which provides that these upgrades are at BC Hydro's sole discretion and cost; and BC Hydro would have the benefit of such upgrades. Teck agrees to reasonably cooperate with and assist BC Hydro in completing BC Hydro Upgrades, with BC Hydro reimbursing Teck for such cooperation and assistance. The Upgrade referred to in the COA as the "Unit 3 Life Extension Upgrade" has been re-characterised in the COPOA as an "Expected Lease Term Refurbishment Project", meaning that its costs will be shared between BC Hydro (one-third) and Teck (two-thirds) (provided it is undertaken during the initial Lease Period; if later it will be subject to the formula governing costs of "Extraordinary Refurbishment Projects").

1.15.2 Please confirm that Teck could also receive benefits from upgrades that are the sole responsibility of BC Hydro.

RESPONSE:

Teck cannot receive energy or capacity benefits from BC Hydro Upgrades. It is possible that Teck could receive secondary benefits from BC Hydro Upgrades – such as improved safety or improved reliability – that cannot be solely assigned to BC Hydro.

15.0 Reference: Exhibit B-1, Appendix G, page 6 of 19

Section	Co-Owners and Operating Agreement	Co-Possessors and Operating Agreement
	Committee; • Determination of whether an action/expenditure constitutes an Upgrade; • Any action/expenditure that reduces capacity of any Unit by more than 5 per cent; • Non-Sustaining Capital Expenditures greater than $10 million; • Reconstruction or replacements of assets after damage or destruction; • Abandonment of all or a material portion of the Waneta assets, or permanent cessation of generation at the Waneta Plant; • Legal actions/settlements greater than $2 million. • If any such matter is not unanimously agreed, dispute resolution procedures will not apply and the Operator will not proceed with the matter.	• Essentially the same as under the COA, *except*: (i) determination of "Upgrades" is replaced with determination of "Shared Upgrades" (being upgrades unanimously approved by the Operating Committee) - Upgrades that are not unanimously agreed to be "Shared Upgrades" will be entirely BC Hydro's responsibility; (ii) Non-Sustaining Capital Expenditures and Budgets (other than Shared Upgrades) will be entirely BC Hydro's responsibility; and (iii) reconstruction or replacements of assets after damage or destruction will be entirely BC Hydro's responsibility (subject to insurance provisions). BC Hydro Upgrades are dealt with under a new section (Section 6.12), which provides that these upgrades are at BC Hydro's sole discretion and cost; and BC Hydro would have the benefit of such upgrades. Teck agrees to reasonably cooperate with and assist BC Hydro in completing BC Hydro Upgrades, with BC Hydro reimbursing Teck for such cooperation and assistance. The Upgrade referred to in the COA as the "Unit 3 Life Extension Upgrade" has been re-characterised in the COPOA as an "Expected Lease Term Refurbishment Project", meaning that its costs will be shared between BC Hydro (one-third) and Teck (two-thirds) (provided it is undertaken during the initial Lease Period; if later it will be subject to the formula governing costs of "Extraordinary Refurbishment Projects").

1.15.3 Please quantify potential benefits to Teck from BC Hydro's capital expenditures under the agreement.

RESPONSE:

BC Hydro does not have sufficient information to quantify, and is not prepared to speculate on, potential benefits to Teck from BC Hydro's expected capital expenditures.

17.0 Reference: Exhibit B-1, page 3-11 and page 3-11

> Under the Transaction Closing Matters Agreement, BC Hydro had the option to elect whether to become the Operator of Waneta within 45 days of providing the Reply Notice (see section 3.2.9). BC Hydro elected not to become Operator at this time, but may do so in the future at one or more fixed times, or in the event of default by Teck, change of control of Teck, or the sale of the smelter, all as will be provided for in the finalized COPOA (see Operator Election Letter attached at Appendix D).

1.17.1 Please elaborate on the considerations and decision-making process BC Hydro undertook and explain why BC Hydro elected not to become an Operator at this time.

RESPONSE:

Please refer to BC Hydro's response to BCUC IR 1.52.1.2.

17.0 Reference: Exhibit B-1, page 3-11 and page 3-11

> Under the Transaction Closing Matters Agreement, BC Hydro had the option to elect whether to become the Operator of Waneta within 45 days of providing the Reply Notice (see section 3.2.9). BC Hydro elected not to become Operator at this time, but may do so in the future at one or more fixed times, or in the event of default by Teck, change of control of Teck, or the sale of the smelter, all as will be provided for in the finalized COPOA (see Operator Election Letter attached at Appendix D).

1.17.2 Please provide the fixed times at which BC Hydro would have the opportunity to elect to become Operator in the future, and any conditions that are required in order to do so.

RESPONSE:

Please refer to sections 7.12 and 25.6 of the COPOA, Appendix H to the Application.

17.0 Reference: Exhibit B-1, page 3-11 and page 3-11

> Under the Transaction Closing Matters Agreement, BC Hydro had the option to elect whether to become the Operator of Waneta within 45 days of providing the Reply Notice (see section 3.2.9). BC Hydro elected not to become Operator at this time, but may do so in the future at one or more fixed times, or in the event of default by Teck, change of control of Teck, or the sale of the smelter, all as will be provided for in the finalized COPOA (see Operator Election Letter attached at Appendix D).

1.17.3 Please provide and quantify any costs/benefits that would have accrued to BC Hydro had it elected to become Operator at this time.

RESPONSE:

Please refer to BC Hydro's response to BCUC IR 1.52.1.2.

17.0 Reference: Exhibit B-1, page 3-11 and page 3-11

> Under the Transaction Closing Matters Agreement, BC Hydro had the option to elect whether to become the Operator of Waneta within 45 days of providing the Reply Notice (see section 3.2.9). BC Hydro elected not to become Operator at this time, but may do so in the future at one or more fixed times, or in the event of default by Teck, change of control of Teck, or the sale of the smelter, all as will be provided for in the finalized COPOA (see Operator Election Letter attached at Appendix D).

1.17.4 Please confirm that BC Hydro has the requisite capabilities to become Operator at this time.

RESPONSE:

Confirmed. BC Hydro has a footprint in the region through its Seven Mile, Kootenay Canal and Hugh Keenleyside facilities. With staff in the region, BC Hydro is capable of performing as both the Operator and Manager.

18.0 Reference: Exhibit B-1, page 3-11

3.2.5.2 Manager

The COPOA continues to provide that the Operator is entitled to appoint a manager to manage day to day operations of Waneta. This provision remains unchanged from the COA. Section 8 of the COPOA provides further details with respect to the appointment and duties of the Manager. The current manager is FortisBC, pursuant to an existing management agreement as between Teck and FortisBC.

1.18.1 Please confirm that BC Hydro has the requisite capabilities to act as Manager of the day to day operations of Waneta.

RESPONSE:

Please refer to BC Hydro's response to CEC IR 1.17.4.

18.0 Reference: Exhibit B-1, page 3-11

3.2.5.2 Manager

The COPOA continues to provide that the Operator is entitled to appoint a manager to manage day to day operations of Waneta. This provision remains unchanged from the COA. Section 8 of the COPOA provides further details with respect to the appointment and duties of the Manager. The current manager is FortisBC, pursuant to an existing management agreement as between Teck and FortisBC.

1.18.2 Please provide a brief discussion of the costs and benefits of transferring the Manager function from FortisBC to BC Hydro and include high level quantification of any costs or benefits that BC Hydro considers could accrue from becoming Manager including any benefits derived from integration of the function within BC Hydro.

RESPONSE:

Please refer to BC Hydro's response to BCUC IR 1.52.1.2.

18.0 Reference: Exhibit B-1, page 3-11

3.2.5.2 Manager

The COPOA continues to provide that the Operator is entitled to appoint a manager to manage day to day operations of Waneta. This provision remains unchanged from the COA. Section 8 of the COPOA provides further details with respect to the appointment and duties of the Manager. The current manager is FortisBC, pursuant to an existing management agreement as between Teck and FortisBC.

1.18.3 If BC Hydro were to become Operator, would it expect to appoint itself or any other party other than FortisBC as Manager? Please elaborate on why or why not and identify the appropriate considerations.

RESPONSE:

BC Hydro expects to become the Operator and Manager following the Lease as Waneta will be unencumbered by the Lease and BC Hydro intends for the Waneta Assets to be as any other that BC Hydro owns and operates. However FortisBC has gathered valuable experience in the operations of Waneta given its past and current role as Manager that also provides a benefit to BC Hydro through its involvement in the Operating Committee. BC Hydro would consider FortisBC's experience when making a decision to operate the facility after the Lease Period.

Please refer to BC Hydro's response to BCUC IR 1.52.1.2 for a description of BC Hydro's role at the Operating Committee and the additional benchmarking benefits that the current FortisBC arrangement provides.

19.0 Reference: Exhibit B-1, page 3-12 and Appendix H page 29 of 138

3.2.5.4 Costs

In addition to Lease payments, Teck will continue to be responsible for paying two-thirds of all operating costs and two-thirds of sustaining capital costs (shared in specific cases with BC Hydro) incurred during the term of the Lease. BC Hydro will continue to pay one-third of those costs and will pay 100 per cent of non-sustaining capital costs and the costs of non-shared upgrades. If Teck fails to pay its share of Waneta costs, in addition to other remedies, BC Hydro may be able to unilaterally reduce the amount of CPA entitlement it is required to make available to Teck, until the unpaid costs have been recouped. Sections 9 and 10 of the COPOA provide further details with respect to various operating and capital costs.

(yyyyyy) "**Sustaining Capital Expenditures**" means all capital expenditures made or to be made with a view to maintaining and sustaining the existing output and reliability of the Waneta Plant (or increasing the existing output or reliability of the Waneta Plant where such increase is incidental to non-discretionary replacement of existing equipment), including for greater certainty all costs or expenses incurred or payable during the Term in connection with projects for the enhancement, replacement or refurbishment of components of the Waneta Assets including Expected Lease Term Refurbishment Projects and Extraordinary Refurbishment Projects.

1.19.1 Are sustaining capital expenditures for the Waneta Dam generally predictable, or do they vary significantly from year to year? Please comment and provide quantification of changes where possible.

RESPONSE:

BC Hydro receives a five-year sustaining capital budget from Teck each year to allow sufficient visibility into future sustaining capital expenditures for planning purposes. Embedded within the COA (and continued in the COPOA) are provisions that require unanimous approval of the Operating Committee for sustaining capital expenditures in excess of $10 million or in instances where the sustaining capital budget for a given year exceeds the five year average by more than 10 per cent. Since the Waneta 2010 Transaction, these triggers have only been exceeded once.

19.0 Reference: Exhibit B-1, page 3-12 and Appendix H page 29 of 138

3.2.5.4 Costs

In addition to Lease payments, Teck will continue to be responsible for paying two-thirds of all operating costs and two-thirds of sustaining capital costs (shared in specific cases with BC Hydro) incurred during the term of the Lease. BC Hydro will continue to pay one-third of those costs and will pay 100 per cent of non-sustaining capital costs and the costs of non-shared upgrades. If Teck fails to pay its share of Waneta costs, in addition to other remedies, BC Hydro may be able to unilaterally reduce the amount of CPA entitlement it is required to make available to Teck, until the unpaid costs have been recouped. Sections 9 and 10 of the COPOA provide further details with respect to various operating and capital costs.

(yyyyyy) "**Sustaining Capital Expenditures**" means all capital expenditures made or to be made with a view to maintaining and sustaining the existing output and reliability of the Waneta Plant (or increasing the existing output or reliability of the Waneta Plant where such increase is incidental to non-discretionary replacement of existing equipment), including for greater certainty all costs or expenses incurred or payable during the Term in connection with projects for the enhancement, replacement or refurbishment of components of the Waneta Assets including Expected Lease Term Refurbishment Projects and Extraordinary Refurbishment Projects.

1.19.2 What protections are in place to ensure that sustaining capital required towards the end of the lease period is not deferred to outside the lease term? Please explain.

RESPONSE:

Within the COPOA there are several provisions which are carried forward from the COA to provide assurance that Waneta will see sufficient levels of sustaining capital investment and maintenance during the Lease.

Operating Standard:

The COPOA continues to require that the Operator exercise the degree of care and skill that an experienced dam operator would exercise in the conduct of its own affairs acting in accordance with good utility practice. This obligation provides a standard to which the assets must be operated and maintained based on regulatory requirements and commercial levels of risk tolerance.

Referral to Third Party Referee:

Section 6.7(a) of the COPOA provides that Sustaining Capital expenditures in excess of $10 million require unanimous approval by the Operating Committee. Under the terms of COPOA 6.7(b), if the Co-Possessor's representatives on the

Operating Committee are unable to agree on these expenditures (or upon certain maintenance budgets), then either party can refer the matter to a qualified Third-Party Referee. The Referee shall select whichever party's proposal is more consistent with that of a prudent owner, acting in accordance with legal obligations and good utility practice. The decision of the Referee is binding on the Co-Possessors.

Teck's obligation to provide BC Hydro's one-third Share of Waneta Generation:

Until 2036, Teck has a firm obligation to provide BC Hydro's one-third share of Waneta generation on an assured basis, and all entitlement reductions during this period are to Teck's account. Teck is therefore motivated to maintain and invest in Waneta to serve their smelter load and minimize the replacement energy to be purchased from the market to meet its obligation to BC Hydro. Starting in 2036, any loss of generation is shared between BC Hydro and Teck based on each Co-Possessors participation interest. This would result in two-thirds of any loss of generation being allocated to Teck's share of generation from Waneta.

21.0 Reference: Exhibit B-1, page 3-20 and 3-21 and page 2-19

At the expiry or termination of the Lease[99], the Waneta Transmission Agreement will provide for the sale of the Transmission Assets to BC Hydro, including Line 71, for $20 million.[100] Until purchased by BC Hydro, Teck will therefore continue to own, operate and maintain the Transmission Assets and will be contractually bound to do so as a prudent owner and to a standard of good utility practice. Because Teck will continue as owner/operator of the Transmission Assets during the Lease Period, provisions will be included in the Waneta Transmission Agreement that require Teck to use commercially reasonable efforts to extend the time for exercising its options to purchase capacity and/or asset rights on Lines 62, 77 and 79 until 90 days after expiry or earlier termination of the Lease.[101] Related to this, the Waneta Transmission Agreement will also give BC Hydro the right to require Teck to exercise these options (at BC Hydro's cost) to acquire certain transmission rights

and assets that BC Hydro may need at the expiry or termination of the Lease.[102]

Teck does not use Line 71 exclusively for its own use. Pursuant to a 1987 letter agreement, FortisBC has an interruptible right to use Line 71 for imports and exports subject to Teck's rights and obligations. In addition, under the 1994 Power Asset Sale and Development Agreement (**PASDA**), Teck committed to "not unreasonably deny access" to Line 71 to the Brilliant Expansion Project and the Waneta Expansion Project for export purposes. After the Lease Period, BC Hydro expects to continue to fulfil these obligations in its capacity as an open-access wholesale transmission service provider under its OATT.

1.21.1 Is the full capacity of Line 71 useful and valuable to BC Hydro in the event that the Teck smelter no longer exists? Please explain why or why not.

RESPONSE:

Yes, if the smelter no longer exists, the full capacity of Line 71 will be valuable to move Waneta generation to the BC Hydro system at Nelway. In the infrequent times when Waneta is running at full output, additional transmission capacity or

rights (in addition to the capacity of Line 71) will also need to be acquired to account for the difference between the full capacity of Line 71 (~370 MW) and the full generating output of Waneta (~490 MW).

BC Hydro's responses to CEC IRs 1.22.1 and 1.22.2 document the circumstances that may result should the smelter load no longer exist. BC Hydro's response to BCUC IR 1.41.6 further describes the flow of energy over the various transmission lines, including the scenario where the load at Emerald Switching Station shuts down.

21.0 Reference: Exhibit B-1, page 3-20 and 3-21 and page 2-19

At the expiry or termination of the Lease[99], the Waneta Transmission Agreement will provide for the sale of the Transmission Assets to BC Hydro, including Line 71, for $20 million.[100] Until purchased by BC Hydro, Teck will therefore continue to own, operate and maintain the Transmission Assets and will be contractually bound to do so as a prudent owner and to a standard of good utility practice. Because Teck will continue as owner/operator of the Transmission Assets during the Lease Period, provisions will be included in the Waneta Transmission Agreement that require Teck to use commercially reasonable efforts to extend the time for exercising its options to purchase capacity and/or asset rights on Lines 62, 77 and 79 until 90 days after expiry or earlier termination of the Lease.[101] Related to this, the Waneta Transmission Agreement will also give BC Hydro the right to require Teck to exercise these options (at BC Hydro's cost) to acquire certain transmission rights

and assets that BC Hydro may need at the expiry or termination of the Lease.[102]

Teck does not use Line 71 exclusively for its own use. Pursuant to a 1987 letter agreement, FortisBC has an interruptible right to use Line 71 for imports and exports subject to Teck's rights and obligations. In addition, under the 1994 Power Asset Sale and Development Agreement (**PASDA**), Teck committed to "not unreasonably deny access" to Line 71 to the Brilliant Expansion Project and the Waneta Expansion Project for export purposes. After the Lease Period, BC Hydro expects to continue to fulfil these obligations in its capacity as an open-access wholesale transmission service provider under its OATT.

1.21.2 What is the normal life of Transmission Assets such as those being purchased at the expiry or termination of the Lease?

RESPONSE:

The normal life of transmission assets, such as those to be purchased by BC Hydro at the expiry or termination of the Lease is 40 to 60 years (median expected age).

22.0 Reference: Exhibit B-1, page 3-20

[99] Or earlier, if BC Hydro elects following a material default by Teck of its obligations under the Waneta Transmission Agreement. In the case of default, BC Hydro may choose to purchase Teck's Line 71 assets with the remaining transmission assets to be purchased at the expiry or termination of the Lease.

[100] In dollars at the time of purchase, plus amounts paid by Teck for certain other transmission rights and assets. The amounts paid for such other rights and assets will be escalated, but discounted to reflect Teck's period of use compared to their useful life.

[101] The capacity of Line 71 is 370 MW which is approximately 120 MW less than the full capacity of the Waneta plant. After the Lease Period has ended, in the infrequent hours where Waneta is not serving the smelter load and is generating near full output, BC Hydro may need to acquire additional transmission capacity to ensure delivery of the entire output of Waneta generation. This could be done via the purchase of transmission rights on the FortisBC system via Lines 62, 77 and 79.

1.22.1 Are there also circumstances that could occur during the Lease period in which the entire output of Waneta generation is not being distributed in the infrequent hours in which Waneta is not serving the smelter load? Please explain.

RESPONSE:

Yes, the vast majority of the time Waneta is not operated at full output. This occurs for a number of reasons including insufficient water flows in the Pend d'Oreille River; preferential dispatch of Waneta Expansion Project generation; low provincial load conditions; and Waneta unit outages or derates. Generally Waneta is dispatched to optimize output in conjunction with the Waneta Expansion Project.

The annual Waneta generation levels are best documented in the generation duration chart presented in BC Hydro's response to BCUC IR 1.43.3.

22.0 Reference: Exhibit B-1, page 3-20

[99] Or earlier, if BC Hydro elects following a material default by Teck of its obligations under the Waneta Transmission Agreement. In the case of default, BC Hydro may choose to purchase Teck's Line 71 assets with the remaining transmission assets to be purchased at the expiry or termination of the Lease.

[100] In dollars at the time of purchase, plus amounts paid by Teck for certain other transmission rights and assets. The amounts paid for such other rights and assets will be escalated, but discounted to reflect Teck's period of use compared to their useful life.

[101] The capacity of Line 71 is 370 MW which is approximately 120 MW less than the full capacity of the Waneta plant. After the Lease Period has ended, in the infrequent hours where Waneta is not serving the smelter load and is generating near full output, BC Hydro may need to acquire additional transmission capacity to ensure delivery of the entire output of Waneta generation. This could be done via the purchase of transmission rights on the FortisBC system via Lines 62, 77 and 79.

1.22.2 o the extent that the smelter load is not available following the Lease period at all, would Waneta continue to operate at full output? Please explain.

RESPONSE:

As described in BC Hydro's response to CEC IR 1.22.1 in the vast majority of the time Waneta is not operated at full output. This is true regardless of the smelter load.

23.0 Reference: Exhibit B-1, page 3-21 and 3-22

3.2.12 Teck Wheeling Agreement:

Teck and BC Hydro have also agreed to enter into a wheeling agreement at closing of the Waneta 2017 Transaction. This will establish BC Hydro's obligations to deliver electricity purchased by Teck in the U.S. from the B.C.-U.S. border to Teck's industrial load in Trail consistent with Teck's Line 71 import scheduling rights.[103] This agreement is for the purposes of Teck supplying its smelter load from U.S. imports[104] and therefore becomes effective at the expiry or termination of the Lease[105] and for as long as the smelter continues to operate.

The Teck Wheeling Agreement is intended to maintain Teck's long-standing rights to import electricity to serve its Trail smelter load when it is economic to do so. It is expected that the following terms will be included:

- The schedule and curtailment priority for Teck's imports under the Teck Wheeling Agreement will be equivalent to its (import) scheduling rights under the Line 71 Agreement at the end of the Lease Period;
- The scheduling practices for Teck's imports under the Teck Wheeling Agreement will also be equivalent to those applicable under the Line 71 Agreement at the end of the Lease Period; and
- Wheeling will be provided to Teck at no cost, other than a share of eligible operating costs based on use.

In connection with the Teck Wheeling Agreement, if requested by Teck, BC Hydro will also provide an imbalance service pursuant to either an industrial load tariff (if one then exists) or a tariff specific to Teck's Industrial Load.

[102] There are also provisions that permit Teck to exercise its options, at its own cost, to purchase capacity and/or asset rights to these lines at any time during the Lease. If Teck exercises the options, either on its own or at BC Hydro's request, such capacity and/or asset rights will form part of the Transmission Assets on expiry or termination of the Lease and the purchase price for the Transmission Assets will reflect this.

[103] It is expected that BC Hydro will provide 300 MW of import wheeling from the B.C.-U.S. border to the Emerald Switching Station.

[104] More specifically, the Teck Wheeling Agreement is intended to supply Teck with electricity solely to serve its smelter load and for no other purpose, including, without limitation, the trading or marketing of electricity by Teck.

[105] Or earlier in certain default scenarios, as described in section 3.2.5.8.

1.23.1 Does the Teck Wheeling Agreement impose any obligations on BC Hydro to deliver electricity that it would not otherwise have done absent the Waneta transaction? Please explain.

RESPONSE:

If BC Hydro had not exercised its ROFO rights in regard to the Fortis Transaction then that transaction can be assumed to have completed, and BC Hydro would not enter into the Teck Wheeling Agreement nor any other wheeling arrangement with Teck. Absent the Waneta 2017 Transaction there would be no Teck Wheeling Agreement.

23.0 Reference: Exhibit B-1, page 3-21 and 3-22

3.2.12 Teck Wheeling Agreement:

Teck and BC Hydro have also agreed to enter into a wheeling agreement at closing of the Waneta 2017 Transaction. This will establish BC Hydro's obligations to deliver electricity purchased by Teck in the U.S. from the B.C.-U.S. border to Teck's

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industrial load in Trail consistent with Teck's Line 71 import scheduling rights.[103] This agreement is for the purposes of Teck supplying its smelter load from U.S. imports[104] and therefore becomes effective at the expiry or termination of the Lease[105] and for as long as the smelter continues to operate.

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- The scheduling practices for Teck's imports under the Teck Wheeling Agreement will also be equivalent to those applicable under the Line 71 Agreement at the end of the Lease Period; and
- Wheeling will be provided to Teck at no cost, other than a share of eligible operating costs based on use.

In connection with the Teck Wheeling Agreement, if requested by Teck, BC Hydro will also provide an imbalance service pursuant to either an industrial load tariff (if one then exists) or a tariff specific to Teck's Industrial Load.

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[102] There are also provisions that permit Teck to exercise its options, at its own cost, to purchase capacity and/or asset rights to these lines at any time during the Lease. If Teck exercises the options, either on its own or at BC Hydro's request, such capacity and/or asset rights will form part of the Transmission Assets on expiry or termination of the Lease and the purchase price for the Transmission Assets will reflect this.

[103] It is expected that BC Hydro will provide 300 MW of import wheeling from the B.C.-U.S. border to the Emerald Switching Station.

[104] More specifically, the Teck Wheeling Agreement is intended to supply Teck with electricity solely to serve its smelter load and for no other purpose, including, without limitation, the trading or marketing of electricity by Teck.

[105] Or earlier in certain default scenarios, as described in section 3.2.5.8.

1.23.2 Was the Teck Wheeling Agreement part of the Fortis Agreement?

1.23.2.1 If not, is BC Hydro required to enter into this Agreement with Teck? Please explain.

RESPONSE:

Please refer to BC Hydro's response to CEC IR 1.23.2.

23.0 Reference: Exhibit B-1, page 3-21 and 3-22

3.2.12 Teck Wheeling Agreement:

Teck and BC Hydro have also agreed to enter into a wheeling agreement at closing of the Waneta 2017 Transaction. This will establish BC Hydro's obligations to deliver electricity purchased by Teck in the U.S. from the B.C.-U.S. border to Teck's

industrial load in Trail consistent with Teck's Line 71 import scheduling rights.[103] This agreement is for the purposes of Teck supplying its smelter load from U.S. imports[104] and therefore becomes effective at the expiry or termination of the Lease[105] and for as long as the smelter continues to operate.

The Teck Wheeling Agreement is intended to maintain Teck's long-standing rights to import electricity to serve its Trail smelter load when it is economic to do so. It is expected that the following terms will be included:

- The schedule and curtailment priority for Teck's imports under the Teck Wheeling Agreement will be equivalent to its (import) scheduling rights under the Line 71 Agreement at the end of the Lease Period;
- The scheduling practices for Teck's imports under the Teck Wheeling Agreement will also be equivalent to those applicable under the Line 71 Agreement at the end of the Lease Period; and
- Wheeling will be provided to Teck at no cost, other than a share of eligible operating costs based on use.

In connection with the Teck Wheeling Agreement, if requested by Teck, BC Hydro will also provide an imbalance service pursuant to either an industrial load tariff (if one then exists) or a tariff specific to Teck's Industrial Load.

[102] There are also provisions that permit Teck to exercise its options, at its own cost, to purchase capacity and/or asset rights to these lines at any time during the Lease. If Teck exercises the options, either on its own or at BC Hydro's request, such capacity and/or asset rights will form part of the Transmission Assets on expiry or termination of the Lease and the purchase price for the Transmission Assets will reflect this.

[103] It is expected that BC Hydro will provide 300 MW of import wheeling from the B.C.-U.S. border to the Emerald Switching Station.

[104] More specifically, the Teck Wheeling Agreement is intended to supply Teck with electricity solely to serve its smelter load and for no other purpose, including, without limitation, the trading or marketing of electricity by Teck.

[105] Or earlier in certain default scenarios, as described in section 3.2.5.8.

1.23.5 If Teck is importing power from US markets can BC Hydro benefit by selling its surplus to Teck rather than exporting it to US

markets? Please explain and provide quantification of any benefits that could accrue.

RESPONSE:

There is no current contractual arrangement for BC Hydro to swap Teck imports for BC Hydro exports.

If such an agreement was made in the future, the benefits that could accrue would be dependent on the commercial terms. In general, the available benefits would be driven by the difference between Teck's import price and BC Hydro's export price (generally wheeling costs plus losses). The levelized gap between these import and export prices is approximately $16/MWh for the 20-year period following the initial Lease Period, as shown in the attachment to BC Hydro's response to BCUC IR 1.7.4 (refer to cells AB12 and AC12).

26.0 Reference: Exhibit B-1, page 4-4 and Appendix N page 13 of 90

4.1.6 Economic Life

The economic life of Waneta is assumed to be 40 years from 2018 when the transaction is expected to close. This is consistent with the asset life used in the purchase of BC Hydro's one-third interest in Waneta. BC Hydro expects to have to undertake a substantial rehabilitation project at the end of the Lease Period, whether after 20 years or 30 years. The anticipated capital costs of that rehabilitation are accounted for in the Waneta 2017 Business Case, even though they will likely extend the life of the Waneta Assets past the assumed 40-year life. For this reason, BC Hydro believes that the assumed 40-year life is conservative, in the sense that if a longer and more likely economic life were assumed the NPV of the transaction would be higher.

BC Hydro has reviewed the Teck capital forecast and carried out a technical due diligence process on the asset condition and expected capital requirements. Based on this due diligence BC Hydro has arrived at a base set of assumptions for the capital costs and project life. These are as follows:

- Within the Lease Term:
  - Teck's capital forecast as estimated by Hatch (although BCH is not responsible for these costs as they relate to the 2/3 Interest and they are thus irrelevant to the modelling except in case of default).
  - Additional capital within the Lease Term of ~$300 million for the full facility to reflect investments that are anticipated to be required based on BC Hydro's assessment of asset condition against current BC Hydro standards. Note that a portion of these costs would be considered extraordinary capital with costs and shared by Teck, while BCH would be responsible for those projects considered upgrades. Sharing of extraordinary capital costs is done via pro-rating Teck's share based on the portion of the economic life of the investment that occurs during the Lease Term.
- Following the Lease Term:
  - Ongoing generation sustaining capital of approximately $0.5 million per year,
  - Transmission capital of approximately $2.5 million per year reflecting an expected pole replacement program in this period.
  - Runner refurbishments on Units 1, 2 and 4 at approximately $12 million each.

(**Note:** all values above are in 2018 real dollars and are for the full facility)

1.26.1 Please elaborate on the substantial rehabilitation project likely required at the end of the Lease Period.

RESPONSE:

The substantial rehabilitation project that may be required at the end of the Lease Period refers to the capital required to bring the project up to BC Hydro's standards at the end of the Lease Period, assuming that these capital projects do not occur during the Lease Period. Please refer to BC Hydro's response to CEC IR 1.26.2 for a discussion of the potential timing of this rehabilitation project.

The scope of the potential rehabilitation project will depend on the condition of the Waneta Assets and BC Hydro's asset standards and capital allocation framework at the time. Based on information available at this time BC Hydro expects the rehabilitation project to involve additional anchoring of the spillway pier and dam, as well as enhancements of the spillway gates and chute.

26.0 Reference: Exhibit B-1, page 4-4 and Appendix N page 13 of 90

4.1.6 Economic Life

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- Following the Lease Term:
  - Ongoing generation sustaining capital of approximately $0.5 million per year,
  - Transmission capital of approximately $2.5 million per year reflecting an expected pole replacement program in this period.
  - Runner refurbishments on Units 1, 2 and 4 at approximately $12 million each.

(**Note:** all values above are in 2018 real dollars and are for the full facility)

1.26.2 Please confirm that the substantial rehabilitation project at the end of the lease terms is fully accounted for in the above assumptions of sustaining capital $0.5 million per year; transmission capital of approximately $2.5 million per year, and the runner refurbishments on Units 1,2 and 4 at approximately $12 million per year.

RESPONSE:

The assumptions provided in section 2.4 of the Waneta 2017 Business Case are for a scenario assuming leading utility practice.

In the leading utility practice scenario the anticipated rehabilitation is performed during the Lease Period, and is included in the capital amounts within the Lease Period.

In the good utility practice scenario a portion of the anticipated rehabilitation is deferred until following the Lease Period. This would result in a portion of the major capital spending forecast in the Lease Period occurring during the post-Lease Period instead.

26.0 Reference: Exhibit B-1, page 4-4 and Appendix N page 13 of 90

4.1.6 Economic Life

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- Following the Lease Term:
  - Ongoing generation sustaining capital of approximately $0.5 million per year,
  - Transmission capital of approximately $2.5 million per year reflecting an expected pole replacement program in this period.
  - Runner refurbishments on Units 1, 2 and 4 at approximately $12 million each.

(**Note:** all values above are in 2018 real dollars and are for the full facility)

1.26.2 Please confirm that the substantial rehabilitation project at the end of the lease terms is fully accounted for in the above assumptions of sustaining capital $0.5 million per year; transmission capital of approximately $2.5 million per year, and the runner refurbishments on Units 1,2 and 4 at approximately $12 million per year.

1.26.2.1 If not confirmed, please provide and itemize the costs for a substantial rehabilitation.

RESPONSE:

Please refer to BC Hydro's response to CEC IR 1.26.2.

26.0 Reference: Exhibit B-1, page 4-4 and Appendix N page 13 of 90

4.1.6 Economic Life

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(**Note:** all values above are in 2018 real dollars and are for the full facility)

1.26.2 Please confirm that the substantial rehabilitation project at the end of the lease terms is fully accounted for in the above assumptions of sustaining capital $0.5 million per year; transmission capital of approximately $2.5 million per year, and the runner refurbishments on Units 1,2 and 4 at approximately $12 million per year.

1.26.2.2 Please provide an estimate of any contingency required.

RESPONSE:

Please refer to BC Hydro's response to CEC IR 1.26.2. BC Hydro has not prepared estimates of contingency for individual capital projects within the 40-year valuation period. However, BC Hydro believes that the accuracy ranges for AACEI Class 5 estimates are reasonable for use on the individual capital projects in the forecast.

26.0 Reference: Exhibit B-1, page 4-4 and Appendix N page 13 of 90

4.1.6 Economic Life

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1.26.3 Why is the timing of the rehabilitation project conditional upon the term of the Lease rather than the condition of the asset? Please explain.

RESPONSE:

The statement that BC Hydro expects to undertake a substantial rehabilitation project at the end of the Lease Period reflects that BC Hydro expects to become the Operator upon expiry of the Lease, and will need to bring the Waneta Assets up to BC Hydro facility standards. Please refer to BC Hydro's response to CEC IR 1.26.2 for a discussion of the timing of the potential rehabilitation project.

26.0 Reference: Exhibit B-1, page 4-4 and Appendix N page 13 of 90

4.1.6 Economic Life

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1.26.4 Could the rehabilitation be less costly if it were not postponed to the end of the Lease? Please explain and provide quantification of any changes that could be anticipated.

RESPONSE:

No, the rehabilitation costs would not be less costly on an inflation-adjusted basis if they were completed earlier within the Lease Period. The timing of the

anticipated rehabilitation in 20 or 30 years is based on past asset investments made by Teck, asset condition and anticipated remaining economic life of the assets based on BC Hydro's experience with other similar assets in our fleet. Based on the information available, rehabilitating the assets earlier than that may be premature, and would not represent the lowest life-cycle cost decision for the assets.

If asset condition and performance were to deteriorate faster than anticipated earlier rehabilitation may be warranted.

26.0 Reference: Exhibit B-1, page 4-4 and Appendix N page 13 of 90

4.1.6 Economic Life

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1.26.5 Would BC Hydro be any more or less likely to undertake the rehabilitation project if BC Hydro were in surplus versus being in deficit at the time? Please explain.

RESPONSE:

Waneta will be considered a "Key Facility" from a BC Hydro asset management point of view. Key Facilities represent the largest and most important generating facilities, and are generally the lowest cost source of generation.

The Waneta rehabilitation project at the end of the Lease Period would need to be assessed against other projects across the portfolio to determine which represent the best value. Whether or not BC Hydro is in a surplus position, as a Key Facility, it is likely that Waneta would be a relatively lower cost generation source, meaning that investments in Waneta would be more likely to proceed.

26.0 Reference: Exhibit B-1, page 4-4 and Appendix N page 13 of 90

4.1.6 Economic Life

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1.26.6 What is the average economic life, to the point of significant rehabilitation, for dams and other assets equivalent to those of Waneta constructed in the 1950s? Please use BC Hydro assets as examples as well as assets from other jurisdictions.

RESPONSE:

The economic life of dams and other generating assets varies as a function of design, initial quality of materials and construction, operating conditions, maintenance history and Original Equipment Manufacturer support. Waneta is comparable in age to a number of BC Hydro's facilities and is representative of the design practices of the time. BC Hydro's experience with the average economic life of similar assets is best described in Section 2.2 of the Ruskin Dam and Powerhouse Upgrade Project CPCN Application (2011) attached to this IR. The following table summarizes the life expectancy of various assets from

Table 2-1 and 2-2 of the Ruskin CPCN application, and provides an indication of when the rehabilitation of each asset type may be required.

Life Expectancy Based on Ruskin Dam and Powerhouse Upgrade Project CPCN Application (2011)	
Component	**Life Expectancy (Years)**
Spillway Structure	**75**
Spillway Gates	**40**
Intake Structure	**80**
Intake Gates	**40-50**
Water Passages (tunnels and penstocks)	**80**
PH Structure	**80**
Roof membrane	**25**
Sub-structure	**80**
Draft Tubes	**80**
Generation Units	
Turbine	**40-50**
Governor	**40-50**
Governor - Digital Controls	**10-20**
Generator	**40-50**
Exciter	**40-50**
Circuit breaker	**35-40**
Transformers	**35-45**
Power House Cranes	**50**
Mechanical and Electrical Equipment	**40-50**
Protection and Controls	**25**

The economic life of a dam can exceed 100 years with appropriate maintenance; however, significant investment may be required due to factors that are not related to the age of the asset, such as changing regulatory requirements.

Unit Cost of Capacity (**UCC**) of $55 per kilowatt year (**kW-year**) ($F2011).[5] The Revelstoke Unit 6 UCC is derived from the most recent capital cost estimate; benefits have not been netted out and no adjustment has been made to deliver Revelstoke Unit 6's dependable capacity to the LM. BC Hydro estimates that Revelstoke Unit 6's benefit would be comparable to the transmission cost needed to transfer the energy to the load center. Therefore, the UCC of $55/kW-year is used for purposes of the Application. Refer also to the capacity value sensitivity analysis set out in section 3.3.1.4, which looks not only at B.C.-based capacity resources but also a range of market-based capacity values.

2.2 Dam DI, Powerhouse Equipment Condition Assessments and Proposed Project Scope

This section describes the Project scope for the Dam and Powerhouse. The scope of Dam work proposed is based on the results of the Dam DIs (section 2.2.1). The scope of Powerhouse work is in response to the condition assessments of the Powerhouse equipment (section 2.2.2). BC Hydro's rationale for the existing scope of work versus other alternatives is also described in sections 3.3 (Alternatives to the Ruskin Facility) and 3.4 (Alternative Means of Carrying Out the Project).

2.2.1 Dam

2.2.1.1 Dam Assessment Process

Pursuant to the B.C. Dam Safety Regulation and BC Hydro's classification, which is based on the CDA Guidelines, the Dam is classified as a "Very High Consequence" facility, which means that in the event of a dam breach, the downstream impacts may include loss of life, property damage and significant financial impact and environmental damage. The Very High Consequence classification is a relevant part of BC Hydro's consideration and prioritizations within the context of the B.C. Water Comptroller's expectations and the CDA Guidelines. To reduce the chances of a

[5] By comparison, the UCC for a Simple Cycle Gas Turbine is in the range of approximately $70-$162/kW-year depending on location without adjustments; and the UCC for pumped storage is in the range of approximately $97-$500/kW-year, depending on location on Vancouver Island or the LM.

catastrophic failure of the Dam, the Dam must survive a MDE equal to the 1 in 10,000 year exceedance level.

BC Hydro uses Dam Safety Reviews and DIs to review deficiencies and recommend upgrades for its dams. A number of DIs have been carried out on the reservoir retaining structures at the Dam, including water passages, equipment, instrumentation, foundations, abutment and reservoir slopes, whose malfunction, damage or instability could prevent the functioning of the works to safely retain the reservoir. In addition, BC Hydro established the Ruskin Dam Safety Advisory Board (**Advisory Board**) in 2002 to provide guidance on dam safety issues. The current Advisory Board includes members of URS Corporation and the U.S. Army Corps of Engineers, two organizations with extensive experience in the development and management of large hydroelectric facilities.

2.2.1.2 Ruskin Dam Safety Deficiency Investigation Results

Based on the results of DIs undertaken at the Dam and the input from the Advisory Board, BC Hydro concluded that critical portions of the Dam have significant static and seismic withstand deficiencies:

- The Right Abutment of the Dam has both static and seismic deficiencies. The Right Abutment consists of highly erodible soils. Static deficiencies, manifested by the discharge of sand and water from the gallery drain, were identified immediately after filling the Hayward Lake Reservoir in 1930. Various remedial actions performed to stop the sand discharge have been only partially successful. In addition to this static deficiency, BC Hydro confirmed a seismic deficiency in 2004 that damage to the seepage barrier of the Right Abutment could occur at an earthquake return period of less than 1 in 475 years. As described in section 2.3, BC Hydro responded by carrying out early work consisting of the installation of a downstream reverse filter blanket and the relocation of Wilson Street in 2010 in preparation for the Right Abutment Work. The Right Abutment Work involves the installation of a new seepage cut off

system and will increase the seismic withstand of the Right Abutment to meet the MDE criteria.

- The Left Abutment of the Dam behind the Powerhouse is steep and unstable and could fail following a major earthquake with a return period of less than 1 in 2,475 years, which is below CDA guidelines for an earth embankment. The Left Abutment Work involves reducing the steepness of the Left Abutment slope behind the Powerhouse, installing a filter blanket to manage drainage and installing monitoring instrumentation.
- Seismic deficiencies in the existing spillway gates, piers, and roadway of the Dam where cracking of structures could occur with ground motions of 0.12 g (an event with an expected return period of 1 in 100 years). In 2005, an operating restriction where BC Hydro lowered the maximum operating reservoir by 1.5 m was put in place to reduce the force on both the Right Abutment and spillway gates.

Table 2–1 provides a summary of the major Dam components, specific deficiencies identified at the Dam, and the scope being undertaken to return the reservoir to its original level and meet the 1 in 10,000 year MDE. Table 2–1 also provides an estimate of the expected life of the Dam component following completion of the Project.

Table 2–1 Summary of Ruskin and Dam Deficiencies and Project Scope

Component	Description and Function	Deficiencies	Summary of Scope of Work	Estimated Post Project Expected Component Life (Years)
Right Abutment	The Right Abutment supports the right end of the Dam. It is founded on a rock ridge about 15 m below the crest of the Dam. Above bedrock, the Right Abutment consists mainly of glacially deposited silts and highly erodible sands. The upstream face of the Right Abutment is protected with a concrete gravity wall.	Seepage and piping issues in the Right Abutment, which have been monitored since commissioning, has over time weakened the abutment. The existing seepage cut-off system will likely be significantly damaged during a MDE, which could lead to increased seepage and saturation of the abutment, and the eventual uncontrolled release of Hayward Lake Reservoir.	Install new seepage cut-off wall to prevent seepage through the abutment and install jet grout columns in the Right Abutment soils; Anchor the existing upstream concrete gravity wall to prevent failure during MDE; and Reinforce the downstream retaining wall to prevent failure during the MDE.	80 to 100 Years
Left Abutment	The Left Abutment supports the left end of the Dam. It is formed on bedrock with a peak about 2 m above the dam crest, dropping to a saddle 17 m below the reservoir. This saddle is infilled by glacial deposits.	Slope behind the Powerhouse is steep and unstable, and could fail in a large seismic event. Such a failure could damage the Powerhouse and transformers; Loose sand layers have been identified in the slope which could lead to seepage through the abutment;	Reduce steepness of downstream slope (above Powerhouse) to a more stable grade; realign Hayward Street to accommodate slope adjustment; Construct filter blanket over downstream slope to manage potential slope drainage issues; Improve dam safety instrumentation to monitor performance of Left	80 to 100 Years

Component	Description and Function	Deficiencies	Summary of Scope of Work	Estimated Post Project Expected Component Life (Years)
		U3 tunnel has leakage issues which could undermine the slope behind Powerhouse; During U3 intake construction, the less permeable upstream shell of Left Abutment embankment was removed and replaced with material of unknown properties.	Abutment embankment dam and effectiveness of improvements.	
Main Dam	The Dam impounds Hayward Reservoir. The Dam structure is a 130 m long by 58 m high concrete gravity structure composed of eight monolith blocks situated in a narrow valley founded mainly on bedrock.	In 2007, BC Hydro installed 17 passive anchors to address a seismic stability concern regarding the crest block of the Dam; refer to section 2.3. The main body of the Dam has adequate seismic stability to withstand the MDE.	No scope required for this component.	

Component	Description and Function	Deficiencies	Summary of Scope of Work	Estimated Post Project Expected Component Life (Years)
Spillway and Spillway Gates System	The spillway gates are movable water barriers which retain the reservoir while also being operable to discharge on demand. BC Hydro requires the spillway gates system to be reliable to allow for a post-earthquake drawdown, or to provide safe passage of the Probable Maximum Flood (**PMF**). Inability to pass the PMF could result in the Dam overtopping and potential failure. If the spillway gates system fails to operate following an earthquake, problems such as slope instability problems in the Right and Left Abutments caused by the earthquake cannot be alleviated by drawing down the reservoir. This could lead to the catastrophic failure of the Dam.	The spillway gate hoist equipment, in particular the motors and the backup electrical supply, were found to be inadequate and prone to mis-operation. The gate hoist equipment would be submerged during a spill and may not operate. Seismic analysis has also indicated that the existing gates require significant enhancements to function reliably post earthquake. The spillway face has signs of degradation through past spills and weathering. While it does not currently present a Dam safety risk, the spillway face should be repaired at this time to ensure longevity of the facility.	Remove the existing six inner piers and 7 spillway gates (10.1 m wide by 7.9 m tall) and replace with four inner piers and with five spillway gates (13.5 m wide by 8.8 m tall); Improve reliability with enhanced operating systems; Construct main and backup spillway gates system control room; Resurface the face of the spillway.	Spillway – 75 Years Spillway Gates – 40 Years

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Component	Description and Function	Deficiencies	Summary of Scope of Work	Estimated Post Project Expected Component Life (Years)
Roadway & Spillway Gate Piers	BC Hydro operates a publicly used roadway (part of Hayward Street) which allows passage across the Dam. The roadway is currently 5 m wide (single-lane) and composed of a single continuous cast-in-place reinforced concrete slab. Traffic is restricted to 6 tonnes.	In an MDE event, the piers could be sufficiently deformed such that operation of the spillway gates is jeopardized. In addition, the piers support the trunnions of the radial gates. The trunnions have been found to be critically weak, and could be further damaged by pier deformation. The roadway across the Dam is comprised of a single lane bridge with no pedestrian walkway. As the community around the Ruskin Facility continues to grow, road traffic and the risk to public safety is likely to increase.	Spillway Piers - Replace existing piers with new stronger piers; Spillway gates to be upgraded as described above. Roadway - Replace and widen existing roadway bridge deck.	Spillway Gate Piers – 75 Years

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2.2.2 Powerhouse

2.2.2.1 Ruskin Powerhouse Assessment Process

EHR methodology is BC Hydro's standardized condition assessment methodology which ensures objective, repeatable and consistent assessments of the major components in BC Hydro's generating assets (generators, turbines, circuit breakers, governors, exciters, transformers and water passages). The assessments are performed using the most recent preventative maintenance tests and inspection data, while also considering the design and original quality of the asset; current condition; maintainability of the asset; performance of the asset; maintenance issues; and opportunities for investment to improve the asset. The equipment health assessment results in a rating of good, fair, poor or unsatisfactory. Technical prescriptions are then prepared that state, from a technical perspective, what should be done to the assets, when to do it, and how much it is estimated to incur in time and cost.

As an additional validation step, BC Hydro retained RW Beck for the purposes of providing an independent assessment of the condition of the Powerhouse and an assessment of various risk factors, including worker safety, environmental risks and the probabilities of failures from continued Powerhouse operations. RW Beck inspected U2 from the intake gates through and including the draft tube gates, reviewed available plant records and data, and conducted technical meetings with plant operating personnel and BC Hydro technical staff.

2.2.2.2 Ruskin Powerhouse Condition Assessment Results

The Ruskin Facility is essentially 80 years old, with the exception of U3, which is 60 years old. Only the 69 kV circuit breakers in the switchyard and the Alternating Current (**AC**) station service system have been replaced,[6] and none of the major electrical and mechanical equipment have been replaced or refurbished since installation.

[6] The AC station service system was replaced as a result of RW Beck's findings in 2007, which were that the AC station service system was in "poor condition" with "high exposure to personnel safety issues". Refer to RW Beck Report, Appendix B-3, page 21 of 55.

The following is a summary of key deficiencies identified by BC Hydro and RW Beck:

- The Powerhouse structure does not meet current seismic withstand standards set out in the NBCC.
- The EHRs identified that the major generating components, including the turbines, generators, exciters, governors and transformers, are in poor to unsatisfactory condition (refer to Appendix B-2), and RW Beck concluded these components are past the end of their economic life based on RW Beck's experience and industry statistics (refer to Appendix B-3).
- Safety clearances to energized components of the switchyard are insufficient and energized bus is insufficiently protected from contact by workers, creating a significant safety hazard.
- Numerous confined and difficult to access spaces exist within the Powerhouse, which create safety hazards and have a negative effect on operation and maintenance activities.

RW Beck concluded that:

> ... [B]ased on our visual observations, engineering judgment, experience from similar hydropower projects and our review of equipment test results, we are of the opinion that the generating units and their auxiliaries should be replaced, or refurbished as determined during the design phase, the power transformers should be replaced, the control and protection systems should be replaced, and the switchyard should be upgraded and possibly relocated.[7]

Table 2–2 provides a summary of the major Powerhouse components, specific deficiencies identified at the Powerhouse, the scope being undertaken to address the deficiencies identified and the expected life of the Powerhouse components following completion of the Project.

[7] RW Beck Report, Exhibit B-3, page 31 of 55.

Table 2–2 Ruskin Powerhouse Deficiencies and Project Scope

Component	Function and Description	Deficiency	Summary of Scope of Work	Estimated Post-Project Expected Major Component Life (Years)
Intake Structures	The intake structures accept water for all three units at Ruskin GS. Intakes are reinforced concrete structures located at the left end of the Dam. A common intake structure for U1 and U2 is located immediately adjacent to the Dam. The intake for U3 is located approximately 25 m away from the U1/U2 intake. Trashracks are mounted on the face of the intake to screen inflow for debris.	A structural finite element analysis of all three intake structures was conducted to determine their stability during a large seismic event. Intakes 1 and 2 structures were found to be insufficiently stable against the MDE. A structural analysis of Intake 3 indicates that the structure is stable enough to withstand the MDE. With the proposed removal of the Turbine Inlet Valves (**TIV**; see below), new intake gates are proposed.	Refurbish trashrack panels; Repair deteriorated concrete; Install steel anchors in U1 and U2 intakes to improve seismic withstand; Anchor base slab of U1 and U2; Fabricate and install bulkhead system for all three intakes to aid in construction; Retrofit new gate slots in existing stoplog gate guides; Install new intake gates in retrofitted stoplog gate slots.	Intake Structure (excluding gates): 80 Years Intake Gates: 40 to 50 Years

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Component	Function and Description	Deficiency	Summary of Scope of Work	Estimated Post-Project Expected Major Component Life (Years)
Water Conveyance Tunnels and Penstocks	Three separate water passages allow transportation of flow from the intake structures to the individual generating units. The flow of water through each passage is currently controlled at the downstream end with the TIV. Each water passage is comprised of a concrete lined tunnel through rock and a shorter steel penstock segment which connects the tunnel to the Powerhouse.	U1 - The U1 tunnel is in generally satisfactory condition, with some signs of minor concrete deterioration. The steel penstock has been recently coated and is in good condition. U2 – Erosion in the concrete tunnel has been identified which requires repair. The steel liner of the penstock has not been coated and shows signs of rust. U3 – This passage has a relatively short rock tunnel section and longer steel penstock section, which results in it being subjected to greater earth loads and movement during a seismic event and would likely fail in a large earthquake. This passage has experienced leakage since commissioning. The steel liner of the penstock has not been coated and shows signs of rust.	All three Tunnels: Repair eroded areas of the concrete liner and damaged construction joints. U2 Penstock: Abrasive blast and coat interior steel liner. U3 Penstock: Infill voids behind concrete liner; Seal concrete liner; Seal seepage path between steel/concrete liner; Strengthen cut and cover portion of penstock; Abrasive blast and coat the interior steel penstock liner.	80 Years

Component	Function and Description	Deficiency	Summary of Scope of Work	Estimated Post-Project Expected Major Component Life (Years)
TIV	The three TIVs currently close off water flows for maintenance purposes to the three generating units. As the only operating gate, the TIV is also meant to provide emergency shut off of water flows should the wicket gates fail to close when required.	The following issues have been identified with the TIVs: The TIV uses the same energy source (pressurized oil in the same accumulator) as the turbine wicket gates and loss of oil pressure would render the TIV unable to close; The current TIV design does not support remote operation or auto-closure, and must be manually operated to close; Pumps are required to operate the seals for the TIV. Failure of these pumps would result in significant leakage past the gate.	Remove three TIVs (redundant given proposed intake gate installation); Install coupling between penstock and scroll case; Construct stairwell and stairs to valve pit to provide safer access when entering draft tube and penstock.	50 Years
Powerhouse Superstructure	The Powerhouse superstructure consists of bays for U1, U2 and U3 and a service bay. The control room and service rooms are located in a separate wing north of U2. The switchyard is situated on the roof of the Powerhouse.	Roof - The waterproof membrane has failed in a number of areas and is blistering in a few areas. In addition, some roof drain collector piping shows leakage above Powerhouse equipment; Seismic Withstand Assessment - A seismic withstand assessment identified that the superstructure does not meet the NBCC.	Replace/upgrade Powerhouse roof and drainage system once the switchyard relocated off roof; Seismically strengthen the Powerhouse superstructure.	Powerhouse Structure: 80 Years Powerhouse Roof Membrane: 25 Years

Component	Function and Description	Deficiency	Summary of Scope of Work	Estimated Post-Project Expected Major Component Life (Years)
Powerhouse Substructure	The substructure supports the Powerhouse and transmits its weight (including turbines, TIVs and generators) to the rock foundation.	Given uncertain conditions regarding how the concrete substructure is bonded to the bedrock foundation, assuming conservative design parameters it is possible that the Powerhouse could be horizontally displaced during the MDE. However, BC Hydro estimated this displacement to be less than 10 mm. Such minimal movement in the structure can be accommodated in the design of the Powerhouse. The proposed new couplings replacing the TIVs (see above) can be designed to accommodate this shift such that the power tunnels and penstocks are not impacted, and the overall structure will not be impacted by minor displacement.	No work required.	80 years

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Component	Function and Description	Deficiency	Summary of Scope of Work	Estimated Post-Project Expected Major Component Life (Years)
Draft Tubes	Passage that carries water discharged from the turbine runners out of the facility.	A 2008 inspection of the three draft tubes confirmed: The perimeter of the draft tube outlets of U1 and U2 are in poor condition; The perimeter of the outlet of the U3 draft tube extension does not have embedded steel sealing surfaces and the concrete is heavily eroded and not suitable for bulkhead sealing; Several large areas of concrete erosion were found on the walls inside the U3 draft tubes; The tip of U1 and U2 draft tubes are heavily damaged; The existing draft tube gate system is not functional.	All Draft Tubes: Patch damaged concrete; Replace existing gantry crane system. U1 and U2 Draft Tubes: Retrofit stop log slots for new stop logs; Upgrade draft tubes as per turbine manufacturer's specification. U3 Draft Tube Cut new gate slot in tailrace deck and U3 draft tube; Install new gate guides.	80 Years

Component	Function and Description	Deficiency	Summary of Scope of Work	Estimated Post-Project Expected Major Component Life (Years)
Generating units (including Turbine, Governor, Generator, and Exciter)	The components responsible for generating power. Units 1 to 3 contain vertical shaft Francis type hydraulic turbines.	The EHRs (Exhibit B-2) show that the three Ruskin Facility turbines, generators and exciters are in unsatisfactory condition, and the governors are in poor condition. The following are specific deficiencies: Generator - On all units, the condition of the stator windings has deteriorated to the point where high voltage testing should no longer be performed to the normal values during maintenance and annual testing be conducted at a reduced voltage. Turbine – The risk of failure is high based on the high vibration levels and the existing runner cracking and cavitation damage. Exciters – There is little that can be done to improve these aging exciters short of replacement. Based on the age and observable wear of the equipment failures are expected.	Generator: Refurbish bottom bracket, rotor spider and rim, and generator bearings; Replace stator frames, stator cores, stator bars and rotor poles; Turbine: Abrasive blast and coat spiral case and stay ring; Replace wicket gates and gate mechanism components; Replace runners, servomotors, guide bearings, head covers and all removable turbine components. Exciter: Replace existing rotating exciter with digital static exciters. Governor: Replace existing mechanical governor with digital governor.	40 to 50 Years

Component	Function and Description	Deficiency	Summary of Scope of Work	Estimated Post-Project Expected Major Component Life (Years)
Transmission (Step-up Transformers) and Switchyard	Step-up transformers increase the voltage from 13.8 kV to a 69 kV standard used on the Integrated System. Electricity is then routed to the switchyard, which transfers power to the transmission system. The Ruskin Facility switchyard is currently located on the Powerhouse roof and contains the 69 kV switching equipment for integrating all three generators and the Powerhouse station service with the Integrated System.	Of the nine unit transformers, seven are in unsatisfactory condition and two are in poor condition. The transformers have exhibited the following deficiencies: Oil leaks from valves and bushings; Signs of moisture in insulation and insulation degradation; Lightning strikes or surges from switching operations could easily damage the deteriorated electrical insulation; The existing transformers contain Polychlorinated biphenyls which are known toxins that do not readily decompose. Switchyard: Limits of Approach (**LOA**) clearances to energized components are insufficient; Energized bus is insufficiently protected from contact by workers or wildlife.	Replace nine single phase unit transformers with three 3 phase transformers; Install new low side circuit breakers; Relocate switchyard to new location north of Hayward Street; Construct modern switchyard without LOA issues.	35 to 45 Years

Component	Function and Description	Deficiency	Summary of Scope of Work	Estimated Post-Project Expected Major Component Life (Years)
Powerhouse Cranes	The Powerhouse cranes allow for the installation and removal of generators and large components. The Ruskin Facility contains two identical bridge cranes constructed in the 1930s. Each crane has a single trolley equipped with a 130 ton hoist and a 20 ton auxiliary hoist. A lifting beam is located on-site for handling the rotor with the two cranes in tandem operation.	There have been a number of problems with the Powerhouse cranes. While originally designed to be operated by a single operator in tandem, the synchronizing system has not been operational for several years due to repair difficulties. This lack of operating synchronization capabilities presents a minor safety risk to crews. In addition, the inspection and maintenance platforms are insufficient to perform operating and maintenance and therefore creates safety issues.	Replace two existing powerhouse cranes with one 260 ton Powerhouse crane; Upgrade existing crane rails; Reinforce four powerhouse support columns.	50 Years

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Component	Function and Description	Deficiency	Summary of Scope of Work	Estimated Post-Project Expected Major Component Life (Years)
Balance of Mechanical Plant	The remaining mechanical components required for the Ruskin Facility to operate. Components include the following systems: plant water, generator cooling, oil/water separation, unit dewatering (sump pumps), air compression, heating/ventilation and elevators.	The following deficiencies or weaknesses have been identified: The carbon dioxide fire protection system in the Powerhouse was removed due to safety concerns; The existing drainage sump is difficult to maintain due to limited access; The sump has limited capacity for unit de-watering; Existing compressed air piping is heavily corroded due to previous problems with moist air in the system; The open cage Powerhouse elevator presents potential for worker safety.	Replace and expand plant raw water system to include generator cooling; Install fire protection water deluge system; Expand existing oil/water separator system to include capture of potential transformer spills; Replace drainage sump pumps and reroute station drainage to oil/water separator; Separate unit dewatering from station sump and install new dewatering pumps; Replace high pressure compressed air system with low pressure system; Replace elevator system; Install new Powerhouse heating ventilation system; Install new heating/cooling system in the control room.	40 to 50 Years

Component	Function and Description	Deficiency	Summary of Scope of Work	Estimated Post-Project Expected Major Component Life (Years)
Balance of Electrical Plant	The remaining electrical systems and components required for the Ruskin Facility to operate. Components include the AC and Direct Current (**DC**) station services, Powerhouse lighting, grounding and security systems. Components of the AC station service have been replaced with a temporary system. New batteries and chargers have been installed on the DC station service. The grounding system is largely original with some terminal additions. The lighting has been upgraded. The security system is currently non-integrated and consists of entry alarms and video monitoring.	Of the three station service transformers, one is in unsatisfactory condition and the remaining two are in poor condition; Original AC station service had significant LOA issues. A temporary system was installed in 2009 which will require replacement with a permanent system; Original DC station service battery room requires upgrades to meet current safety practices.	AC Station Service: Replace three station service transformers with single 3-phase transformer; Install new transformer feed from generator bus for primary AC station service source; Connect existing standby generator to new AC station service; Install new AC distribution system. DC Station Service: Install new 24 V and 125 V DC battery room meeting safety standards. Lighting: Install new light fixtures throughout the Powerhouse including new emergency light fixtures and new exit signs. Grounding: Install proper bonding between the dam/intake area, new switchyard and the Powerhouse; Install proper bonding of Powerhouse steel and equipment to the primary Powerhouse grid. Security – Upgrade security.	40 to 50 Years

Component	Function and Description	Deficiency	Summary of Scope of Work	Estimated Post-Project Expected Major Component Life (Years)
Protection and Controls	Safeguards to monitor, control and protect generator and transformer components. The existing system is a combination of original equipment and updated electromechanical and electronic systems. The system was interfaced with the original system in the 1960s to permit remote control and monitoring from BC Hydro's dispatch centre.	While a few of the existing systems have had modifications over time, the balance of electrical plant is deficient in terms of accepted industry standards and practices, BC Hydro standards and practices, and modern safety standards.	Replace existing protection and control system with digital protection and control.	25 Years

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Component	Function and Description	Deficiency	Summary of Scope of Work	Estimated Post-Project Expected Major Component Life (Years)
Powerhouse Access Bridge	The existing two-span bridge was constructed in 1929 and provides the primary access to the Powerhouse. The spans are comprised of a truss section and a smaller spur bridge. The two spans join at an intermediate pier built upon a rock outcrop. The bridge is rated at about 68 tons. Minimal work has been performed on the access bridge. Historic spills have resulted in some damage to the intermediate pier. The concrete encasement over the bedrock pier has been repaired once.	The bridge spans are in generally good condition with a variety of minor deficiencies common to bridges of this type and age. The outer encasement of the pier below water displayed large voids and heavy cracking. Although not considered structurally significant there is some concern that damage will accelerate during future large spill events. Structural analysis and inspection indicated that components of the bearings on the bridge spans are corroded and deficient for an earthquake of 1:475 year exceedance level. Similarly, some components of the truss on the longer span will require minor upgrades to improve seismic withstand. The piers should have sufficient withstand for the MDE, but require some repair to damage from past spills.	Jack up existing truss span and replace bridge bearings with seismic isolation bearings; Replace rivets at select locations on the truss span with high strength bolts; Excavate fractured rock foundation beneath the edge of the Right Abutment and encase undermined area in concrete; Armour and encase intermediate pier and recoat bridge structure.	80 Years

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2.2.3 Project Scope Conclusions

The scope of the Project is intended to address the highest deficiencies associated with the Ruskin Facility to address significant dam safety, environmental and reliability risks. Given the extent of work being undertaken, BC Hydro has not currently identified any need to undertake significant future capital expenditures at the Ruskin Facility in the short to medium term.

2.3 Recent Actions to Address Deficiencies

Over the last five years, the following actions have been undertaken as measures to reduce seismic/safety risks at the Ruskin Facility:

Table 2–3 Interim Seismic Risk Mitigation Activities Undertaken since 2005[8] [9]

Year	Action
2005	BC Hydro lowered the Hayward Lake Reservoir level by 1.5 m in 2005 to the low end of the normal operating range (below 41.4 m) to reduce hydrostatic forces and the impact of potential dam breach. This reservoir level will be maintained until work on the Project is complete.
2007	To further improve the seismic resistance of the Dam, BC Hydro completed the Crest Block Anchoring Project. The project involved the installation of a series of steel anchors through the crest block into the lower portion of the Dam.
2007	Repairs completed in the U3 Penstock Tunnel to limit leakage.
2010	Implemented Stage 1 Ruskin Dam Safety Right Abutment Upgrade, consisting of: A new downstream seepage control system, including sheet pile barrier, French drain system, sand and rockfill blanket and instrumentation system; Realignment of Wilson Street to create space for future construction of the proposed replacement cut off wall.

[8] A number of higher risk worker safety hazards in the Powerhouse were identified and mitigated as early attention actions, including: (1) installation of blast rated shielding to protect workers from explosions due to bus faults; (2) installation of temporary Service Station equipment and limited worker access to the area to mitigate worker LOA hazards until the permanent upgrade is performed; (3) re-design and replacement of the unit stoplog seals that were not acceptable for unit isolation and worker protection; and (4) fire safety improvements for worker egress in an emergency.

[9] BC Hydro has also improved public safety signage, and communicated with Mission concerning risks and BC Hydro's mitigation efforts.

26.0 Reference: Exhibit B-1, page 4-4 and Appendix N page 13 of 90

4.1.6 Economic Life

The economic life of Waneta is assumed to be 40 years from 2018 when the transaction is expected to close. This is consistent with the asset life used in the purchase of BC Hydro's one-third interest in Waneta. BC Hydro expects to have to undertake a substantial rehabilitation project at the end of the Lease Period, whether after 20 years or 30 years. The anticipated capital costs of that rehabilitation are accounted for in the Waneta 2017 Business Case, even though they will likely extend the life of the Waneta Assets past the assumed 40-year life. For this reason, BC Hydro believes that the assumed 40-year life is conservative, in the sense that if a longer and more likely economic life were assumed the NPV of the transaction would be higher.

BC Hydro has reviewed the Teck capital forecast and carried out a technical due diligence process on the asset condition and expected capital requirements. Based on this due diligence BC Hydro has arrived at a base set of assumptions for the capital costs and project life. These are as follows:

- Within the Lease Term:
  - Teck's capital forecast as estimated by Hatch (although BCH is not responsible for these costs as they relate to the 2/3 Interest and they are thus irrelevant to the modelling except in case of default).
  - Additional capital within the Lease Term of ~$300 million for the full facility to reflect investments that are anticipated to be required based on BC Hydro's assessment of asset condition against current BC Hydro standards. Note that a portion of these costs would be considered extraordinary capital with costs and shared by Teck, while BCH would be responsible for those projects considered upgrades. Sharing of extraordinary capital costs is done via pro-rating Teck's share based on the portion of the economic life of the investment that occurs during the Lease Term.
- Following the Lease Term:
  - Ongoing generation sustaining capital of approximately $0.5 million per year,
  - Transmission capital of approximately $2.5 million per year reflecting an expected pole replacement program in this period.
  - Runner refurbishments on Units 1, 2 and 4 at approximately $12 million each.

(**Note:** all values above are in 2018 real dollars and are for the full facility)

1.26.7 Please confirm that a default situation would arise if capital work that is needed and is Teck's responsibility is not done.

RESPONSE:

Teck's obligations under the COPOA and the Lease are set out in the agreements. Teck has obligations as both the Operator and the Lessee.

- **If Teck's obligations in their role as <u>Lessee</u> are not performed as per the agreements, it may result in a default under the Lease (which would also create a default under the COPOA).**

- **If Teck's obligations in their role as <u>Operator</u> are not performed as per the agreements, BC Hydro can step in as Operator.**

Please refer to BC Hydro's response to CEC IR 1.19.2.

26.0 Reference: Exhibit B-1, page 4-4 and Appendix N page 13 of 90

4.1.6 Economic Life

The economic life of Waneta is assumed to be 40 years from 2018 when the transaction is expected to close. This is consistent with the asset life used in the purchase of BC Hydro's one-third interest in Waneta. BC Hydro expects to have to undertake a substantial rehabilitation project at the end of the Lease Period, whether after 20 years or 30 years. The anticipated capital costs of that rehabilitation are accounted for in the Waneta 2017 Business Case, even though they will likely extend the life of the Waneta Assets past the assumed 40-year life. For this reason, BC Hydro believes that the assumed 40-year life is conservative, in the sense that if a longer and more likely economic life were assumed the NPV of the transaction would be higher.

BC Hydro has reviewed the Teck capital forecast and carried out a technical due diligence process on the asset condition and expected capital requirements. Based on this due diligence BC Hydro has arrived at a base set of assumptions for the capital costs and project life. These are as follows:

- Within the Lease Term:
  - Teck's capital forecast as estimated by Hatch (although BCH is not responsible for these costs as they relate to the 2/3 Interest and they are thus irrelevant to the modelling except in case of default).
  - Additional capital within the Lease Term of ~$300 million for the full facility to reflect investments that are anticipated to be required based on BC Hydro's assessment of asset condition against current BC Hydro standards. Note that a portion of these costs would be considered extraordinary capital with costs and shared by Teck, while BCH would be responsible for those projects considered upgrades. Sharing of extraordinary capital costs is done via pro-rating Teck's share based on the portion of the economic life of the investment that occurs during the Lease Term.
- Following the Lease Term:
  - Ongoing generation sustaining capital of approximately $0.5 million per year,
  - Transmission capital of approximately $2.5 million per year reflecting an expected pole replacement program in this period.
  - Runner refurbishments on Units 1, 2 and 4 at approximately $12 million each.

(**Note:** all values above are in 2018 real dollars and are for the full facility)

1.26.7.1 Does BC Hydro have a threshold over which it could claim a default for work not performed? Please explain.

RESPONSE:

There is no threshold for failure to perform capital works in the COPOA or the Lease.

26.0 Reference: Exhibit B-1, page 4-4 and Appendix N page 13 of 90

4.1.6 Economic Life

The economic life of Waneta is assumed to be 40 years from 2018 when the transaction is expected to close. This is consistent with the asset life used in the purchase of BC Hydro's one-third interest in Waneta. BC Hydro expects to have to undertake a substantial rehabilitation project at the end of the Lease Period, whether after 20 years or 30 years. The anticipated capital costs of that rehabilitation are accounted for in the Waneta 2017 Business Case, even though they will likely extend the life of the Waneta Assets past the assumed 40-year life. For this reason, BC Hydro believes that the assumed 40-year life is conservative, in the sense that if a longer and more likely economic life were assumed the NPV of the transaction would be higher.

BC Hydro has reviewed the Teck capital forecast and carried out a technical due diligence process on the asset condition and expected capital requirements. Based on this due diligence BC Hydro has arrived at a base set of assumptions for the capital costs and project life. These are as follows:

- Within the Lease Term:
  - Teck's capital forecast as estimated by Hatch (although BCH is not responsible for these costs as they relate to the 2/3 Interest and they are thus irrelevant to the modelling except in case of default).
  - Additional capital within the Lease Term of ~$300 million for the full facility to reflect investments that are anticipated to be required based on BC Hydro's assessment of asset condition against current BC Hydro standards. Note that a portion of these costs would be considered extraordinary capital with costs and shared by Teck, while BCH would be responsible for those projects considered upgrades. Sharing of extraordinary capital costs is done via pro-rating Teck's share based on the portion of the economic life of the investment that occurs during the Lease Term.
- Following the Lease Term:
  - Ongoing generation sustaining capital of approximately $0.5 million per year,
  - Transmission capital of approximately $2.5 million per year reflecting an expected pole replacement program in this period.
  - Runner refurbishments on Units 1, 2 and 4 at approximately $12 million each.

(**Note:** all values above are in 2018 real dollars and are for the full facility)

1.26.7.2 In the event of default, please quantify the worst case potential costs to BC Hydro and contrast them with those adjusted by the third-party assessment of the likelihood of Teck defaulting in Section 4.4.3

RESPONSE:

In the event of default, BC Hydro expects the potential additional costs to primarily result from BC Hydro taking on sole responsibility for ongoing operations and capital costs at Waneta rather than its one-third share. Capital costs are expected to be the most material of these two cost components. Please refer to the confidential attachment to BCUC IR 1.20.2 for BC Hydro's estimate of Teck's share of future capital costs that BC Hydro would become responsible for.

The potential to become fully responsible for Waneta operating and capital costs, as adjusted by the assessment of the likelihood of Teck default, is already reflected in the assessment of the risk of default in the Waneta 2017 Business Case.
BC Hydro is therefore unable to provide the "contrast" requested.

26.0 Reference: Exhibit B-1, page 4-4 and Appendix N page 13 of 90

4.1.6 Economic Life

The economic life of Waneta is assumed to be 40 years from 2018 when the transaction is expected to close. This is consistent with the asset life used in the purchase of BC Hydro's one-third interest in Waneta. BC Hydro expects to have to undertake a substantial rehabilitation project at the end of the Lease Period, whether after 20 years or 30 years. The anticipated capital costs of that rehabilitation are accounted for in the Waneta 2017 Business Case, even though they will likely extend the life of the Waneta Assets past the assumed 40-year life. For this reason, BC Hydro believes that the assumed 40-year life is conservative, in the sense that if a longer and more likely economic life were assumed the NPV of the transaction would be higher.

BC Hydro has reviewed the Teck capital forecast and carried out a technical due diligence process on the asset condition and expected capital requirements. Based on this due diligence BC Hydro has arrived at a base set of assumptions for the capital costs and project life. These are as follows:

- Within the Lease Term:
  - Teck's capital forecast as estimated by Hatch (although BCH is not responsible for these costs as they relate to the 2/3 Interest and they are thus irrelevant to the modelling except in case of default).
  - Additional capital within the Lease Term of ~$300 million for the full facility to reflect investments that are anticipated to be required based on BC Hydro's assessment of asset condition against current BC Hydro standards. Note that a portion of these costs would be considered extraordinary capital with costs and shared by Teck, while BCH would be responsible for those projects considered upgrades. Sharing of extraordinary capital costs is done via pro-rating Teck's share based on the portion of the economic life of the investment that occurs during the Lease Term.
- Following the Lease Term:
  - Ongoing generation sustaining capital of approximately $0.5 million per year,
  - Transmission capital of approximately $2.5 million per year reflecting an expected pole replacement program in this period.
  - Runner refurbishments on Units 1, 2 and 4 at approximately $12 million each.

(**Note:** all values above are in 2018 real dollars and are for the full facility)

1.26.8 Please describe the criteria for determining what would be considered 'extraordinary capital', and explain what types of extraordinary costs could occur and would not be BC Hydro upgrades.

RESPONSE:

The criteria are described in the COPOA (Appendix H to the Application).

Extraordinary Refurbishment Projects are described in section 1.1(rrr) of Appendix H. Cost allocation for Extraordinary Refurbishment Projects is described in section 1.1(q) of Appendix H.

BC Hydro Upgrades are described in section 1.1(s) of Appendix H.

26.0 Reference: Exhibit B-1, page 4-4 and Appendix N page 13 of 90

4.1.6 Economic Life

The economic life of Waneta is assumed to be 40 years from 2018 when the transaction is expected to close. This is consistent with the asset life used in the purchase of BC Hydro's one-third interest in Waneta. BC Hydro expects to have to undertake a substantial rehabilitation project at the end of the Lease Period, whether after 20 years or 30 years. The anticipated capital costs of that rehabilitation are accounted for in the Waneta 2017 Business Case, even though they will likely extend the life of the Waneta Assets past the assumed 40-year life. For this reason, BC Hydro believes that the assumed 40-year life is conservative, in the sense that if a longer and more likely economic life were assumed the NPV of the transaction would be higher.

BC Hydro has reviewed the Teck capital forecast and carried out a technical due diligence process on the asset condition and expected capital requirements. Based on this due diligence BC Hydro has arrived at a base set of assumptions for the capital costs and project life. These are as follows:

- Within the Lease Term:
  - Teck's capital forecast as estimated by Hatch (although BCH is not responsible for these costs as they relate to the 2/3 Interest and they are thus irrelevant to the modelling except in case of default).
  - Additional capital within the Lease Term of ~$300 million for the full facility to reflect investments that are anticipated to be required based on BC Hydro's assessment of asset condition against current BC Hydro standards. Note that a portion of these costs would be considered extraordinary capital with costs and shared by Teck, while BCH would be responsible for those projects considered upgrades. Sharing of extraordinary capital costs is done via pro-rating Teck's share based on the portion of the economic life of the investment that occurs during the Lease Term.
- Following the Lease Term:
  - Ongoing generation sustaining capital of approximately $0.5 million per year,
  - Transmission capital of approximately $2.5 million per year reflecting an expected pole replacement program in this period.
  - Runner refurbishments on Units 1, 2 and 4 at approximately $12 million each.

(**Note:** all values above are in 2018 real dollars and are for the full facility)

1.26.8.1 Please provide the worst-case types of extraordinary costs that BC Hydro might face and provide quantification.

RESPONSE:

Details of potential capital projects are provided in Appendix B of the Waneta 2017 Business Case. The confidential attachment to BCUC IR 1.20.2 identifies which projects are expected to be classified as Extraordinary Refurbishment Projects.

Quantification of the impact of potential increases in major capital costs is provided in Table 13 of the Waneta 2017 Business Case.

27.0 Reference: Exhibit B-1, Appendix N, page 3 of 90

As shown in the following table, proceeding with the Transaction is expected to have positive net value under all considered valuation indices with the exception of the most risk-adverse assumption (the extrapolated curves) under which value is approximately neutral. If BC Hydro does not purchase Waneta but the smelter does request service from BC Hydro, there is a net cost to BC Hydro under all but the most risk-adverse assumption.

(Present value to F2018 in $ millions)

Valuation Index	LRB Position	Transaction Value Net of ROFO Offer Price	BCH does not purchase, Smelter not served by BCH	BCH does not purchase, Smelter served by BCH
LRMC (Clean)	Deficit	887	0	(879)
LRMC (Clean + Gas)	Deficit	662	0	(682)
Industrial Tariff (RS 1832)	Immaterial	82	n/a	n/a
Market Prices (ABB)	Surplus	114	0	(43)
Market Prices (Extrapolated)	Surplus	(31)	0	95

1.27.1 Please elaborate on the assumptions to explain why BC Hydro would experience a negative Present Value under all scenarios except Market Prices (extrapolated) if BC Hydro did not purchase Waneta and BC Hydro served the smelter.

RESPONSE:

The primary driver of the results in the "BCH does not purchase, Smelter served by BCH" column is the relative cost of new supply or market exports for the post-Lease Period as compared to BC Hydro's expected industrial tariff.

BC Hydro expects to be in an LRB deficit position by the end of the Lease Period. As a result, additional load as a result of the smelter being served by BC Hydro would result in incremental requirements for new resources. The cost of new resources is higher than the revenue that BC Hydro assumes we would receive from Teck's load (based on our expected industrial tariff), and as a result there are expected to be net costs (i.e., a negative present value) to ratepayers for the two LRMC scenarios.

The table in the IR also considers two scenarios in which BC Hydro is in a net surplus position for the post-Lease period. In these cases the additional load would serve to reduce market exports. For the ABB Forecast, the lost revenue from market exports is expected to be greater than the revenue received from Teck's load, and as a result there are expected to be net costs to ratepayers. For the extrapolated Forecast, the lost revenue from market exports is expected to be less than the revenue received from Teck's load, and as a result there are expected to be net benefits to ratepayers.

27.0 Reference: Exhibit B-1, Appendix N, page 3 of 90

As shown in the following table, proceeding with the Transaction is expected to have positive net value under all considered valuation indices with the exception of the most risk-adverse assumption (the extrapolated curves) under which value is approximately neutral. If BC Hydro does not purchase Waneta but the smelter does request service from BC Hydro, there is a net cost to BC Hydro under all but the most risk-adverse assumption.

(Present value to F2018 in $ millions)

Valuation Index	LRB Position	Transaction Value Net of ROFO Offer Price	BCH does not purchase, Smelter not served by BCH	BCH does not purchase, Smelter served by BCH
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Industrial Tariff (RS 1832)	Immaterial	82	n/a	n/a
Market Prices (ABB)	Surplus	114	0	(43)
Market Prices (Extrapolated)	Surplus	(31)	0	95

1.27.2 What issues prevent BC Hydro from recovering its cost of service from Teck in a scenario in which BC Hydro served the Teck smelter but did not acquire Waneta?

RESPONSE:

Please refer to BC Hydro's response to BCUC IRs 1.63.1 and 1.63.3, BCSEA IRs 1.8.6 and 1.8.7 and BCOAPO IR 1.14.1.

27.0 Reference: Exhibit B-1, Appendix N, page 3 of 90

As shown in the following table, proceeding with the Transaction is expected to have positive net value under all considered valuation indices with the exception of the most risk-adverse assumption (the extrapolated curves) under which value is approximately neutral. If BC Hydro does not purchase Waneta but the smelter does request service from BC Hydro, there is a net cost to BC Hydro under all but the most risk-adverse assumption.

(Present value to F2018 in $ millions)

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LRMC (Clean + Gas)	Deficit	662	0	(682)
Industrial Tariff (RS 1832)	Immaterial	82	n/a	n/a
Market Prices (ABB)	Surplus	114	0	(43)
Market Prices (Extrapolated)	Surplus	(31)	0	95

1.27.3 Does BC Hydro have an obligation to service Teck at rates below its cost of service? Please explain.

RESPONSE:

Please refer to BC Hydro's response to BCUC IRs 1.63.1 and 1.63.3, BCSEA IRs 1.8.6 and I.8.7 and BCOAPO IR 1.14.1.

27.0 Reference: Exhibit B-1, Appendix N, page 3 of 90

As shown in the following table, proceeding with the Transaction is expected to have positive net value under all considered valuation indices with the exception of the most risk-adverse assumption (the extrapolated curves) under which value is approximately neutral. If BC Hydro does not purchase Waneta but the smelter does request service from BC Hydro, there is a net cost to BC Hydro under all but the most risk-adverse assumption.

(Present value to F2018 in $ millions)

Valuation Index	LRB Position	Transaction Value Net of ROFO Offer Price	BCH does not purchase, Smelter not served by BCH	BCH does not purchase, Smelter served by BCH
LRMC (Clean)	Deficit	887	0	(879)
LRMC (Clean + Gas)	Deficit	662	0	(682)
Industrial Tariff (RS 1832)	Immaterial	82	n/a	n/a
Market Prices (ABB)	Surplus	114	0	(43)
Market Prices (Extrapolated)	Surplus	(31)	0	95

1.27.4 Please confirm that the price of non-hydro renewable energy such wind is expected to experience a decrease over the Lease Period.

RESPONSE:

BC Hydro expects that wind is the next most cost effective clean energy supply side resource that may be acquired when BC Hydro has need. The price of wind resources is expected to experience a decrease over the Lease Period.

Please refer to BC Hydro's response to BCUC IR 1.10.1.

27.0 Reference: Exhibit B-1, Appendix N, page 3 of 90

As shown in the following table, proceeding with the Transaction is expected to have positive net value under all considered valuation indices with the exception of the most risk-adverse assumption (the extrapolated curves) under which value is approximately neutral. If BC Hydro does not purchase Waneta but the smelter does request service from BC Hydro, there is a net cost to BC Hydro under all but the most risk-adverse assumption.

(Present value to F2018 in $ millions)

Valuation Index	LRB Position	Transaction Value Net of ROFO Offer Price	BCH does not purchase, Smelter not served by BCH	BCH does not purchase, Smelter served by BCH
LRMC (Clean)	Deficit	887	0	(879)
LRMC (Clean + Gas)	Deficit	662	0	(682)
Industrial Tariff (RS 1832)	Immaterial	82	n/a	n/a
Market Prices (ABB)	Surplus	114	0	(43)
Market Prices (Extrapolated)	Surplus	(31)	0	95

1.27.5 Please provide BC Hydro's anticipated cost for capacity and energy for wind-power resources over the lease period and beyond the lease period to the end of an extended life for Waneta, assuming a substantial rehabilitation.

RESPONSE:

BC Hydro does not have an anticipated cost for capacity from wind power resources because wind power resources are intermittent and cannot be relied upon to provide dependable capacity.

Table 3 of BC Hydro's Waneta 2017 Business Case shows that our LRMC of energy for clean greenfield IPPs is $106/MWh[1] (2018$). This LRMC was used for evaluating the Waneta 2017 Transaction in all post-Lease years during periods of LRB shortfall (except in those scenarios where the Waneta entitlement was assumed to be fully exported). It is based on wind cost estimates that are described in BC Hydro's response to BCUC IR 1.10.1.

BC Hydro also provided an "optimistic" view of wind cost declines in its response to BCUC IR 2.62.0 in the Site C Inquiry attached to BC Hydro's response to BCUC IR 1.58.1. This estimate has been prepared out to fiscal 2050. BC Hydro cannot provide an estimate beyond this point. The table below shows the following two unit energy cost (UEC) metrics in five-year increments for the optimistic view:

[1] **This is consistent with the $100/MWh (2015$) shown in Table 3-10 of the Fiscal 2017 to Fiscal 2019 Revenue Requirements Application.**

- **UEC at Point of Interconnection (POI): reflects the project costs including the costs of road and transmission infrastructure requirements up to the point of interconnecting to the system; and**

- **Adjusted UEC: includes the project costs up to the POI as well as the cost to integrate the resource and bring the energy to the Lower Mainland. BC Hydro uses the Adjusted UEC metric in the valuation of the Waneta 2017 Transaction.**

BC Hydro notes that the UECs shown below are calculated based on the IPP financing assumption of 6.4 per cent (real) weighted average cost of capital, an update from the 7 per cent used in the Fiscal 2017 to Fiscal 2019 Revenue Requirements Application.

Year	UEC at POI (fiscal 2018 $/MWh)	Adjusted UEC (fiscal 2018 $/MWh)
2018	85	105
2020	81	101
2025	77	97
2030	72	93
2035	70	91
2040	68	89
2045	67	88
2050	64	85

28.0 Reference: Exhibit B-1, Appendix N, page 18 of 90

3.2.1. Market Prices

BC Hydro uses a third party vendor, ABB[3], to prepare a long-term Mid-C electricity spot market price forecast. BC Hydro then makes adjustments for the cost of wheeling or losses depending on whether BC Hydro is exporting energy from the BC Border to Mid-C (BC Border sell price) or importing energy from Mid-C to the BC Border (BC Border buy price).

In periods where the output from the 2/3 Interest is not required for domestic load, BC Hydro values additional energy at the BC Border sell price, as a proxy for the value of the additional surplus sales. For the Lease Term this is not an issue with the output of the 2/3 Interest being

[3] BC Hydro's electricity price forecasts are sometimes referred to as the Ventyx forecasts. ABB purchased Ventyx in 2010 and references to the Ventyx forecasts refer to the same information as the ABB forecasts.

provided to Teck under the Lease Agreement. The 20-year levelized market price from F2039 to F2058 is approximately $65/MWh ($2018) for a blend of energy and capacity.

1.28.1 Please compare the Mid-C electricity spot market price forecast to that determined by the Commission in the Site C Report to government.

RESPONSE:

Please refer to BC Hydro's response to BCSEA IR 1.47.1.

28.0 Reference: Exhibit B-1, Appendix N, page 18 of 90

3.2.1. Market Prices

BC Hydro uses a third party vendor, ABB[3], to prepare a long-term Mid-C electricity spot market price forecast. BC Hydro then makes adjustments for the cost of wheeling or losses depending on whether BC Hydro is exporting energy from the BC Border to Mid-C (BC Border sell price) or importing energy from Mid-C to the BC Border (BC Border buy price).

In periods where the output from the 2/3 Interest is not required for domestic load, BC Hydro values additional energy at the BC Border sell price, as a proxy for the value of the additional surplus sales. For the Lease Term this is not an issue with the output of the 2/3 Interest being

[3] BC Hydro's electricity price forecasts are sometimes referred to as the Ventyx forecasts. ABB purchased Ventyx in 2010 and references to the Ventyx forecasts refer to the same information as the ABB forecasts.

provided to Teck under the Lease Agreement. The 20-year levelized market price from F2039 to F2058 is approximately $65/MWh ($2018) for a blend of energy and capacity.

1.28.2 To the extent there is a difference between BC Hydro's forecast and that provided by the Commission, please justify the use of the Mid-C price instead of that determined by the Commission, for planning in regard to power acquisition.

RESPONSE:

Please refer to BC Hydro's response to BCSEA IR 1.47.1.

30.0 Reference: Exhibit B-1, Appendix N page 23 of 90

Table 4 shows the effective UEC for both the full 40-year evaluation period and the 20-year period following the Lease Term. Note that this analysis assumes the full life of the asset is only an additional 40 years, which BC Hydro believes is conservative given the level of capital investment made in the assets.

Table 4 Unit Energy Costs for Transaction ($/MWh, 2018 dollars)

Period	20-year Lease
Full term (years 1-40)	41.25
Post-Lease Term (years 21-40)	48.25

(Above numbers rounded to the nearest 0.25)

For reference, the post-lease UEC of $48.25 in 2018 dollars is equivalent to ~$71.50 in 2038 dollars – the first year of the post-Lease Term.

Figure 4 shows a comparison of the post-lease UEC to the capacity-adjusted valuation indices discussed in Section 3.2.

1.30.1 Please quantify the 'level of capital investment' made in the assets and in the future, during and beyond the lease period based on rehabilitation.

RESPONSE:

The level of capital investment for both the Lease and post-Lease Period is quantified in Appendix B to the Waneta 2017 Business Case.

30.0 Reference: Exhibit B-1, Appendix N page 23 of 90

Table 4 shows the effective UEC for both the full 40-year evaluation period and the 20-year period following the Lease Term. Note that this analysis assumes the full life of the asset is only an additional 40 years, which BC Hydro believes is conservative given the level of capital investment made in the assets.

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(Above numbers rounded to the nearest 0.25)

For reference, the post-lease UEC of $48.25 in 2018 dollars is equivalent to ~$71.50 in 2038 dollars – the first year of the post-Lease Term.

Figure 4 shows a comparison of the post-lease UEC to the capacity-adjusted valuation indices discussed in Section 3.2.

1.30.2 Please confirm that the economic life of the project will be dependent upon the amount of refurbishment undertaken at the end of the Lease period.

RESPONSE:

The economic life of Waneta will be dependent upon the amount of refurbishment undertaken on an ongoing basis, including but not limited to any actions at the end of the Lease Period.

31.0 Reference: Exhibit B-1, page 4-9

Table 4-1 Attributes of Waneta Electricity

Attribute	Waneta Electricity
Capacity	Dependable - firming, shaping and storage capability similar to that provided by the other large hydroelectric storage resources owned by BC Hydro
Energy	Buyback of firm entitlement energy
Availability	Plant exists, transmission exists, available on contract execution
Term	Permanent (20-year economic life is assumed post the initial Lease Period)
Self Sufficiency	BC-based resource, and self-sufficiency as defined in and required by section 6(2) of the *Clean Energy Act*
Clean or Renewable	As defined in section 1(1) of the *Clean Energy Act*

1.31.1 Please confirm that BC Hydro is already compliant with section 6.1 of the *Clean Energy Act* regarding Self Sufficiency, and does not require energy from Waneta to meet its self-sufficiency requirements.

RESPONSE:

Confirmed. Note that the Waneta 2017 Transaction maintains the *status quo* regarding BC Hydro's LRB until the end of the Lease Period.

32.0 Reference: Exhibit B-1, Appendix N, page 27 of 90 and page 28 of 90

Consideration of 10-year Extension

The Lease Agreement may be extended 10 years beyond the initial 20-year term at Teck's sole option. This extension is done at an effective price of $53/MWh (2018 dollars) rather than the $40/MWh (2018 dollars) for the initial Lease Term.

BC Hydro asked Powerex to value the extension option to determine the potential adjustment to overall transaction value. Powerex valued the option as a 10-year European call option, with a one-time expiry on March 31, 2038. At the time of expiry the volume is equivalent to 1,831 GWh/year at a strike price of $60.50/MWh (2018 dollars, equivalent to the $53/MWh extension price plus Teck's operating costs of $7.50/MWh). This call option was valued at the forecast price curves that Teck could be exposed to for the extension term, specifically:

- ABB Market Prices, with a Mid-C market price of approximately $74.70 (2018 real dollars, energy only, reflecting mid-market price rather than exports as used elsewhere in this business case)
- Extrapolated Market Prices with a Mid-C market price of approximately [redacted] (2018 real dollars, energy only, reflecting mid-market price rather than exports as used elsewhere in this business case).

[4] No counterparty risk adjustment is done for the tariff scenario [redacted]

- BC Hydro industrial tariff, with a price of approximately $69/MWh (2018 real dollars, energy and capacity)

The implied option volatility was set to [redacted], derived from market estimates of long-term Mid-C volatility. The value of the option was adjusted based on the probability of Teck default within the 20-year Lease Term [redacted] based on information from Moody's) – if Teck defaults on the Lease they cannot exercise their extension option.

The Powerex calculation determined the option value using the above forecasts of expected market prices as Teck will be exposed to these prices. Valuation of the option under LRMC scenarios required additional analysis, as Teck is not expected to be exposed or make decisions on exercise of the option based on LRMC. In order to address this, BC Hydro used the probability of option exercise from the scenario with ABB market prices (58%) and applied this to the expected reduction in value if the extension option is exercised under the LRMC scenarios.

Table 7 shows the cost of the option granted to Teck under the various pricing scenarios.

Table 7 Cost of Teck Lease Extension Option ($ millions)

Basis for Post-Lease Value	Option Cost to BC Hydro
LRMC – Clean only	291
LRMC – Clean + Gas	196
BCH Industrial Tariff	93
Market Prices (ABB)	45
Extrapolated Prices	6

As shown, the cost of the option increases with expectations of the future value of the Waneta electricity. The Transaction value shown in Table 5 will be reduced by the amounts shown in Table 7 to account for the value of the extension option.

1.32.1 Please confirm the CEC's interpretation of the results of Table 7 as showing that the Lease extension option represents a cost to BC Hydro under all the valuations considered, with a lower cost if market energy is valued at a lower price than if it is valued at a higher price.

RESPONSE:

Confirmed.

32.0 Reference: Exhibit B-1, Appendix N, page 27 of 90 and page 28 of 90

Consideration of 10-year Extension

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- ABB Market Prices, with a Mid-C market price of approximately $74.70 (2018 real dollars, energy only, reflecting mid-market price rather than exports as used elsewhere in this business case)
- Extrapolated Market Prices with a Mid-C market price of approximately [redacted] (2018 real dollars, energy only, reflecting mid-market price rather than exports as used elsewhere in this business case).

[4] No counterparty risk adjustment is done for the tariff scenario [redacted]

- BC Hydro industrial tariff, with a price of approximately $69/MWh (2018 real dollars, energy and capacity)

The implied option volatility was set to [redacted], derived from market estimates of long-term Mid-C volatility. The value of the option was adjusted based on the probability of Teck default within the 20-year Lease Term [redacted] based on information from Moody's) – if Teck defaults on the Lease they cannot exercise their extension option.

The Powerex calculation determined the option value using the above forecasts of expected market prices as Teck will be exposed to these prices. Valuation of the option under LRMC scenarios required additional analysis, as Teck is not expected to be exposed or make decisions on exercise of the option based on LRMC. In order to address this, BC Hydro used the probability of option exercise from the scenario with ABB market prices (58%) and applied this to the expected reduction in value if the extension option is exercised under the LRMC scenarios.

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Extrapolated Prices	6

As shown, the cost of the option increases with expectations of the future value of the Waneta electricity. The Transaction value shown in Table 5 will be reduced by the amounts shown in Table 7 to account for the value of the extension option.

1.32.2 What, if any, are BC Hydro's options for modifying or removing the Extension option?

RESPONSE:

BC Hydro was not permitted to renegotiate the terms of the ROFO under the ROFO process, nor does BC Hydro believe there is an option for modifying or removing the extension option at this time.

32.0 Reference: Exhibit B-1, Appendix N, page 27 of 90 and page 28 of 90

Consideration of 10-year Extension

The Lease Agreement may be extended 10 years beyond the initial 20-year term at Teck's sole option. This extension is done at an effective price of $53/MWh (2018 dollars) rather than the $40/MWh (2018 dollars) for the initial Lease Term.

BC Hydro asked Powerex to value the extension option to determine the potential adjustment to overall transaction value. Powerex valued the option as a 10-year European call option, with a one-time expiry on March 31, 2038. At the time of expiry the volume is equivalent to 1,831 GWh/year at a strike price of $60.50/MWh (2018 dollars, equivalent to the $53/MWh extension price plus Teck's operating costs of $7.50/MWh). This call option was valued at the forecast price curves that Teck could be exposed to for the extension term, specifically:

- ABB Market Prices, with a Mid-C market price of approximately $74.70 (2018 real dollars, energy only, reflecting mid-market price rather than exports as used elsewhere in this business case)
- Extrapolated Market Prices with a Mid-C market price of approximately [redacted] (2018 real dollars, energy only, reflecting mid-market price rather than exports as used elsewhere in this business case).

[4] No counterparty risk adjustment is done for the tariff scenario [redacted]

- BC Hydro industrial tariff, with a price of approximately $69/MWh (2018 real dollars, energy and capacity)

The implied option volatility was set to [redacted], derived from market estimates of long-term Mid-C volatility. The value of the option was adjusted based on the probability of Teck default within the 20-year Lease Term [redacted] based on information from Moody's) – if Teck defaults on the Lease they cannot exercise their extension option.

The Powerex calculation determined the option value using the above forecasts of expected market prices as Teck will be exposed to these prices. Valuation of the option under LRMC scenarios required additional analysis, as Teck is not expected to be exposed or make decisions on exercise of the option based on LRMC. In order to address this, BC Hydro used the probability of option exercise from the scenario with ABB market prices (58%) and applied this to the expected reduction in value if the extension option is exercised under the LRMC scenarios.

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As shown, the cost of the option increases with expectations of the future value of the Waneta electricity. The Transaction value shown in Table 5 will be reduced by the amounts shown in Table 7 to account for the value of the extension option.

1.32.3 Please confirm that the values provided in Table 7 do not consider the likelihood of Teck exercising its option, depending on the prevailing market prices under the Market Prices (ABB) and extrapolated prices scenarios.

RESPONSE:

Not confirmed. The values in Table 7 of Appendix N directly consider the likelihood of Teck exercising the extension option depending on the market prices Teck is expected to be exposed to at the time.

32.0 Reference: Exhibit B-1, Appendix N, page 27 of 90 and page 28 of 90

Consideration of 10-year Extension

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BC Hydro asked Powerex to value the extension option to determine the potential adjustment to overall transaction value. Powerex valued the option as a 10-year European call option, with a one-time expiry on March 31, 2038. At the time of expiry the volume is equivalent to 1,831 GWh/year at a strike price of $60.50/MWh (2018 dollars, equivalent to the $53/MWh extension price plus Teck's operating costs of $7.50/MWh). This call option was valued at the forecast price curves that Teck could be exposed to for the extension term, specifically:

- ABB Market Prices, with a Mid-C market price of approximately $74.70 (2018 real dollars, energy only, reflecting mid-market price rather than exports as used elsewhere in this business case)
- Extrapolated Market Prices with a Mid-C market price of approximately [redacted] (2018 real dollars, energy only, reflecting mid-market price rather than exports as used elsewhere in this business case).

[4] No counterparty risk adjustment is done for the tariff scenario [redacted]

- BC Hydro industrial tariff, with a price of approximately $69/MWh (2018 real dollars, energy and capacity)

The implied option volatility was set to [redacted], derived from market estimates of long-term Mid-C volatility. The value of the option was adjusted based on the probability of Teck default within the 20-year Lease Term [redacted] based on information from Moody's) – if Teck defaults on the Lease they cannot exercise their extension option.

The Powerex calculation determined the option value using the above forecasts of expected market prices as Teck will be exposed to these prices. Valuation of the option under LRMC scenarios required additional analysis, as Teck is not expected to be exposed or make decisions on exercise of the option based on LRMC. In order to address this, BC Hydro used the probability of option exercise from the scenario with ABB market prices (58%) and applied this to the expected reduction in value if the extension option is exercised under the LRMC scenarios.

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As shown, the cost of the option increases with expectations of the future value of the Waneta electricity. The Transaction value shown in Table 5 will be reduced by the amounts shown in Table 7 to account for the value of the extension option.

1.32.3 Please confirm that the values provided in Table 7 do not consider the likelihood of Teck exercising its option, depending on the prevailing market prices under the Market Prices (ABB) and extrapolated prices scenarios.

1.32.3.1 If not confirmed, please elaborate on how the likelihood of Teck exercising its option is factored into these Powerex calculations.

RESPONSE:

Please refer to BC Hydro's response to CEC IR 1.32.3.

32.0 Reference: Exhibit B-1, Appendix N, page 27 of 90 and page 28 of 90

Consideration of 10-year Extension

The Lease Agreement may be extended 10 years beyond the initial 20-year term at Teck's sole option. This extension is done at an effective price of $53/MWh (2018 dollars) rather than the $40/MWh (2018 dollars) for the initial Lease Term.

BC Hydro asked Powerex to value the extension option to determine the potential adjustment to overall transaction value. Powerex valued the option as a 10-year European call option, with a one-time expiry on March 31, 2038. At the time of expiry the volume is equivalent to 1,831 GWh/year at a strike price of $60.50/MWh (2018 dollars, equivalent to the $53/MWh extension price plus Teck's operating costs of $7.50/MWh). This call option was valued at the forecast price curves that Teck could be exposed to for the extension term, specifically:

- ABB Market Prices, with a Mid-C market price of approximately $74.70 (2018 real dollars, energy only, reflecting mid-market price rather than exports as used elsewhere in this business case)
- Extrapolated Market Prices with a Mid-C market price of approximately [redacted] (2018 real dollars, energy only, reflecting mid-market price rather than exports as used elsewhere in this business case).

[4] No counterparty risk adjustment is done for the tariff scenario [redacted]

- BC Hydro industrial tariff, with a price of approximately $69/MWh (2018 real dollars, energy and capacity)

The implied option volatility was set to [redacted], derived from market estimates of long-term Mid-C volatility. The value of the option was adjusted based on the probability of Teck default within the 20-year Lease Term [redacted] based on information from Moody's) – if Teck defaults on the Lease they cannot exercise their extension option.

The Powerex calculation determined the option value using the above forecasts of expected market prices as Teck will be exposed to these prices. Valuation of the option under LRMC scenarios required additional analysis, as Teck is not expected to be exposed or make decisions on exercise of the option based on LRMC. In order to address this, BC Hydro used the probability of option exercise from the scenario with ABB market prices (58%) and applied this to the expected reduction in value if the extension option is exercised under the LRMC scenarios.

Table 7 shows the cost of the option granted to Teck under the various pricing scenarios.

Table 7 Cost of Teck Lease Extension Option
($ millions)

Basis for Post-Lease Value	Option Cost to BC Hydro
LRMC – Clean only	291
LRMC – Clean + Gas	196
BCH Industrial Tariff	93
Market Prices (ABB)	45
Extrapolated Prices	6

As shown, the cost of the option increases with expectations of the future value of the Waneta electricity. The Transaction value shown in Table 5 will be reduced by the amounts shown in Table 7 to account for the value of the extension option.

1.32.4 Please provide BC Hydro's understanding of how prevailing market prices will likely influence Teck's decision-making with regard to extending the Lease.

RESPONSE:

Please refer to BC Hydro's response to BCSEA IR 1.12.2.

32.0 Reference: Exhibit B-1, Appendix N, page 27 of 90 and page 28 of 90

Consideration of 10-year Extension

The Lease Agreement may be extended 10 years beyond the initial 20-year term at Teck's sole option. This extension is done at an effective price of $53/MWh (2018 dollars) rather than the $40/MWh (2018 dollars) for the initial Lease Term.

BC Hydro asked Powerex to value the extension option to determine the potential adjustment to overall transaction value. Powerex valued the option as a 10-year European call option, with a one-time expiry on March 31, 2038. At the time of expiry the volume is equivalent to 1,831 GWh/year at a strike price of $60.50/MWh (2018 dollars, equivalent to the $53/MWh extension price plus Teck's operating costs of $7.50/MWh). This call option was valued at the forecast price curves that Teck could be exposed to for the extension term, specifically:

- ABB Market Prices, with a Mid-C market price of approximately $74.70 (2018 real dollars, energy only, reflecting mid-market price rather than exports as used elsewhere in this business case)
- Extrapolated Market Prices with a Mid-C market price of approximately [redacted] (2018 real dollars, energy only, reflecting mid-market price rather than exports as used elsewhere in this business case).

[4] No counterparty risk adjustment is done for the tariff scenario [redacted]

- BC Hydro industrial tariff, with a price of approximately $69/MWh (2018 real dollars, energy and capacity)

The implied option volatility was set to [redacted], derived from market estimates of long-term Mid-C volatility. The value of the option was adjusted based on the probability of Teck default within the 20-year Lease Term [redacted] based on information from Moody's) – if Teck defaults on the Lease they cannot exercise their extension option.

The Powerex calculation determined the option value using the above forecasts of expected market prices as Teck will be exposed to these prices. Valuation of the option under LRMC scenarios required additional analysis, as Teck is not expected to be exposed or make decisions on exercise of the option based on LRMC. In order to address this, BC Hydro used the probability of option exercise from the scenario with ABB market prices (58%) and applied this to the expected reduction in value if the extension option is exercised under the LRMC scenarios.

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Market Prices (ABB)	45
Extrapolated Prices	6

As shown, the cost of the option increases with expectations of the future value of the Waneta electricity. The Transaction value shown in Table 5 will be reduced by the amounts shown in Table 7 to account for the value of the extension option.

1.32.5 Would BC Hydro agree that the higher the market prices and market forecast is at the time of the extension the more likely it is that Teck will exercise its option?

RESPONSE:

Please refer to BC Hydro's response to BCSEA IR 1.12.2.

32.0 Reference: Exhibit B-1, Appendix N, page 27 of 90 and page 28 of 90

Consideration of 10-year Extension

The Lease Agreement may be extended 10 years beyond the initial 20-year term at Teck's sole option. This extension is done at an effective price of $53/MWh (2018 dollars) rather than the $40/MWh (2018 dollars) for the initial Lease Term.

BC Hydro asked Powerex to value the extension option to determine the potential adjustment to overall transaction value. Powerex valued the option as a 10-year European call option, with a one-time expiry on March 31, 2038. At the time of expiry the volume is equivalent to 1,831 GWh/year at a strike price of $60.50/MWh (2018 dollars, equivalent to the $53/MWh extension price plus Teck's operating costs of $7.50/MWh). This call option was valued at the forecast price curves that Teck could be exposed to for the extension term, specifically:

- ABB Market Prices, with a Mid-C market price of approximately $74.70 (2018 real dollars, energy only, reflecting mid-market price rather than exports as used elsewhere in this business case)
- Extrapolated Market Prices with a Mid-C market price of approximately [redacted] (2018 real dollars, energy only, reflecting mid-market price rather than exports as used elsewhere in this business case).

[4] No counterparty risk adjustment is done for the tariff scenario [redacted]

- BC Hydro industrial tariff, with a price of approximately $69/MWh (2018 real dollars, energy and capacity)

The implied option volatility was set to [redacted], derived from market estimates of long-term Mid-C volatility. The value of the option was adjusted based on the probability of Teck default within the 20-year Lease Term [redacted] based on information from Moody's) – if Teck defaults on the Lease they cannot exercise their extension option.

The Powerex calculation determined the option value using the above forecasts of expected market prices as Teck will be exposed to these prices. Valuation of the option under LRMC scenarios required additional analysis, as Teck is not expected to be exposed or make decisions on exercise of the option based on LRMC. In order to address this, BC Hydro used the probability of option exercise from the scenario with ABB market prices (58%) and applied this to the expected reduction in value if the extension option is exercised under the LRMC scenarios.

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Table 7 Cost of Teck Lease Extension Option
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LRMC – Clean only	291
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Extrapolated Prices	6

As shown, the cost of the option increases with expectations of the future value of the Waneta electricity. The Transaction value shown in Table 5 will be reduced by the amounts shown in Table 7 to account for the value of the extension option.

1.32.5 Would BC Hydro agree that the higher the market prices and market forecast is at the time of the extension the more likely it is that Teck will exercise its option?

1.32.5.1 If not, please explain why or why not.

RESPONSE:

Please refer to BC Hydro's response to BCSEA IR 1.12.2.

33.0 Reference: Exhibit B-1, Appendix N, page 29 of 90

Table 8 Consolidated Value of Transaction
(Risked present value to 2018, $ millions)

Basis for Post-Lease Value	Value of Assets / Lease to BC Hydro					
	Un-risked Lease Period	Default Risk Adj.	Post-Lease Value	Extension Option	Total Value	Value net of purchase
LRMC (Clean)	792	107	1,482	(291)	2,090	887
LRMC (Clean + Gas)	792	64	1,206	(196)	1,865	662
Industrial Tariff	792	n/a	586	(93)	1,285	82
Market Prices (ABB)	792	1	570	(45)	1,317	114
Extrapolated Prices	792	(54)	440	(6)	1,172	(31)

As shown, under core assumptions the Transaction has net positive present value compared to the purchase price of $1.2 billion under all post-lease market valuation scenarios except for the extrapolated curves, indicating a net benefit accruing to BC Hydro ratepayers.

1.33.1 Please confirm that the purchase price remains at $1.2 billion for this table.

RESPONSE:

Confirmed that the "Value net of purchase" column reflects a purchase price of $1.203 billion.

34.0 Reference: Exhibit B-1, page 31 of 90

Market Price Sensitivities

Market prices are used as the valuation index for periods where BC Hydro expects to be in an LRB surplus position. This is the case for the years prior to F2034 on an energy basis in BC Hydro's base case LRB. However, as shown in Section 4.2.2 BC Hydro has also looked at scenarios where the full generation output (net of any obligations to Teck under the Lease Agreement) is exported to external markets.

In the core analysis, BC Hydro reviewed market cases both based on ABB's market price forecast and an extrapolated curve which takes Powerex's forward market curves and extrapolates them based on the rate of change at the end of available market information. BC Hydro looked at two additional scenarios:

- BC Hydro has considered a market price scenario where current low market prices never rise on a real dollar basis.
- BC Hydro considered the potential for energy prices to decrease to the level of the extrapolated market prices, but with an increase in the value of capacity. This represents a scenario where the build-out of intermittent renewable puts a premium on capacity resources. To test this sensitivity BC Hydro applied a 30% premium to BC Hydro's currently forecast capacity price.

Table 12 shows the value under these additional price scenarios.

Table 12 Value of Transaction – Lower Market Prices

Basis for Post 20-yr Lease Value	Average market price 2039 – 2058 Energy + Capacity ($/MWh, 2018)	Net Value of Transaction ($ millions)
Market Prices (ABB)	$64.75	114
Extrapolated Market Prices	[redacted]	(31)
Flat/Real Market Prices	$28.00	(328)
Extrapolated Market Prices with 30% capacity premium	[redacted]	0

(Above energy pricing rounded to the nearest $0.25/MWh)

1.34.1 Please provide BC Hydro's evidence supporting a 30% capacity premium, and discuss any factors that could change the value of the premium over the course of the lease period.

RESPONSE:

As of the development of the Waneta 2017 Business Case, the 30 per cent capacity premium was based on the professional judgement of staff engaged in wholesale market trading.

Since the development of the Waneta 2017 Business Case BC Hydro prepared evidence for the Site C Inquiry regarding the potential premium on dependable capacity. While there will be differences between the value of Waneta capacity and Site C capacity due to differences in facility capacity factor, this analysis is generally applicable to Waneta. Please refer to section 3 of Appendix F to BC Hydro's August 30 submission regarding the Site C Inquiry, as included as an attachment to BC Hydro's response to BCUC IR 1.58.1.

The analysis in Appendix F to the August 30 submission shows that dependable capacity such as Site C can obtain premium pricing between 25 per cent and 36 per cent higher than resources such as wind. This information is consistent with and supportive of BC Hydro's identification of a potential 30 per cent capacity price premium in the assessment of potential increases to transaction value.

Factors that could change the relative value put on capacity include the following factors in B.C. and neighboring electricity markets:

- **The relative market share of intermittent resources, such as solar or wind;**
- **The relative market share of flexible capacity resources, such as large hydro or simple-cycle gas turbines;**
- **The relative market share of storage resources, such as batteries or pumped storage;**
- **The level of capacity-related demand-side management adopted, such as industrial load curtailment or other capacity-focused programs;**
- **The level of demand-side storage and generation technologies utilized such as solar roofing or electric vehicle storage; and**
- **Tie-line capability between B.C. and other electricity markets.**

Please also refer to BC Hydro's response to BCUC IR 2.22.5 from the Site C Inquiry. This is included as an attachment to BC Hydro's response to BCUC IR 1.58.1.

34.0 Reference: Exhibit B-1, page 31 of 90

Market Price Sensitivities

Market prices are used as the valuation index for periods where BC Hydro expects to be in an LRB surplus position. This is the case for the years prior to F2034 on an energy basis in BC Hydro's base case LRB. However, as shown in Section 4.2.2 BC Hydro has also looked at scenarios where the full generation output (net of any obligations to Teck under the Lease Agreement) is exported to external markets.

In the core analysis, BC Hydro reviewed market cases both based on ABB's market price forecast and an extrapolated curve which takes Powerex's forward market curves and extrapolates them based on the rate of change at the end of available market information. BC Hydro looked at two additional scenarios:

- BC Hydro has considered a market price scenario where current low market prices never rise on a real dollar basis.
- BC Hydro considered the potential for energy prices to decrease to the level of the extrapolated market prices, but with an increase in the value of capacity. This represents a scenario where the build-out of intermittent renewable puts a premium on capacity resources. To test this sensitivity BC Hydro applied a 30% premium to BC Hydro's currently forecast capacity price.

Table 12 shows the value under these additional price scenarios.

Table 12 Value of Transaction – Lower Market Prices

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Market Prices (ABB)	$64.75	114
Extrapolated Market Prices	[redacted]	(31)
Flat/Real Market Prices	$28.00	(328)
Extrapolated Market Prices with 30% capacity premium	[redacted]	0

(Above energy pricing rounded to the nearest $0.25/MWh)

1.34.2 Please update Table 12 assuming a 20% capacity premium.

RESPONSE:

Refer to Revised Table 12a for additional analysis assuming a 20 per cent capacity premium. Please note that the values have been updated for the ABB Forecast as referenced in BC Hydro's errata to the Application.

Revised Table 12a **Risked Value of Transaction at Modified Market Prices**

Basis for Post 20-yr Lease Value	Value of Transaction ($ million)	Value of Transaction Net of Purchase Price ($ million)
Market Prices (ABB)	**1,269**	**66**
Extrapolated Market Prices	**1,172**	**(31)**
Flat/Real Market Prices	**875**	**(328)**
Extrapolated Market Prices with 30% capacity premium	**1,203**	**0**
Extrapolated Market Prices with 20% capacity premium	**1,193**	**(10)**

Refer to Revised Table 12b for the analysis at both a 30 per cent and 20 per cent capacity premium under scenarios where the Lease ends in year 5, 10, or 15. Note that given the specification in the IR of an end-date for the Lease, BC Hydro's risk adjustments for default risk and the Teck extension option do not apply. As a result Revised Table 12b provides transaction values on an un-risked basis.

Revised Table 12b **Un-Risked Value of Transaction at Modified Market Prices under Default**

	Value of Transaction Net of Purchase Price ($ million)			
Default occurs in:	**Year 5**	**Year 10**	**Year 15**	**No Default**
Market Prices (ABB)	**164**	**199**	**194**	**159**
Extrapolated Market Prices	**(227)**	**(99)**	**(17)**	**29**
Flat/Real Market Prices	**(633)**	**(478)**	**(350)**	**(248)**
Extrapolated Market Prices with 30% capacity premium	**(173)**	**(57)**	**16**	**54**
Extrapolated Market Prices with 20% capacity premium	**(191)**	**(71)**	**5**	**45**

34.0 Reference: Exhibit B-1, page 31 of 90

Market Price Sensitivities

Market prices are used as the valuation index for periods where BC Hydro expects to be in an LRB surplus position. This is the case for the years prior to F2034 on an energy basis in BC Hydro's base case LRB. However, as shown in Section 4.2.2 BC Hydro has also looked at scenarios where the full generation output (net of any obligations to Teck under the Lease Agreement) is exported to external markets.

In the core analysis, BC Hydro reviewed market cases both based on ABB's market price forecast and an extrapolated curve which takes Powerex's forward market curves and extrapolates them based on the rate of change at the end of available market information. BC Hydro looked at two additional scenarios:

- BC Hydro has considered a market price scenario where current low market prices never rise on a real dollar basis.
- BC Hydro considered the potential for energy prices to decrease to the level of the extrapolated market prices, but with an increase in the value of capacity. This represents a scenario where the build-out of intermittent renewable puts a premium on capacity resources. To test this sensitivity BC Hydro applied a 30% premium to BC Hydro's currently forecast capacity price.

Table 12 shows the value under these additional price scenarios.

Table 12 Value of Transaction – Lower Market Prices

Basis for Post 20-yr Lease Value	Average market price 2039 – 2058 Energy + Capacity ($/MWh, 2018)	Net Value of Transaction ($ millions)
Market Prices (ABB)	$64.75	114
Extrapolated Market Prices	[redacted]	(31)
Flat/Real Market Prices	$28.00	(328)
Extrapolated Market Prices with 30% capacity premium	[redacted]	0

(Above energy pricing rounded to the nearest $0.25/MWh)

1.34.3 Please update Table 12 assuming a default by Teck in years 5, 10 and 15 of the Lease Period, and including scenarios for a 20% capacity premium and a 30% capacity premium.

RESPONSE:

Please refer to BC Hydro's response to CEC IR 1.34.2.

35.0 Reference: Exhibit B-1, Appendix N, page 32 of 90

Economic Life & Capital Cost Sensitivities

BC Hydro will have responsibility for the 2/3 Interest's capital requirements under the Transaction, although this responsibility will be partially passed back to Teck for the duration of the Lease Agreement. There is uncertainty in the long-term capital requirements of the 2/3 Interest, as well as the appropriate economic planning life to be applied to the project.

BC Hydro's base capital assumptions are provided in Section 2.4. BC Hydro also reviewed the potential for the capital requirements of the project to be higher or lower than expected, and for the economic life of the asset to be extended. BC Hydro looked at the following scenarios:

- The base assumption of a 40-year asset life and capital forecast corresponding to Leading Utility Practice
- A scenario where the cost of major (>$5M) capital works are increased by 50%
- A scenario where there is an unanticipated major capital project in year 21 (e.g. a $200 million project to upgrade the spillway capacity)
- A scenario where the additional capital works expected to be required to meet BC Hydro standards are not required (i.e. the Good Utility Practice approach as specified under the COA is sufficient to meet BC Hydro requirements), and continues to use a 40-year asset life.
- A scenario where BC Hydro adopts a Leading Utility Practice approach to capital spending and extends the asset life to 70 years.

1.35.1 Please elaborate on and distinguish between the requirements of the base assumption of a 40-year asset life and capital forecast corresponding to Leading Utility Practice (first bullet) and a 'scenario where BC Hydro adopts a Leading Utility Practice approach to capital spending and extends the asset life to 70 years (last bullet).

RESPONSE:

The life extension forecast (last bullet) is described in section 2 of Appendix B to the Waneta 2017 Business Case.

The 40-year asset life with leading utility practice (first bullet) is described in section 3.1 of Appendix B to the Waneta 2017 Business Case.

The main difference between these two forecasts is the level of investment in the generation, electrical and mechanical assets. In the 40-year asset life scenario investments are made that are sufficient to maintain a 40-year asset life. In the life extension scenario investments are made to extend the life beyond 40 years.

35.0 Reference: Exhibit B-1, Appendix N, page 32 of 90

Economic Life & Capital Cost Sensitivities

BC Hydro will have responsibility for the 2/3 Interest's capital requirements under the Transaction, although this responsibility will be partially passed back to Teck for the duration of the Lease Agreement. There is uncertainty in the long-term capital requirements of the 2/3 Interest, as well as the appropriate economic planning life to be applied to the project.

BC Hydro's base capital assumptions are provided in Section 2.4. BC Hydro also reviewed the potential for the capital requirements of the project to be higher or lower than expected, and for the economic life of the asset to be extended. BC Hydro looked at the following scenarios:

- The base assumption of a 40-year asset life and capital forecast corresponding to Leading Utility Practice
- A scenario where the cost of major (>$5M) capital works are increased by 50%
- A scenario where there is an unanticipated major capital project in year 21 (e.g. a $200 million project to upgrade the spillway capacity)
- A scenario where the additional capital works expected to be required to meet BC Hydro standards are not required (i.e. the Good Utility Practice approach as specified under the COA is sufficient to meet BC Hydro requirements), and continues to use a 40-year asset life.
- A scenario where BC Hydro adopts a Leading Utility Practice approach to capital spending and extends the asset life to 70 years.

1.35.1 Please elaborate on and distinguish between the requirements of the base assumption of a 40-year asset life and capital forecast corresponding to Leading Utility Practice (first bullet) and a 'scenario where BC Hydro adopts a Leading Utility Practice approach to capital spending and extends the asset life to 70 years (last bullet).

1.35.1.1 Please provide quantification for any costs that would be required under the base assumption and the latter scenario.

RESPONSE:

Please refer to sections 2 and 3.1 of Appendix B to the Waneta 2017 Business Case. Please refer to BC Hydro's letter of January 17, 2018 (Exhibit B-7) for a description of the information redacted in BC Hydro's previous submissions and the rationale for these redactions.

35.0 Reference: Exhibit B-1, Appendix N, page 32 of 90

Economic Life & Capital Cost Sensitivities

BC Hydro will have responsibility for the 2/3 Interest's capital requirements under the Transaction, although this responsibility will be partially passed back to Teck for the duration of the Lease Agreement. There is uncertainty in the long-term capital requirements of the 2/3 Interest, as well as the appropriate economic planning life to be applied to the project.

BC Hydro's base capital assumptions are provided in Section 2.4. BC Hydro also reviewed the potential for the capital requirements of the project to be higher or lower than expected, and for the economic life of the asset to be extended. BC Hydro looked at the following scenarios:

- The base assumption of a 40-year asset life and capital forecast corresponding to Leading Utility Practice
- A scenario where the cost of major (>$5M) capital works are increased by 50%
- A scenario where there is an unanticipated major capital project in year 21 (e.g. a $200 million project to upgrade the spillway capacity)
- A scenario where the additional capital works expected to be required to meet BC Hydro standards are not required (i.e. the Good Utility Practice approach as specified under the COA is sufficient to meet BC Hydro requirements), and continues to use a 40-year asset life.
- A scenario where BC Hydro adopts a Leading Utility Practice approach to capital spending and extends the asset life to 70 years.

1.35.2 Is BC Hydro definitively able to extend the life of the asset to 70 years with a Leading Utility Practice approach to capital spending? Please explain.

RESPONSE:

Leading utility practice assumes that the risks associated with the facility are pro-actively managed, and assets receive investments as needed to minimize risk and to ensure a high level of continued performance.

At the end of 70 years, Waneta would be well over 100 years old. Based on the leading utility practice, this would mean that a significant portion of the assets would have been replaced or refurbished over time and would not be original (exceptions would likely include civil assets such as the Dam or water conveyance structures, which usually have longer asset life cycles). Assuming that the assets receive an appropriate level of on-going re-investment over time, and that assets such as the Dam and Powerhouse Structures are still in acceptable condition, an extension from 40 to 70 years is believed to be possible.

There are inherent uncertainties when looking 70 years into the future, considering the assets themselves, changes in design standards, as well as the economic and regulatory environment.

36.0 Reference: Exhibit B-1, Appendix N, page 33 of 90

Table 13 Sensitivity to Capital Cost Assumptions

Capital Cost Scenario	BCH Portion of Capital (Levelized, $ millions/year)	Net Value @ ABB Prices ($ millions)	Delta to Base ABB Valuation ($ millions)
Base Case (Leading Utility Practice) @ ABB Prices	7.7	114	n/a
Cost increase of 50% for major capital works	10.8	48	(66)
Addition of $200M spillway upgrade in year 21	12.1	29	(85)
Change to Good Utility Practice	5.4	159	45
Leading Utility Practice w/ life extension to 70-years	8.9	394[5]	280

Note that while these sensitivities are shown for the ABB market scenario, the deltas shown in Table 13 are consistent across all valuation scenarios at a 6% discount rate. That is, the above deltas can be applied to other scenarios (e.g. LRMC – Clean) to arrive at the sensitivity valuation.

The impact of the capital increase sensitivities is relatively small, largely due to the timing of the impacts (spread out over a long period and/or ~20 years in the future). The effect of discounting substantially reduces the impact of these additional costs on the current value of the assets. In addition, the ongoing capital costs associated with the project are relatively small compared to the overall asset value.

1.36.1 Please discuss what constitutes 'Good Utility Practice' and how it differs from Leading Utility Practice. Please provide high level quantification for costs if available.

RESPONSE:

"Good utility practice" attempts to meet minimum regulatory requirements and expectations. BC Hydro strives to follow "leading utility practice", where risks are actively managed regardless of regulation, in the belief that simply following regulation is not sufficient to address dam safety. Rather, it is important to understand what can be reasonably accomplished to improve safety. To do so requires a higher level of inquisitiveness and proactive investigation than is currently undertaken by most dam owners. It also requires willingness to invest on the basis of achieving as large an increment of safety as is practicable. In general, the result is a lower risk tolerance level than good utility practice. Please refer to section 2 of Appendix B in the Business Case for costs (Appendix N of the Application).

Please refer to BC Hydro's letter of January 17, 2018 (Exhibit B-7) for a description of the information redacted in BC Hydro's previous submissions and the rationale for these redactions.

36.0 Reference: Exhibit B-1, Appendix N, page 33 of 90

Table 13 Sensitivity to Capital Cost Assumptions

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Note that while these sensitivities are shown for the ABB market scenario, the deltas shown in Table 13 are consistent across all valuation scenarios at a 6% discount rate. That is, the above deltas can be applied to other scenarios (e.g. LRMC – Clean) to arrive at the sensitivity valuation.

The impact of the capital increase sensitivities is relatively small, largely due to the timing of the impacts (spread out over a long period and/or ~20 years in the future). The effect of discounting substantially reduces the impact of these additional costs on the current value of the assets. In addition, the ongoing capital costs associated with the project are relatively small compared to the overall asset value.

1.36.2 Does BC Hydro currently operate under 'Good Utility Practice' or 'Leading Utility Practice' for its assets? Please explain.

RESPONSE:

BC Hydro's Dam Safety system operates under leading utility practice, as described in BC Hydro's response to CEC IR 1.36.1.

37.0 Reference: Exhibit B-1, Appendix N, page 34 of 90

- **Facility Risk:** BC Hydro would own the 2/3 Interest under the Transaction. The Lease Agreement transfers capital cost risk for small capital expenditures and identified major capital works for the Lease Term. BC Hydro retains some risk of unexpected capital works for the Lease Term, and would retain all capital risk following the Lease Agreement term or under a scenario where Teck defaulted on the Lease Agreement.

At the point BC Hydro takes control of the 2/3 Interest they would be approximately 80 years old, with corresponding heightened risk of substantial capital cost requirements. In addition, given the structure Teck will be incented to defer major capital investments until after the Lease Agreement period. As a result, BC Hydro has included expenditures to address dam safety issues both during and immediately following the Lease Term. However, there is uncertainty in both the size and timing of this cost.

BC Hydro has considered this risk by including additional capital spending within the 20-year Lease period (of which BC Hydro would pay a portion) and applying a risk premium of 20% to major capital projects. BC Hydro has also set a 40-year economic planning life for the 2/3 Interest as outlined in Section 2.4. While BC Hydro expects the asset to continue operating past this point, based on the then-100-year life of the asset BC Hydro cannot provide certainty on whether the 2/3 Interest will have a positive or negative present value past this point.

1.37.1 Why is 20% the appropriate risk premium to be applied the capital projects? Please explain.

RESPONSE:

This premium was based on managerial judgement.

37.0 Reference: Exhibit B-1, Appendix N, page 34 of 90

- **Facility Risk:** BC Hydro would own the 2/3 Interest under the Transaction. The Lease Agreement transfers capital cost risk for small capital expenditures and identified major capital works for the Lease Term. BC Hydro retains some risk of unexpected capital works for the Lease Term, and would retain all capital risk following the Lease Agreement term or under a scenario where Teck defaulted on the Lease Agreement.

At the point BC Hydro takes control of the 2/3 Interest they would be approximately 80 years old, with corresponding heightened risk of substantial capital cost requirements. In addition, given the structure Teck will be incented to defer major capital investments until after the Lease Agreement period. As a result, BC Hydro has included expenditures to address dam safety issues both during and immediately following the Lease Term. However, there is uncertainty in both the size and timing of this cost.

BC Hydro has considered this risk by including additional capital spending within the 20-year Lease period (of which BC Hydro would pay a portion) and applying a risk premium of 20% to major capital projects. BC Hydro has also set a 40-year economic planning life for the 2/3 Interest as outlined in Section 2.4. While BC Hydro expects the asset to continue operating past this point, based on the then-100-year life of the asset BC Hydro cannot provide certainty on whether the 2/3 Interest will have a positive or negative present value past this point.

1.37.2 Was the 20% applied across the board, or was it attached individually to costs based on an assessment made by BC Hydro or any other party? Please explain.

RESPONSE:

The 20 per cent was applied to capital civil works projects with expected costs $10 million and greater.

37.0 Reference: Exhibit B-1, Appendix N, page 34 of 90

- **Facility Risk:** BC Hydro would own the 2/3 Interest under the Transaction. The Lease Agreement transfers capital cost risk for small capital expenditures and identified major capital works for the Lease Term. BC Hydro retains some risk of unexpected capital works for the Lease Term, and would retain all capital risk following the Lease Agreement term or under a scenario where Teck defaulted on the Lease Agreement.

At the point BC Hydro takes control of the 2/3 Interest they would be approximately 80 years old, with corresponding heightened risk of substantial capital cost requirements. In addition, given the structure Teck will be incented to defer major capital investments until after the Lease Agreement period. As a result, BC Hydro has included expenditures to address dam safety issues both during and immediately following the Lease Term. However, there is uncertainty in both the size and timing of this cost.

BC Hydro has considered this risk by including additional capital spending within the 20-year Lease period (of which BC Hydro would pay a portion) and applying a risk premium of 20% to major capital projects. BC Hydro has also set a 40-year economic planning life for the 2/3 Interest as outlined in Section 2.4. While BC Hydro expects the asset to continue operating past this point, based on the then-100-year life of the asset BC Hydro cannot provide certainty on whether the 2/3 Interest will have a positive or negative present value past this point.

1.37.3 Please confirm that Appendix N, pages 58-63 include all the capital costs and risk premiums BC Hydro has included in addressing the facility risk.

RESPONSE:

Partially confirmed.

Pages 58 to 63 of Appendix N contain all capital costs that BC Hydro has included in addressing facility risk and most risk premiums.

In addition to the work undertaken in pages 58 to 63, BC Hydro applied a further 20 per cent risk premium to major capital projects. Please refer to page 34 of the Waneta 2017 Business Case. BC Hydro has also addressed facility risk through the sensitivity analysis conducted in section 4.2.3 of the Waneta 2017 Business Case.

Please refer to BC Hydro's letter of January 17, 2018 (Exhibit B-7) for a description of the information redacted in BC Hydro's previous submission and the rationale for these redactions.

37.0 Reference: Exhibit B-1, Appendix N, page 34 of 90

- **Facility Risk:** BC Hydro would own the 2/3 Interest under the Transaction. The Lease Agreement transfers capital cost risk for small capital expenditures and identified major capital works for the Lease Term. BC Hydro retains some risk of unexpected capital works for the Lease Term, and would retain all capital risk following the Lease Agreement term or under a scenario where Teck defaulted on the Lease Agreement.

At the point BC Hydro takes control of the 2/3 Interest they would be approximately 80 years old, with corresponding heightened risk of substantial capital cost requirements. In addition, given the structure Teck will be incented to defer major capital investments until after the Lease Agreement period. As a result, BC Hydro has included expenditures to address dam safety issues both during and immediately following the Lease Term. However, there is uncertainty in both the size and timing of this cost.

BC Hydro has considered this risk by including additional capital spending within the 20-year Lease period (of which BC Hydro would pay a portion) and applying a risk premium of 20% to major capital projects. BC Hydro has also set a 40-year economic planning life for the 2/3 Interest as outlined in Section 2.4. While BC Hydro expects the asset to continue operating past this point, based on the then-100-year life of the asset BC Hydro cannot provide certainty on whether the 2/3 Interest will have a positive or negative present value past this point.

1.37.3 Please confirm that Appendix N, pages 58-63 include all the capital costs and risk premiums BC Hydro has included in addressing the facility risk.

1.37.3.1 If not confirmed, please provide all the capital expenditures BC Hydro included to address 'facility risk' and the associated risk premiums.

RESPONSE:

Please refer to BC Hydro's response to CEC IR 1.37.3.

37.0 Reference: Exhibit B-1, Appendix N, page 34 of 90

- **Facility Risk:** BC Hydro would own the 2/3 Interest under the Transaction. The Lease Agreement transfers capital cost risk for small capital expenditures and identified major capital works for the Lease Term. BC Hydro retains some risk of unexpected capital works for the Lease Term, and would retain all capital risk following the Lease Agreement term or under a scenario where Teck defaulted on the Lease Agreement.

At the point BC Hydro takes control of the 2/3 Interest they would be approximately 80 years old, with corresponding heightened risk of substantial capital cost requirements. In addition, given the structure Teck will be incented to defer major capital investments until after the Lease Agreement period. As a result, BC Hydro has included expenditures to address dam safety issues both during and immediately following the Lease Term. However, there is uncertainty in both the size and timing of this cost.

BC Hydro has considered this risk by including additional capital spending within the 20-year Lease period (of which BC Hydro would pay a portion) and applying a risk premium of 20% to major capital projects. BC Hydro has also set a 40-year economic planning life for the 2/3 Interest as outlined in Section 2.4. While BC Hydro expects the asset to continue operating past this point, based on the then-100-year life of the asset BC Hydro cannot provide certainty on whether the 2/3 Interest will have a positive or negative present value past this point.

1.37.4 Please identify any costs to which BC Hydro has not attached a 20% risk premium.

RESPONSE:

Please refer to BC Hydro's response to CEC IR 1.37.3.

37.0 Reference: Exhibit B-1, Appendix N, page 34 of 90

- **Facility Risk:** BC Hydro would own the 2/3 Interest under the Transaction. The Lease Agreement transfers capital cost risk for small capital expenditures and identified major capital works for the Lease Term. BC Hydro retains some risk of unexpected capital works for the Lease Term, and would retain all capital risk following the Lease Agreement term or under a scenario where Teck defaulted on the Lease Agreement.

At the point BC Hydro takes control of the 2/3 Interest they would be approximately 80 years old, with corresponding heightened risk of substantial capital cost requirements. In addition, given the structure Teck will be incented to defer major capital investments until after the Lease Agreement period. As a result, BC Hydro has included expenditures to address dam safety issues both during and immediately following the Lease Term. However, there is uncertainty in both the size and timing of this cost.

BC Hydro has considered this risk by including additional capital spending within the 20-year Lease period (of which BC Hydro would pay a portion) and applying a risk premium of 20% to major capital projects. BC Hydro has also set a 40-year economic planning life for the 2/3 Interest as outlined in Section 2.4. While BC Hydro expects the asset to continue operating past this point, based on the then-100-year life of the asset BC Hydro cannot provide certainty on whether the 2/3 Interest will have a positive or negative present value past this point.

1.37.5 Please provide the impact of a 40% risk premium and a 60% risk premium.

RESPONSE:

Please refer to the following table, showing the impact of the requested adjustments to the risk premium on the ABB Forecast scenario. However, the impact of changes to capital cost is consistent no matter which price scenario used. That is, an increase to a risk premium of 40 per cent on major capital will also cause a $15 million reduction in the value of the Waneta 2017 Transaction in all price scenarios.

Capital Cost Scenario	Net Value @ ABB Prices ($ million)	Delta to Base ABB Valuation ($ million)
Leading Utility Practice w/ 20% risk premium on major capital	**66**	**n/a**
Leading Utility Practice w/ 40% risk premium on major capital	**52**	**(15)**
Leading Utility Practice w/ 60% risk premium on major capital	**37**	**(29)**

Please note that the values have been updated for the ABB Forecast as referenced in BC Hydro's errata to the Application.

37.0 Reference: Exhibit B-1, Appendix N, page 34 of 90

- **Facility Risk:** BC Hydro would own the 2/3 Interest under the Transaction. The Lease Agreement transfers capital cost risk for small capital expenditures and identified major capital works for the Lease Term. BC Hydro retains some risk of unexpected capital works for the Lease Term, and would retain all capital risk following the Lease Agreement term or under a scenario where Teck defaulted on the Lease Agreement.

At the point BC Hydro takes control of the 2/3 Interest they would be approximately 80 years old, with corresponding heightened risk of substantial capital cost requirements. In addition, given the structure Teck will be incented to defer major capital investments until after the Lease Agreement period. As a result, BC Hydro has included expenditures to address dam safety issues both during and immediately following the Lease Term. However, there is uncertainty in both the size and timing of this cost.

BC Hydro has considered this risk by including additional capital spending within the 20-year Lease period (of which BC Hydro would pay a portion) and applying a risk premium of 20% to major capital projects. BC Hydro has also set a 40-year economic planning life for the 2/3 Interest as outlined in Section 2.4. While BC Hydro expects the asset to continue operating past this point, based on the then-100-year life of the asset BC Hydro cannot provide certainty on whether the 2/3 Interest will have a positive or negative present value past this point.

1.37.6 Please confirm that the 80 years of life for Waneta at the time at which BC Hydro takes control of the interest is included in the estimated 'then 100-year life' of the asset beyond which BC Hydro cannot provide certainty.

RESPONSE:

Confirmed.

37.0 Reference: Exhibit B-1, Appendix N, page 34 of 90

- **Facility Risk:** BC Hydro would own the 2/3 Interest under the Transaction. The Lease Agreement transfers capital cost risk for small capital expenditures and identified major capital works for the Lease Term. BC Hydro retains some risk of unexpected capital works for the Lease Term, and would retain all capital risk following the Lease Agreement term or under a scenario where Teck defaulted on the Lease Agreement.

At the point BC Hydro takes control of the 2/3 Interest they would be approximately 80 years old, with corresponding heightened risk of substantial capital cost requirements. In addition, given the structure Teck will be incented to defer major capital investments until after the Lease Agreement period. As a result, BC Hydro has included expenditures to address dam safety issues both during and immediately following the Lease Term. However, there is uncertainty in both the size and timing of this cost.

BC Hydro has considered this risk by including additional capital spending within the 20-year Lease period (of which BC Hydro would pay a portion) and applying a risk premium of 20% to major capital projects. BC Hydro has also set a 40-year economic planning life for the 2/3 Interest as outlined in Section 2.4. While BC Hydro expects the asset to continue operating past this point, based on the then-100-year life of the asset BC Hydro cannot provide certainty on whether the 2/3 Interest will have a positive or negative present value past this point.

1.37.6 Please confirm that the 80 years of life for Waneta at the time at which BC Hydro takes control of the interest is included in the estimated 'then 100-year life' of the asset beyond which BC Hydro cannot provide certainty.

1.37.6.1 If not confirmed, does the 'then 100-year life of the asset' begin when BC Hydro takes control of the 2/3^{rds} interest under the Transaction?

RESPONSE:

Please refer to BC Hydro's response to CEC IR 1.37.6.

37.0 Reference: Exhibit B-1, Appendix N, page 34 of 90

- **Facility Risk:** BC Hydro would own the 2/3 Interest under the Transaction. The Lease Agreement transfers capital cost risk for small capital expenditures and identified major capital works for the Lease Term. BC Hydro retains some risk of unexpected capital works for the Lease Term, and would retain all capital risk following the Lease Agreement term or under a scenario where Teck defaulted on the Lease Agreement.

At the point BC Hydro takes control of the 2/3 Interest they would be approximately 80 years old, with corresponding heightened risk of substantial capital cost requirements. In addition, given the structure Teck will be incented to defer major capital investments until after the Lease Agreement period. As a result, BC Hydro has included expenditures to address dam safety issues both during and immediately following the Lease Term. However, there is uncertainty in both the size and timing of this cost.

BC Hydro has considered this risk by including additional capital spending within the 20-year Lease period (of which BC Hydro would pay a portion) and applying a risk premium of 20% to major capital projects. BC Hydro has also set a 40-year economic planning life for the 2/3 Interest as outlined in Section 2.4. While BC Hydro expects the asset to continue operating past this point, based on the then-100-year life of the asset BC Hydro cannot provide certainty on whether the 2/3 Interest will have a positive or negative present value past this point.

1.37.6 Please confirm that the 80 years of life for Waneta at the time at which BC Hydro takes control of the interest is included in the estimated 'then 100-year life' of the asset beyond which BC Hydro cannot provide certainty.

1.37.6.2 Does the point at which BC Hydro cannot provide certainty occur at the end of the 40-year Economic Planning Life or the end of the 20-year lease life?

RESPONSE:

The statement quoted above refers to the present value past the end of the 40-year economic planning life.

37.0 Reference: Exhibit B-1, Appendix N, page 34 of 90

- **Facility Risk:** BC Hydro would own the 2/3 Interest under the Transaction. The Lease Agreement transfers capital cost risk for small capital expenditures and identified major capital works for the Lease Term. BC Hydro retains some risk of unexpected capital works for the Lease Term, and would retain all capital risk following the Lease Agreement term or under a scenario where Teck defaulted on the Lease Agreement.

At the point BC Hydro takes control of the 2/3 Interest they would be approximately 80 years old, with corresponding heightened risk of substantial capital cost requirements. In addition, given the structure Teck will be incented to defer major capital investments until after the Lease Agreement period. As a result, BC Hydro has included expenditures to address dam safety issues both during and immediately following the Lease Term. However, there is uncertainty in both the size and timing of this cost.

BC Hydro has considered this risk by including additional capital spending within the 20-year Lease period (of which BC Hydro would pay a portion) and applying a risk premium of 20% to major capital projects. BC Hydro has also set a 40-year economic planning life for the 2/3 Interest as outlined in Section 2.4. While BC Hydro expects the asset to continue operating past this point, based on the then-100-year life of the asset BC Hydro cannot provide certainty on whether the 2/3 Interest will have a positive or negative present value past this point.

1.37.7 If BC Hydro cannot provide estimates with uncertainty ranges then is it possible that issues past this point may prove to be more costly than BC Hydro anticipated when making the acquisition and end up causing an overall negative value to the acquisition.

RESPONSE:

BC Hydro has considered the potential for capital costs to increase in the sensitivity analysis conducted in section 4.2.3 of the Waneta 2017 Business Case. Please refer to Table 13 of the Waneta 2017 Business Case.

38.0 Reference: Exhibit B-1, Appendix N, page 35 of 90

> BC Hydro has conducted due diligence on the asset condition, including a site visit, to further explore this risk and the findings of this due diligence is reflected in this report. It is noted that the due diligence process was by necessity constrained to be conducted within the ROFO period. In the case where BC Hydro proceeds with the transaction, we expect to continue to conduct due diligence following the ROFO period in order to be fully informed regarding the asset condition.

1.38.1 How long would a standard due diligence exploration of the asset condition normally take?

RESPONSE:

BC Hydro considers the due diligence undertaken with respect to the Waneta 2010 Transaction to have been appropriate. The due diligence process for the Waneta 2010 Transaction took approximately four months of dedicated work.

38.0 Reference: Exhibit B-1, Appendix N, page 35 of 90

> BC Hydro has conducted due diligence on the asset condition, including a site visit, to further explore this risk and the findings of this due diligence is reflected in this report. It is noted that the due diligence process was by necessity constrained to be conducted within the ROFO period. In the case where BC Hydro proceeds with the transaction, we expect to continue to conduct due diligence following the ROFO period in order to be fully informed regarding the asset condition.

1.38.2 How long did the constrained due diligence exploration of the asset condition take?

RESPONSE:

The due diligence process specific to the ROFO took approximately 60 days as per the ROFO timelines. Please refer to section 1.4.3 of the Application.

Outside the ROFO period, BC Hydro undertook due diligence regarding the asset throughout the period following Teck's June 2016 Sales Notice. As a result, the full due diligence process took more than one year, although BC Hydro's level of effort varied substantially over this period.

BC Hydro further notes that due diligence regarding the asset condition is an ongoing function of BC Hydro's role on the Waneta Operating Committee.

38.0 Reference: Exhibit B-1, Appendix N, page 35 of 90

> BC Hydro has conducted due diligence on the asset condition, including a site visit, to further explore this risk and the findings of this due diligence is reflected in this report. It is noted that the due diligence process was by necessity constrained to be conducted within the ROFO period. In the case where BC Hydro proceeds with the transaction, we expect to continue to conduct due diligence following the ROFO period in order to be fully informed regarding the asset condition.

1.38.3 Please discuss the areas of the standard due diligence that were not conducted due to the time constraints.

RESPONSE:

There are no areas where BC Hydro did not conduct due diligence due to time constraints. In some cases BC Hydro relied on existing work undertaken for the Waneta 2010 Transaction or by Teck as part of its sales process, but this reliance does not constitute a lack of due diligence.

38.0 Reference: Exhibit B-1, Appendix N, page 35 of 90

> BC Hydro has conducted due diligence on the asset condition, including a site visit, to further explore this risk and the findings of this due diligence is reflected in this report. It is noted that the due diligence process was by necessity constrained to be conducted within the ROFO period. In the case where BC Hydro proceeds with the transaction, we expect to continue to conduct due diligence following the ROFO period in order to be fully informed regarding the asset condition.

1.38.4 Please confirm that there are no options for BC Hydro to modify the terms of the agreement based on the condition of the asset.

RESPONSE:

Teck and its affiliates have made representations to BC Hydro as part of the agreements that make up the Waneta 2017 Transaction. Please refer to Article 3 of Appendix E to our Application. Should one of Teck's representations, including those related to the condition of the asset, be false then Teck will be in breach of the agreements and BC Hydro will have the option of terminating the agreement. Modification of the agreements based on the condition of the asset would require agreement by Teck.

Other than the above there are no options for BC Hydro to modify the terms of the agreement based on the condition of the asset, consistent with the terms of the agreements that made up the Fortis Transaction.

38.0 Reference: Exhibit B-1, Appendix N, page 35 of 90

> BC Hydro has conducted due diligence on the asset condition, including a site visit, to further explore this risk and the findings of this due diligence is reflected in this report. It is noted that the due diligence process was by necessity constrained to be conducted within the ROFO period. In the case where BC Hydro proceeds with the transaction, we expect to continue to conduct due diligence following the ROFO period in order to be fully informed regarding the asset condition.

1.38.4 Please confirm that there are no options for BC Hydro to modify the terms of the agreement based on the condition of the asset.

1.38.4.1 If not confirmed, please identify the areas of the agreement in which BC Hydro could alter the terms based on the condition of the asset.

RESPONSE:

Please refer to BC Hydro's response to CEC IR 1.38.4.

38.0 Reference: Exhibit B-1, Appendix N, page 35 of 90

> BC Hydro has conducted due diligence on the asset condition, including a site visit, to further explore this risk and the findings of this due diligence is reflected in this report. It is noted that the due diligence process was by necessity constrained to be conducted within the ROFO period. In the case where BC Hydro proceeds with the transaction, we expect to continue to conduct due diligence following the ROFO period in order to be fully informed regarding the asset condition.

1.38.4 Please confirm that there are no options for BC Hydro to modify the terms of the agreement based on the condition of the asset.

1.38.4.2 If BC Hydro had entered into negotiations with Teck during the initial auction, would BC Hydro have been constrained in its ability to conduct its due diligence? Please explain.

RESPONSE:

If BC Hydro had participated in the Teck sales process we expect we would have had the same due diligence rights as the other bidders. BC Hydro's understanding is that our capability to conduct due diligence in the pre and post-ROFO period was consistent with the due diligence rights of the bidders in the Teck sales process.

38.0 Reference: Exhibit B-1, Appendix N, page 35 of 90

> BC Hydro has conducted due diligence on the asset condition, including a site visit, to further explore this risk and the findings of this due diligence is reflected in this report. It is noted that the due diligence process was by necessity constrained to be conducted within the ROFO period. In the case where BC Hydro proceeds with the transaction, we expect to continue to conduct due diligence following the ROFO period in order to be fully informed regarding the asset condition.

1.38.5 Is BC Hydro continuing due diligence during the regulatory process?

RESPONSE:

BC Hydro is continuing due diligence during the regulatory process.

BC Hydro monitors and conducts diligence regarding the asset condition as part of its role on the Operating Committee. This monitoring and due diligence would proceed with or without the Waneta 2017 Transaction to ensure proper due diligence regarding BC Hydro's existing one-third interest in Waneta.

38.0 Reference: Exhibit B-1, Appendix N, page 35 of 90

> BC Hydro has conducted due diligence on the asset condition, including a site visit, to further explore this risk and the findings of this due diligence is reflected in this report. It is noted that the due diligence process was by necessity constrained to be conducted within the ROFO period. In the case where BC Hydro proceeds with the transaction, we expect to continue to conduct due diligence following the ROFO period in order to be fully informed regarding the asset condition.

1.38.5 Is BC Hydro continuing due diligence during the regulatory process?

1.38.5.1 If not, why not?

RESPONSE:

Please refer to BC Hydro's response to CEC IR 1.38.5.

38.0 Reference: Exhibit B-1, Appendix N, page 35 of 90

> BC Hydro has conducted due diligence on the asset condition, including a site visit, to further explore this risk and the findings of this due diligence is reflected in this report. It is noted that the due diligence process was by necessity constrained to be conducted within the ROFO period. In the case where BC Hydro proceeds with the transaction, we expect to continue to conduct due diligence following the ROFO period in order to be fully informed regarding the asset condition.

1.38.5 Is BC Hydro continuing due diligence during the regulatory process?

1.38.5.2 If yes, to the extent that any due diligence is continuing, please provide an update of any costs that BC Hydro has become aware of.

RESPONSE:

BC Hydro has not become aware of any additional costs as a result of our ongoing due diligence process.

38.0 Reference: Exhibit B-1, Appendix N, page 35 of 90

> BC Hydro has conducted due diligence on the asset condition, including a site visit, to further explore this risk and the findings of this due diligence is reflected in this report. It is noted that the due diligence process was by necessity constrained to be conducted within the ROFO period. In the case where BC Hydro proceeds with the transaction, we expect to continue to conduct due diligence following the ROFO period in order to be fully informed regarding the asset condition.

1.38.5 Is BC Hydro continuing due diligence during the regulatory process?

1.38.5.3 Please confirm that BC Hydro will update the application if any new costs associated with due diligence arise before the Commission's determination in this matter.

RESPONSE:

Confirmed, subject to the costs being material to the Waneta 2017 Transaction.

38.0 Reference: Exhibit B-1, Appendix N, page 35 of 90

> BC Hydro has conducted due diligence on the asset condition, including a site visit, to further explore this risk and the findings of this due diligence is reflected in this report. It is noted that the due diligence process was by necessity constrained to be conducted within the ROFO period. In the case where BC Hydro proceeds with the transaction, we expect to continue to conduct due diligence following the ROFO period in order to be fully informed regarding the asset condition.

1.38.6 When did BC Hydro stop due diligence assessment?

RESPONSE:

Please refer to BC Hydro's response to CEC IR 1.38.5.

38.0 Reference: Exhibit B-1, Appendix N, page 35 of 90

> BC Hydro has conducted due diligence on the asset condition, including a site visit, to further explore this risk and the findings of this due diligence is reflected in this report. It is noted that the due diligence process was by necessity constrained to be conducted within the ROFO period. In the case where BC Hydro proceeds with the transaction, we expect to continue to conduct due diligence following the ROFO period in order to be fully informed regarding the asset condition.

1.38.6.1 Please estimate a range of potential impacts in regard to issues for when due diligence has not yet been completed.

RESPONSE:

Please refer to BC Hydro's response to CEC IRs 1.38.3 and 1.38.5.

40.0 Reference: Exhibit B-1, Appendix N, page 35 of 90

- **Regulatory Risk:** BC Hydro expects to make a filing with the BCUC for the Transaction, with a possible public hearing process (written or oral). There is the potential for part or all of the transaction to be deemed to not be in the ratepayers' interests.

  This risk is partially mitigated by making the purchase of the 2/3 Interest contingent on regulatory approvals. As a result, should the BCUC reject the Transaction then the Transaction will not occur. It is expected that BC Hydro would be required to write-off transaction costs if the Transaction was rejected by the BCUC.

1.40.1 Please provide quantification of the regulatory risk.

RESPONSE:

The regulatory risk associated with the Waneta 2017 Transaction can be quantified as the opportunity cost of not completing the transaction. Please refer to the Waneta 2017 Business Case. It is uncertain at this time what additional amounts BC Hydro might be obliged to write-down if the Waneta 2017 Transaction does not close, but they would be modest in comparison to the opportunity costs.

40.0 Reference: Exhibit B-1, Appendix N, page 35 of 90

- **Regulatory Risk:** BC Hydro expects to make a filing with the BCUC for the Transaction, with a possible public hearing process (written or oral). There is the potential for part or all of the transaction to be deemed to not be in the ratepayers' interests.

  This risk is partially mitigated by making the purchase of the 2/3 Interest contingent on regulatory approvals. As a result, should the BCUC reject the Transaction then the Transaction will not occur. It is expected that BC Hydro would be required to write-off transaction costs if the Transaction was rejected by the BCUC.

1.40.2 At what level of BC Hydro surplus would the transaction not be in the interests of BC Hydro ratepayers? Please explain.

RESPONSE:

As shown in Table 19 to Appendix N, the Waneta 2017 Transaction is in the interests of BC Hydro ratepayers even in a scenario where the full generation output is exported to external markets. As such, there is no level of surplus that would make the Waneta 2017 Transaction not in the interests of BC Hydro ratepayers. As stated in section 6.2 of the Waneta 2017 Business Case, a delay in load growth (i.e., longer period of surplus) would have to be paired with at least one other adverse scenario for the Waneta 2017 Transaction to result in an adverse outcome for BC Hydro ratepayers.

41.0 Exhibit B-1, Appendix N page 37 of 90

- **Risk to Existing Agreements:** The change in ownership of the 2/3 Interest has the potential to affect a number of agreements that are not solely related to the assets themselves. The most critical of these agreements is the Canal Plant Agreement (CPA). The CPA is an agreement between BC Hydro, Teck, as well as several other parties including Fortis BC (the Entitlement Parties). [redacted]

1.41.1 Please elaborate on the potential for the existing agreements to change based on the change in ownership.

RESPONSE:

BC Hydro cannot elaborate on the risk of parties seeking to leverage the need to amend existing arrangements in consequence of the Waneta 2017 Transaction without making such leverage efforts more likely to come to pass or to cost more in lost value. This is because identifying the avenues by which such leverage efforts might be employed has the potential to identify some avenues that had not occurred to those parties, and because identifying the extent to which BC Hydro might be inclined to give up value in response to such efforts in order to preserve the transaction would undermine BC Hydro's bargaining position. All else being equal, third-party efforts to leverage the need to amend existing agreements will, to the extent successful, be reflected in lost value and higher rates for BC Hydro's ratepayers.

41.0 Exhibit B-1, Appendix N page 37 of 90

- **Risk to Existing Agreements:** The change in ownership of the 2/3 Interest has the potential to affect a number of agreements that are not solely related to the assets themselves. The most critical of these agreements is the Canal Plant Agreement (CPA). The CPA is an agreement between BC Hydro, Teck, as well as several other parties including Fortis BC (the Entitlement Parties). [redacted]

1.41.2 Please quantify the risk to existing agreements for BC Hydro.

RESPONSE:

Please refer to BC Hydro's response to CEC IR 1.41.1.

42.0 Reference: Exhibit B-1, page 37 of 90

- **Financial Risk:** The Transaction represents a substantial capital investment which will be financed through debt. Such an increase in debt has the potential to have an impact on the financial performance and/or credit health of BC Hydro and/or the Province. In order to determine the magnitude of this risk, BC Hydro and Government consulted with Moody's regarding the Transaction. As a result of this discussion [redacted]

1.42.1 Please elaborate on why the financial risk to BC Hydro needs to be redacted, and the potential harm that could arise and what the confidentiality is needed for.

RESPONSE:

Please refer to BC Hydro's letter of January 17, 2018 (Exhibit B-7) for a description of the information redacted in BC Hydro's previous submissions and the rationale for these redactions.

It is not the case, as stated in the IR, that "the financial risk to BC Hydro needs to be redacted." The Application includes extensive discussion of the risks related to the Waneta 2017 Transaction.

42.0 Reference: Exhibit B-1, page 37 of 90

- **Financial Risk:** The Transaction represents a substantial capital investment which will be financed through debt. Such an increase in debt has the potential to have an impact on the financial performance and/or credit health of BC Hydro and/or the Province. In order to determine the magnitude of this risk, BC Hydro and Government consulted with Moody's regarding the Transaction. As a result of this discussion [redacted]

1.42.2 Should the public have the ability to understand the financial risks of billion dollar acquisitions? Please explain.

RESPONSE:

Please refer to BC Hydro's letter of January 17, 2018 (Exhibit B-7) for a description of the information redacted in BC Hydro's previous submissions and the rationale for these redactions.

The Application provides an extensive analysis of the risks and benefits of the Waneta 2017 Transaction. Among other things, it is supported by the actual Waneta 2017 Business Case developed by BC Hydro, with redactions from the public record that are, in the context of all the information and analyses that are provided, quite inconsequential. BC Hydro emphatically rejects the proposition implicit in this IR that it is hiding anything that is necessary to understand the Waneta 2017 Transaction.

43.0 Reference: Exhibit B-1, Appendix N, page 38 of 90

4.3.1. Core NPV Analysis

The expected No-Go scenario is one in which BC Hydro does not participate in the Transaction and there are no incremental BC Hydro LRB impacts due to the 2/3 Interest being bought by a third party. This represents BC Hydro's base case assumptions, and thus there are no costs or benefits of this scenario.

In addition to this main scenario, there are scenarios in which the third party purchase of the 2/3 Interest has an impact on BC Hydro's LRB as outlined in Section 3.1.2. The key additional No-Go scenarios reviewed were ones with one or more of the following:

- Teck requests that the smelter load be served by BC Hydro after the Lease Term despite BC Hydro not owning the 2/3 Interest.
- Fortis BC decides to extend the 3808 PPA past 2033.

1.43.1 Is it Fortis's option to extend the 3803 PPA past 2033, or does this require BC Hydro's acceptance? Please explain.

RESPONSE:

No. The FortisBC PPA (RS 3808) will expire in accordance with its terms subject to an agreement between BC Hydro and FortisBC or a Commission order.

43.0 Reference: Exhibit B-1, Appendix N, page 38 of 90

4.3.1. Core NPV Analysis

The expected No-Go scenario is one in which BC Hydro does not participate in the Transaction and there are no incremental BC Hydro LRB impacts due to the 2/3 Interest being bought by a third party. This represents BC Hydro's base case assumptions, and thus there are no costs or benefits of this scenario.

In addition to this main scenario, there are scenarios in which the third party purchase of the 2/3 Interest has an impact on BC Hydro's LRB as outlined in Section 3.1.2. The key additional No-Go scenarios reviewed were ones with one or more of the following:

- Teck requests that the smelter load be served by BC Hydro after the Lease Term despite BC Hydro not owning the 2/3 Interest.
- Fortis BC decides to extend the 3808 PPA past 2033.

1.43.2 Please explain how BC Hydro being asked to serve Teck loads would relate to BC Hydro's self-generation policies.

RESPONSE:

Please refer to BC Hydro's response to BCUC IRs 1.63.1 and 1.63.3, BCSEA IRs 1.8.6 and 1.8.7 and BCOAPO IR 1.14.1.

44.0 Reference: Exhibit B-1, Appendix N page 44 of 90

5. Ratepayer Impact Analysis

5.1. Annual Rate Impact Analysis

BC Hydro Corporate Finance has completed an initial analysis of the rate impact of the Transaction.

First, the following core scenarios were reviewed:

- The Transaction at a purchase price of $1.2 billion[6], with no Teck default or Lease Extension, and post-lease valuation at the following indices:
  - LRMC – Clean
  - LRMC – Clean + Gas
  - BC Hydro Industrial Tariff
  - ABB market prices
  - Extrapolated market prices

Figure 6 shows the cumulative incremental rate impact for the above scenarios.

Figure 6 Cumulative Incremental Rate Impact – Core Scenarios

[redacted]

As shown, for the Transaction scenarios without default there is a beneficial impact on rates for the full evaluation period. In the initial 20-year period the Lease revenues from Teck more than offset the costs of purchasing the 2/3 Interest (which are primarily amortization and finance charges). For the period beyond the first 20 years the beneficial rate impact depends on the value of the energy.

1.44.1 Please explain the reason for the redaction of the Cumulative Ratepayer Impact Analysis.

RESPONSE:

Please refer to BC Hydro's letter of January 17, 2018 (Exhibit B-7) for a description of the information redacted in BC Hydro's previous submissions and the rationale for these redactions.

Please note that Appendix N-1 provides a version of the referenced figure with confidential information removed.

44.0 Reference: Exhibit B-1, Appendix N page 44 of 90

5. Ratepayer Impact Analysis

5.1. Annual Rate Impact Analysis

BC Hydro Corporate Finance has completed an initial analysis of the rate impact of the Transaction.

First, the following core scenarios were reviewed:

- The Transaction at a purchase price of $1.2 billion[6], with no Teck default or Lease Extension, and post-lease valuation at the following indices:
  - LRMC – Clean
  - LRMC – Clean + Gas
  - BC Hydro Industrial Tariff
  - ABB market prices
  - Extrapolated market prices

Figure 6 shows the cumulative incremental rate impact for the above scenarios.

Figure 6 Cumulative Incremental Rate Impact – Core Scenarios

[redacted]

As shown, for the Transaction scenarios without default there is a beneficial impact on rates for the full evaluation period. In the initial 20-year period the Lease revenues from Teck more than offset the costs of purchasing the 2/3 Interest (which are primarily amortization and finance charges). For the period beyond the first 20 years the beneficial rate impact depends on the value of the energy.

1.44.2 Why should the Commission not be dealing with ratepayer impact openly and transparently?

RESPONSE:

Please refer to BC Hydro's response to CEC IR 1.44.1.

44.0 Reference: Exhibit B-1, Appendix N page 44 of 90

5. Ratepayer Impact Analysis

5.1. Annual Rate Impact Analysis

BC Hydro Corporate Finance has completed an initial analysis of the rate impact of the Transaction.

First, the following core scenarios were reviewed:

- The Transaction at a purchase price of $1.2 billion[5], with no Teck default or Lease Extension, and post-lease valuation at the following indices:
  - LRMC – Clean
  - LRMC – Clean + Gas
  - BC Hydro Industrial Tariff
  - ABB market prices
  - Extrapolated market prices

Figure 6 shows the cumulative incremental rate impact for the above scenarios.

Figure 6 Cumulative Incremental Rate Impact – Core Scenarios

[redacted]

As shown, for the Transaction scenarios without default there is a beneficial impact on rates for the full evaluation period. In the initial 20-year period the Lease revenues from Teck more than offset the costs of purchasing the 2/3 Interest (which are primarily amortization and finance charges). For the period beyond the first 20 years the beneficial rate impact depends on the value of the energy.

1.44.3 Please explain the difference between Figure 6 ratepayer impacts and Figure 7 ratepayer impacts in regard to why one requires redaction and the other does not.

RESPONSE:

Figure 6 includes a scenario utilizing the Extrapolated Forecast, which is commercially sensitive information to BC Hydro. Please refer to BC Hydro's letter of January 17, 2018 (Exhibit B-7) for a description of the information redacted in BC Hydro's previous submissions and the rationale for these redactions.

Please note that Appendix N-1 provides a version of the referenced figure with confidential information removed.

Figure 7 does not include any references to the Extrapolated Forecast, and therefore no redactions are required.

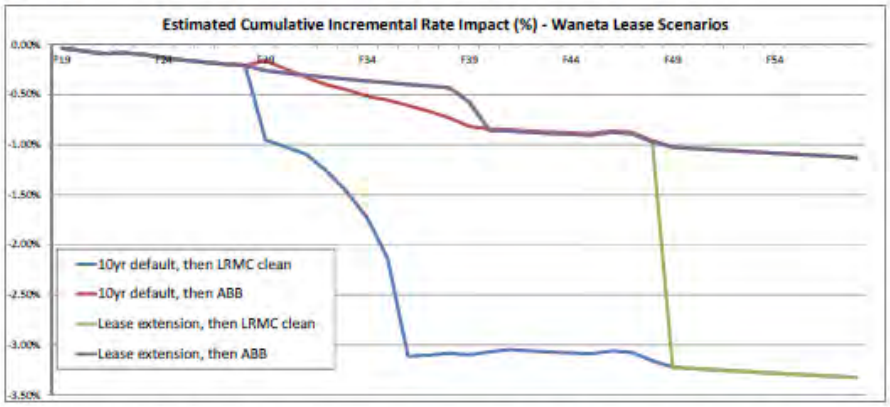
45.0 Reference: Exhibit B-1, Appendix N, page 45 of 90

BC Hydro further considered the following additional scenarios:

- The Transaction at a purchase price of $1.2 billion, with no Teck default and the 10-year Lease Extension, under both LRMC-Clean and ABB market price scenarios
- The Transaction at a purchase price of $1.2 billion, with Teck default in year 10 of the Lease, under both LRMC-Clean and ABB market price scenarios

Figure 7 shows the cumulative incremental rate impact for the additional scenarios.

Figure 7 Cumulative Incremental Rate Impact – Additional Scenarios



As shown, under both default and Lease extension scenarios the transaction provides lower rates.

- Under the default scenarios, there is a rate change upon default due to a shift from lease revenues to either market prices or LRMC (depending on BC Hydro's LRB position at the time).
- Under the Lease extension scenarios there is a step-change decrease in rates due to the change from a $40/MWh lease payment to a $53/MWh lease payment. The extension also defers the benefits of the LRMC-clean scenario by 10 years.

1.45.1 Please add the impact of the Extrapolated Market Prices to the 10-year default and the lease extension scenarios to the above Figure 7.

RESPONSE:

Please see a revised version of Figure 7 below, which includes the additional incremental rate impact lines for the Extrapolated Forecast for the 10-year default and lease extension scenarios. Please refer to section 4.1.8 of the Application and to BC Hydro's response to BCSEA IR 1.47.1 for a discussion of the use of more conservative prices, such as the Extrapolated Forecast, for sensitivity analysis.

The confidential version of Revised Figure 7 has been redacted from the public response to this IR for the reasons set out in BC Hydro's letter of January 17, 2018 (Exhibit B-7).

Confidential Version Revised Figure 7

[redacted]

The public version of Revised Figure 7, without the two requested Extrapolated Forecast scenarios is provided as Figure 7 in the Waneta 2017 Business Case.

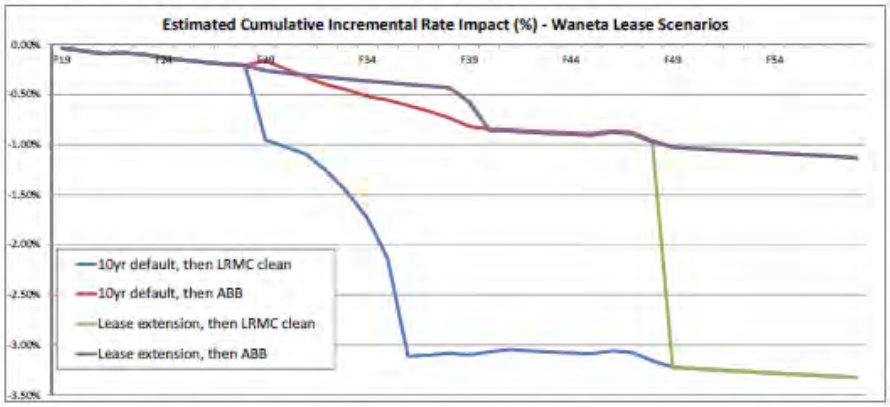
45.0 Reference: Exhibit B-1, Appendix N, page 45 of 90

BC Hydro further considered the following additional scenarios:

- The Transaction at a purchase price of $1.2 billion, with no Teck default and the 10-year Lease Extension, under both LRMC-Clean and ABB market price scenarios
- The Transaction at a purchase price of $1.2 billion, with Teck default in year 10 of the Lease, under both LRMC-Clean and ABB market price scenarios

Figure 7 shows the cumulative incremental rate impact for the additional scenarios.

Figure 7 Cumulative Incremental Rate Impact – Additional Scenarios



As shown, under both default and Lease extension scenarios the transaction provides lower rates.

- Under the default scenarios, there is a rate change upon default due to a shift from lease revenues to either market prices or LRMC (depending on BC Hydro's LRB position at the time).
- Under the Lease extension scenarios there is a step-change decrease in rates due to the change from a $40/MWh lease payment to a $53/MWh lease payment. The extension also defers the benefits of the LRMC-clean scenario by 10 years.

1.45.2 Please provide the value of a 1% rate change for each year from fiscal 2019 to fiscal 2059 and the assumed revenue requirement values for each year.

RESPONSE:

Please refer to the table below for the assumed fiscal 2019 to fiscal 2058 total revenue requirement used in the rate impact analysis for the Waneta 2017 Transaction, and the associated value of a 1 per cent rate change each year.

The annual amounts in the Total Revenue Requirements row from fiscal 2019 to fiscal 2058 in the table can also be found on Line 11 of each of the public versions of the Rate Impact Models, filed on January 17, 2018 (Exhibit B-7).

The value of a 1 per cent rate change each year is 1/100th of the total estimated revenue requirement for that year. BC Hydro's analysis did not extend to fiscal 2059.

$ million	F2019	F2020	F2021	F2022	F2023	F2024	F2025	F2026	F2027	F2028
Total Revenue Requirement (estimate)	4,844	5,004	5,219	5,464	5,695	5,944	6,153	6,357	6,559	6,781
Value of 1% rate change (revenue requirement / 100)	48	50	52	55	57	59	62	64	66	68
	F2029	F2030	F2031	F2032	F2033	F2034	F2035	F2036	F2037	F2038
Total Revenue Requirement (estimate)	6,995	7,220	7,444	7,691	7,933	8,179	8,436	8,706	8,961	9,243
Value of 1% rate change (revenue requirement / 100)	70	72	74	77	79	82	84	87	90	92
	F2039	F2040	F2041	F2042	F2043	F2044	F2045	F2046	F2047	F2048
Total Revenue Requirement (estimate)	9,540	9,871	10,182	10,522	10,877	11,201	11,413	11,645	11,900	12,138
Value of 1% rate change (revenue requirement / 100)	95	99	102	105	109	112	114	116	119	121
	F2049	F2050	F2051	F2052	F2053	F2054	F2055	F2056	F2057	F2058
Total Revenue Requirement (estimate)	12,381	12,628	12,881	13,138	13,401	13,669	13,943	14,221	14,506	14,796
Value of 1% rate change (revenue requirement / 100)	124	126	129	131	134	137	139	142	145	148

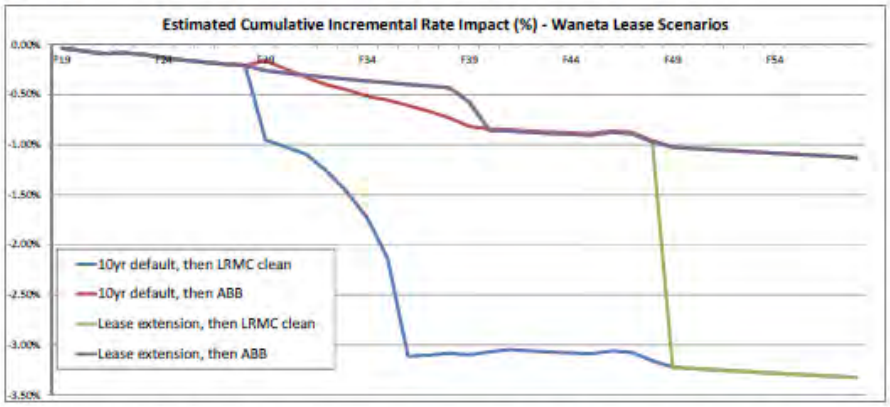
45.0 Reference: Exhibit B-1, Appendix N, page 45 of 90

BC Hydro further considered the following additional scenarios:

- The Transaction at a purchase price of $1.2 billion, with no Teck default and the 10-year Lease Extension, under both LRMC-Clean and ABB market price scenarios
- The Transaction at a purchase price of $1.2 billion, with Teck default in year 10 of the Lease, under both LRMC-Clean and ABB market price scenarios

Figure 7 shows the cumulative incremental rate impact for the additional scenarios.

Figure 7 Cumulative Incremental Rate Impact – Additional Scenarios



As shown, under both default and Lease extension scenarios the transaction provides lower rates.

- Under the default scenarios, there is a rate change upon default due to a shift from lease revenues to either market prices or LRMC (depending on BC Hydro's LRB position at the time).
- Under the Lease extension scenarios there is a step-change decrease in rates due to the change from a $40/MWh lease payment to a $53/MWh lease payment. The extension also defers the benefits of the LRMC-clean scenario by 10 years.

1.45.3 Has BC Hydro calculated the present value of the difference between these rate impacts and zero rate impacts? If so, please provide.

RESPONSE:

BC Hydro does not know how a present value calculation can be performed on a percentage rate impact. BC Hydro understands this question to be a request for the present value of ratepayer benefits for the scenarios included in Figure 7. Please refer to BC Hydro's response to BCOAPO IR 1.16.2.

2.0 Topic: Line 71

Reference: Exhibit B-1, Application Appendix N, pp. 68-70 of 90

"The following assumptions are made for the purposes of developing a recommendation on Line 71:

…

"3. The 1987 letter agreement for FortisBC rights to Line 71 use remains in place despite BC Hydro purchase of the assets, [redacted]"

1.2.2 Please describe generally the nature of the redacted content in the above-quoted statement, and explain in detail the reasons for the redaction.

RESPONSE:

Please refer to BC Hydro's letter of January 17, 2018 (Exhibit B-7) for a description of the information redacted in BC Hydro's previous submissions and the rationale for these redactions.

2.0 Topic: Line 71

Reference: Exhibit B-1, Application Appendix N, pp. 68-70 of 90

"The following assumptions are made for the purposes of developing a recommendation on Line 71:

…

"3. The 1987 letter agreement for FortisBC rights to Line 71 use remains in place despite BC Hydro purchase of the assets, [redacted]"

1.2.2 Please describe generally the nature of the redacted content in the above-quoted statement, and explain in detail the reasons for the redaction.

1.2.2.1 Does the redacted content pertain to FBC's use of Line 71 or the terms of such use?

RESPONSE:

Please refer to BC Hydro's letter of January 17, 2018 (Exhibit B-7) for a description of the information redacted in BC Hydro's previous submissions and the rationale for these redactions.

2.0 Topic: Line 71

Reference: Exhibit B-1, Application Appendix N, pp. 68-70 of 90

"The following assumptions are made for the purposes of developing a recommendation on Line 71:

…

"3. The 1987 letter agreement for FortisBC rights to Line 71 use remains in place despite BC Hydro purchase of the assets, [redacted]"

1.2.2 Please describe generally the nature of the redacted content in the above-quoted statement, and explain in detail the reasons for the redaction.

1.2.2.2 Does the redacted content describe conditions or circumstances under which FBC's rights to use Line 71 would not endure?

RESPONSE:

Please refer to BC Hydro's letter of January 17, 2018 (Exhibit B-7) for a description of the information redacted in BC Hydro's previous submissions and the rationale for these redactions.

2.0 Topic: Line 71

Reference: Exhibit B-1, Application Appendix N, pp. 68-70 of 90

"The following assumptions are made for the purposes of developing a recommendation on Line 71:

…

"3. The 1987 letter agreement for FortisBC rights to Line 71 use remains in place despite BC Hydro purchase of the assets, [redacted]"

1.2.3 Please confirm that the revenues attributed to FBC's use of Line 71 in the scenarios described on page 70 of 90 are based on the price stated in the 1987 letter agreement.

RESPONSE:

Confirmed with respect to some but not all scenarios. Given confidentiality considerations, a more fulsome response cannot be provided.

2.0 Topic: Line 71

Reference: Exhibit B-1, Application Appendix N, pp. 68-70 of 90

"The following assumptions are made for the purposes of developing a recommendation on Line 71:

…

"3. The 1987 letter agreement for FortisBC rights to Line 71 use remains in place despite BC Hydro purchase of the assets, [redacted]"

1.2.3 Please confirm that the revenues attributed to FBC's use of Line 71 in the scenarios described on page 70 of 90 are based on the price stated in the 1987 letter agreement.

1.2.3.1 If not confirmed, on what basis are the revenues calculated, and why?

RESPONSE:

Please refer to BC Hydro's response to FBC IR 1.2.3.

3.0 Topic: Line 71

Reference: Exhibit B-1, Application Appendix N, p. 69 of 90

BC Hydro includes footnote 1, commencing with "The 1987 letter agreement with Teck provides for a FortisBC wheeling cost". Portions of the remainder of this footnote are redacted.

1.3.1 Please confirm that the wheeling cost under the 1987 letter agreement and any other content that is redacted in footnote 1 is stated on the face of the 1987 letter agreement.

RESPONSE:

Confirmed. The 1987 letter is attached to BC Hydro's response to BCUC IR 1.36.1.

3.0 Topic: Line 71

Reference: Exhibit B-1, Application Appendix N, p. 69 of 90

BC Hydro includes footnote 1, commencing with "The 1987 letter agreement with Teck provides for a FortisBC wheeling cost". Portions of the remainder of this footnote are redacted.

1.3.1 Please confirm that the wheeling cost under the 1987 letter agreement and any other content that is redacted in footnote 1 is stated on the face of the 1987 letter agreement.

1.3.1.1 If not confirmed, please generally describe the nature of the redacted content and explain in detail the reasons for the redaction.

RESPONSE:

Please refer to BC Hydro's response to FBC IR 1.3.1.

3.0 Topic: Line 71

Reference: Exhibit B-1, Application Appendix N, p. 69 of 90

BC Hydro includes footnote 1, commencing with "The 1987 letter agreement with Teck provides for a FortisBC wheeling cost". Portions of the remainder of this footnote are redacted.

1.3.2 A portion of line 2 of footnote 1 is illegible but does not appear to have been deliberately redacted. Please provide the redacted version of footnote 1.

RESPONSE:

The redacted version of footnote 1 on page 69 of 90, Appendix N of Exhibit B-1 is as follows:

"The 1987 letter agreement with Teck provides for a FortisBC wheeling cost … [REDACTED] … whereas the BC Hydro OATT is approximately $8/MW/hr and $3/MW/hr ($2017, with equivalent escalation to BC Hydro electricity rates) for firm and non-firm transmission, respectively."

Please also refer to BC Hydro's response to BCUC IR 1.36.1 for a copy of the 1987 letter.

4.0 Topic: Line 71

Reference: Exhibit B-1, Application Appendix N, p. 69 of 90

BC Hydro includes footnote 2, commencing with "Currently under the Co-ownership and Operating Agreement". Portions of the remainder of this footnote are redacted.

1.4.1 Please describe generally the nature of the redacted content in footnote 2 and explain in detail the reasons for the redaction.

RESPONSE:

Please refer to BC Hydro's letter of January 17, 2018 (Exhibit B-7) for a description of the information redacted in BC Hydro's previous submissions and the rationale for these redactions.

4.0 Topic: Line 71

Reference: Exhibit B-1, Application Appendix N, p. 69 of 90

BC Hydro includes footnote 2, commencing with "Currently under the Co-ownership and Operating Agreement". Portions of the remainder of this footnote are redacted.

1.4.2 Portions of footnote 2 are also illegible but do not appear to have been deliberately redacted. Please provide the redacted version of footnote 2.

RESPONSE:

Footnote 2 from page 69 of 90, Appendix N, Exhibit B-1 reads as follows:

"Currently under the Co-ownership and Operating Agreement, in relation to BC Hydro's one-third interest in Waneta, BC Hydro has first priority capacity on Line 71 for 246 MW through 2035; and first priority on Line 71 for 123 MW after 2035…[REDACTED]"

6.0 Topic: Line 71

Reference: Exhibit B-1, Application Appendix N, p. 64 of 90

BC Hydro states under the heading "Harvest Forecasts" under the subheading "Leading Utility Practice"

> "Transmission: BC Hydro would not purchase the transmission line until 2039 under the expected scenario. As a result, BC Hydro would not make incremental investments in the transmission assets over the Lease term. BC Hydro's only addition would be in the period following the Lease:
>
> "○ A pole replacement program starting when BCH purchases the transmission assets in 2039."

The subheading "Good Utility Practice includes a similar statement.

1.6.1 Please confirm that "transmission line" in the above-quoted passages refers to Line 71.

RESPONSE:

Confirmed.

7.0 Topic: Line 71

Reference: Exhibit B-1, Application Appendix N, pp. 69-71 of 90

"BC Hydro identified three options associated with the acquisition of Line 71 transmission rights…

- Scenario 1 defers the purchase of the transmission asset until the end of the lease when it is potentially required by BC Hydro.
- Scenario 2 corresponds to the structure of Teck's transaction with Fortis Inc. where Fortis Inc. purchases the transmission assets up front and provides post-lease import rights to Teck.
- Scenario 3 avoids the purchase of the transmission assets entirely, and assumes that BCH is able to negotiate for sufficient transmission rights from Teck (or another purchaser) for the post-lease period."

1.7.1 The costs and revenues assumed in Scenario 3 result in a financial benefit to BC Hydro compared to Scenarios 1 and 2 as set out in Table 2 on page 71 of 90. Please confirm that BC Hydro considers the outcome of Scenario 3 to be a likely or reasonably plausible outcome in the case where BC Hydro does not acquire Line 71.

RESPONSE:

Given that, under scenario 3, (1) the timing of negotiations for transmission rights on Line 71 would likely occur closer to the end of the initial term of the Lease; and (2) there is uncertainty about what entity would own the asset at that time, it is difficult to quantify the likelihood of being able to negotiate a similar price as to what is used to generate the expected cost for Scenario 3 shown in Table 2 of Appendix C. However, BC Hydro does believe the results are plausible.

7.0 Topic: Line 71

Reference: Exhibit B-1, Application Appendix N, pp. 69-71 of 90

"BC Hydro identified three options associated with the acquisition of Line 71 transmission rights…

- Scenario 1 defers the purchase of the transmission asset until the end of the lease when it is potentially required by BC Hydro.
- Scenario 2 corresponds to the structure of Teck's transaction with Fortis Inc. where Fortis Inc. purchases the transmission assets up front and provides post-lease import rights to Teck.
- Scenario 3 avoids the purchase of the transmission assets entirely, and assumes that BCH is able to negotiate for sufficient transmission rights from Teck (or another purchaser) for the post-lease period."

1.7.1 The costs and revenues assumed in Scenario 3 result in a financial benefit to BC Hydro compared to Scenarios 1 and 2 as set out in Table 2 on page 71 of 90. Please confirm that BC Hydro considers the outcome of Scenario 3 to be a likely or reasonably plausible outcome in the case where BC Hydro does not acquire Line 71.

1.7.1.1 If not, why not?

RESPONSE:

Please refer to BC Hydro's response to FBC IR 1.7.1.

7.0 Topic: Line 71

Reference: Exhibit B-1, Application Appendix N, pp. 69-71 of 90

"BC Hydro identified three options associated with the acquisition of Line 71 transmission rights…

- Scenario 1 defers the purchase of the transmission asset until the end of the lease when it is potentially required by BC Hydro.
- Scenario 2 corresponds to the structure of Teck's transaction with Fortis Inc. where Fortis Inc. purchases the transmission assets up front and provides post-lease import rights to Teck.
- Scenario 3 avoids the purchase of the transmission assets entirely, and assumes that BCH is able to negotiate for sufficient transmission rights from Teck (or another purchaser) for the post-lease period."

1.7.2 Would BC Hydro be prepared to enter into an agreement with a third party owner of Line 71 regarding transmission access for BC Hydro, if the agreement were to result in a financial benefit compared to Scenarios 1 and 2, and assuming the risks that BCH attributes to Scenario 3 were to be mitigated or eliminated?

RESPONSE:

BC Hydro is unwilling to speculate on whether we would be willing to enter into such an agreement as it would depend on the agreement terms. We note that while financial benefits and risk mitigation are important considerations for a potential commercial agreement, they are not the sole considerations that BC Hydro will take into account.

7.0 Topic: Line 71

Reference: Exhibit B-1, Application Appendix N, pp. 69-71 of 90

"BC Hydro identified three options associated with the acquisition of Line 71 transmission rights…

- Scenario 1 defers the purchase of the transmission asset until the end of the lease when it is potentially required by BC Hydro.
- Scenario 2 corresponds to the structure of Teck's transaction with Fortis Inc. where Fortis Inc. purchases the transmission assets up front and provides post-lease import rights to Teck.
- Scenario 3 avoids the purchase of the transmission assets entirely, and assumes that BCH is able to negotiate for sufficient transmission rights from Teck (or another purchaser) for the post-lease period."

1.7.2 Would BC Hydro be prepared to enter into an agreement with a third party owner of Line 71 regarding transmission access for BC Hydro, if the agreement were to result in a financial benefit compared to Scenarios 1 and 2, and assuming the risks that BCH attributes to Scenario 3 were to be mitigated or eliminated?

1.7.2.1 If not, why not?

RESPONSE:

Please refer to BC Hydro's response to FBC IR 1.7.2.

8.0 Topic: Transmission Agreements

Reference: Exhibit B-1, Application, pp. 3-19 to 3-23

BC Hydro refers to the ongoing negotiation of the Waneta Transmission Agreement, the Teck Wheeling Agreement and the Waneta Interconnection Agreement.

1.8.1 Please provide an update regarding the status of these negotiations, and the expected timing for delivery of the draft agreements.

RESPONSE:

The cover letter to this IR filing explains when BC Hydro expects to file the Transmission Agreements.

9.0 Topic: Transmission Agreements

Reference: Exhibit B-1, Application, pp. 2-14, ll. 4-10

"An important element of the regional transmission system is the Kootenay Interconnection, a notional point of delivery similar to the Mid-C wholesale trading hub. Physically, the Kootenay Interconnection (singular) is the set of six points of interconnection between BC Hydro's transmission system at Kootenay Canal, Selkirk Substation and Nelway Substation, and the electrical infrastructure of other entities in the region, including Teck (at the interconnection of Line 71 and Nelway Substation)."

1.9.1 Following the sale of the transmission assets, will the points that make up the Kootenay Interconnection change?

RESPONSE:

Please refer to BC Hydro's response to FBC IR 1.9.1.1.

9.0 Topic: Transmission Agreements

Reference: Exhibit B-1, Application, pp. 2-14, ll. 4-10

"An important element of the regional transmission system is the Kootenay Interconnection, a notional point of delivery similar to the Mid-C wholesale trading hub. Physically, the Kootenay Interconnection (singular) is the set of six points of interconnection between BC Hydro's transmission system at Kootenay Canal, Selkirk Substation and Nelway Substation, and the electrical infrastructure of other entities in the region, including Teck (at the interconnection of Line 71 and Nelway Substation)."

1.9.1 Following the sale of the transmission assets, will the points that make up the Kootenay Interconnection change?

1.9.1.1 What will be the impact on these changes, if any, to the Kootenay Interconnection, and to regional transmission operations following the sale of the transmission assets?

RESPONSE:

Certain points that comprise the Kootenay Interconnection will change when BC Hydro acquires the Transmission Assets. Figure 1 below shows the current transmission configuration with the Kootenay Interconnection located where Teck's Line 71 connects to BC Hydro's Nelway Substation.

Figure 1: Current Kootenay Interconnection Points

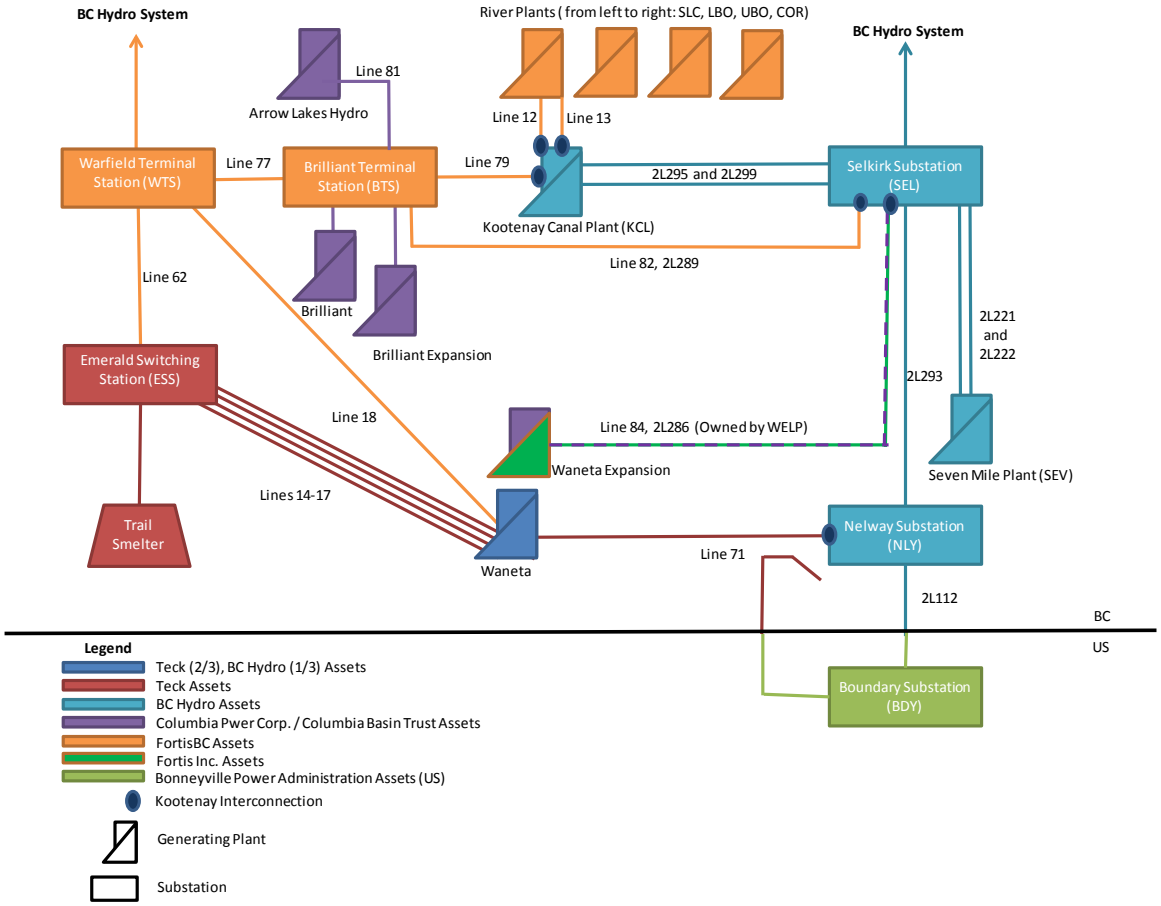
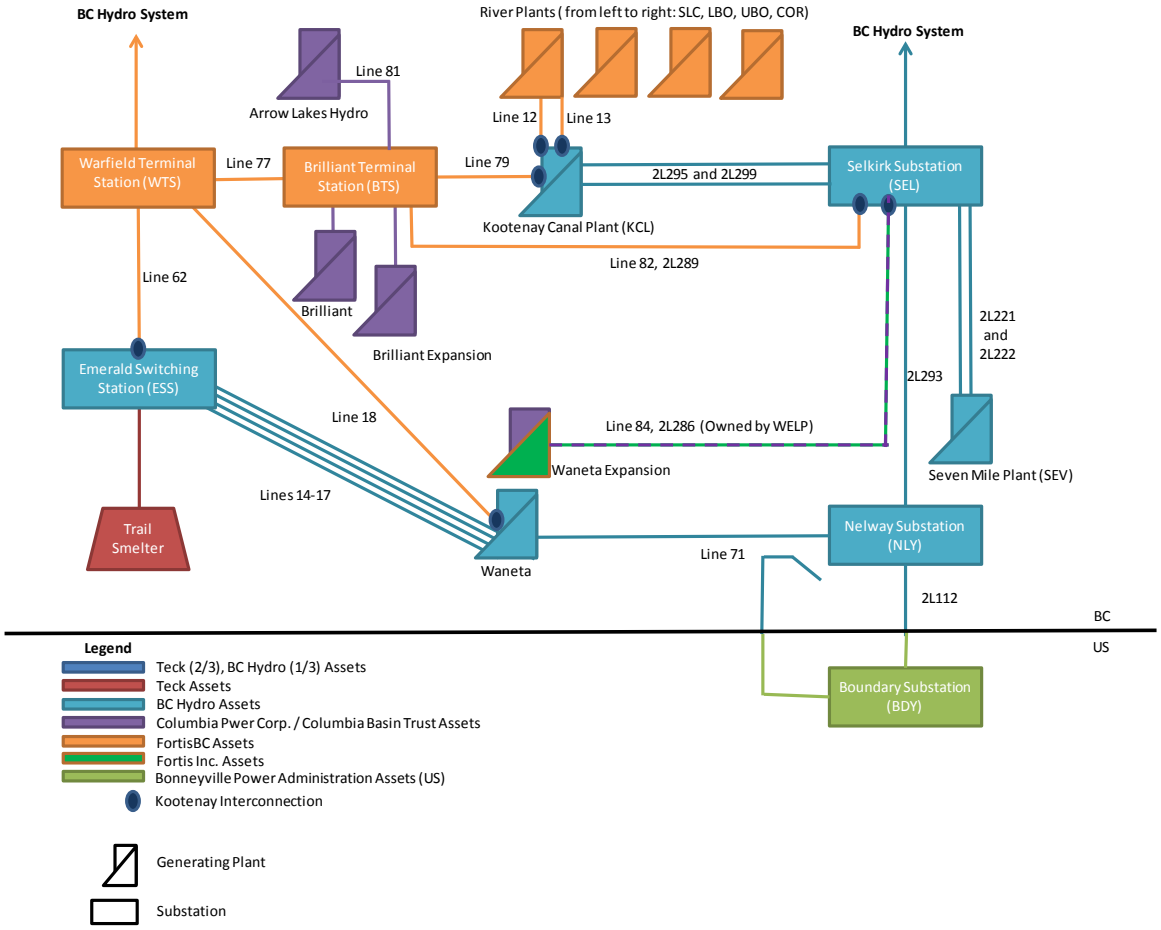


Figure 2 below shows that two new Kootenay Interconnection points will likely be created, one at Waneta Hydro Station at the point of interconnect with FortisBC's Line 18, and a second new Kootenay Interconnect at Emerald Switching Station at the point of interconnect with FortisBC's Line 62. The Kootenay Interconnect Point at Nelway will cease to exist. Such a change to the Kootenay Interconnection would be subject to approval of the entitlement parties to the CPA.

Figure 2: Post-Lease Kootenay Interconnection Points



Once BC Hydro purchases Lines 14 to 17 and L71 at the end of the Lease, BC Hydro would become the Transmission Operator and all parties would have access to these lines through BC Hydro's OATT.

9.0 Topic: Transmission Agreements

Reference: Exhibit B-1, Application, pp. 2-14, ll. 4-10

"An important element of the regional transmission system is the Kootenay Interconnection, a notional point of delivery similar to the Mid-C wholesale trading hub. Physically, the Kootenay Interconnection (singular) is the set of six points of interconnection between BC Hydro's transmission system at Kootenay Canal, Selkirk Substation and Nelway Substation, and the electrical infrastructure of other entities in the region, including Teck (at the interconnection of Line 71 and Nelway Substation)."

1.9.2 Please provide the results of any studies undertaken to examine what the impacts on the local transmission system might be with these assets and the connected Waneta Generating Plant now on the BC Hydro side rather than the FBC side of the interconnection point.

RESPONSE:

No physical changes to any of BC Hydro's, FortisBC's, or Teck's respective systems are required to move the interconnection point to the BC Hydro side of the Waneta generating station. Rather, it is a contractual change in the definition of the interconnection. As such there is no expected change in the capability of the transmission system and no studies were required.

10.0 Topic: Transmission Agreements

Reference: Exhibit B-1, Application Appendix E, p. 69 of 95

The Waneta Purchase Agreement provided in Appendix E includes under the heading "Material Contracts that are Waneta Assumed Contracts" (a 2/3 interest in which will be assigned to BC Hydro) Item 25, the Waneta 18 Line Agreement between Teck and FBC.

1.10.1 Does BC Hydro expect that the Transaction may have any impact on the Waneta 18 Line Agreement during the Lease Period and after the Lease Period?

RESPONSE:

BC Hydro has no reason to expect that the Waneta 2017 Transaction would have any impact on the Waneta 18 Line Agreement between Teck and FortisBC during or after the Lease Period. However, after the Lease Period Teck will assign its Waneta 18 Line Agreement rights to BC Hydro.

10.0 Topic: Transmission Agreements

Reference: Exhibit B-1, Application Appendix E, p. 69 of 95

The Waneta Purchase Agreement provided in Appendix E includes under the heading "Material Contracts that are Waneta Assumed Contracts" (a 2/3 interest in which will be assigned to BC Hydro) Item 25, the Waneta 18 Line Agreement between Teck and FBC.

1.10.1 Does BC Hydro expect that the Transaction may have any impact on the Waneta 18 Line Agreement during the Lease Period and after the Lease Period?

1.10.2 If so, please explain the nature of any impacts that the Transaction may have on the Waneta 18 Line Agreement during the Lease Period and after the Lease Period.

RESPONSE:

Please refer to BC Hydro's response to FBC IR 1.10.1.

10.0 Topic: Transmission Agreements

Reference: Exhibit B-1, Application Appendix E, p. 69 of 95

The Waneta Purchase Agreement provided in Appendix E includes under the heading "Material Contracts that are Waneta Assumed Contracts" (a 2/3 interest in which will be assigned to BC Hydro) Item 25, the Waneta 18 Line Agreement between Teck and FBC.

1.10.2.1 When is the 2/3 interest in the Waneta 18 Line Agreement to be transferred to BC Hydro?

RESPONSE:

It is anticipated that the two-thirds interest in the Waneta 18 Line Agreement will be transferred to BC Hydro at the time that BC Hydro purchases the Waneta Hydro Station (as part of the Transmission Assets) after the end of the Lease.

12.0 Topic: Canal Plant Agreement and Related Agreements

Reference: Exhibit B-1, Application Appendix N, p. 10 of 90.

"…BC Hydro has been in discussion with Teck to update the current Waneta entitlement volumes. If more recent information is used as desired by BC Hydro the entitlement volumes will be reduced. These discussions were halted with the potential sale of Waneta and no formal agreement on updated entitlement amounts have been reached by the parties."

1.12.1 Will the redetermination process resume once the sale has been completed?

RESPONSE:

Please refer to BC Hydro's response to BCSEA IR 1.16.8.

12.0 Topic: Canal Plant Agreement and Related Agreements

Reference: Exhibit B-1, Application Appendix N, p. 10 of 90.

"…BC Hydro has been in discussion with Teck to update the current Waneta entitlement volumes. If more recent information is used as desired by BC Hydro the entitlement volumes will be reduced. These discussions were halted with the potential sale of Waneta and no formal agreement on updated entitlement amounts have been reached by the parties."

1.12.2 What will be the potential impact to the other Entitlement Parties of the redetermination?

RESPONSE:

Any redetermination for the Waneta plant would also affect the Waneta Expansion Project. The potential impact of the currently contemplated redetermination on the Waneta Expansion Project entitlement is expected to be minor and result primarily in a reshaping of the entitlement energy through the year.

Please refer to BC Hydro's response to BCSEA IRs 1.16.4 and 1.16.6 for additional details on the process and materiality of the change that may result from a redetermination.

13.0 Topic: Business Case

Reference: Exhibit B-1, Application, p. 4-19, ll. 7-10

Under the heading "Alternative Analysis", BC Hydro states: "For its part, FortisBC has its own generation, load-serving obligations and, importantly, is a customer of BC Hydro under Rate Schedule 3808 – Power Purchase Agreement (3808 PPA), which is due to expire in 2033."

1.13.1 Please explain the relevance of the sentence quoted above to the remainder of this paragraph of the Application.

RESPONSE:

The referenced sentence from the Application sets out the facts, in part, that informed BC Hydro's decision to assess variations of the no-go scenario, including the possibility that FortisBC would have to serve the smelter load without the benefit of access to generation from Waneta (it being in the hands of Fortis Inc., an unregulated entity without public utility obligations under the Fortis Transaction).

14.0 Topic: Business Case

Reference: Exhibit B-1, Application, p. 4-19, ll. 10-13

"Finally, BC Hydro also considered that as a Crown corporation and an agent of the government, load-serving obligations could be imposed on it in the future that it does not currently have and that would not necessarily be imposed upon non-Crown utilities."

1.14.1 Please explain the relevance of this statement to the Application.

RESPONSE:

Please refer to BC Hydro's response to BCSEA IR 1.1.1.

14.0 Topic: Business Case

Reference: Exhibit B-1, Application, p. 4-19, ll. 10-13

"Finally, BC Hydro also considered that as a Crown corporation and an agent of the government, load-serving obligations could be imposed on it in the future that it does not currently have and that would not necessarily be imposed upon non-Crown utilities."

1.14.2 What load-serving obligations might BC Hydro have that would not also be an obligation of FBC (as a non-Crown utility)?

RESPONSE:

Please refer to BC Hydro's response to BCSEA IR 1.1.1. As a non-Crown utility, it is relatively unlikely that obligations would be imposed on FortisBC for the purpose of serving provincial policy objectives.

15.0 Topic: Business Case

Reference: Exhibit B-1, Application Appendix N, p. 4 of 90

Under a heading "Risk of Amendments to Other Agreements", BC Hydro has made redactions on three lines.

1.15.1 Do any of the redactions in this portion of Appendix N refer to one or more agreements involving FBC?

RESPONSE:

Please refer to BC Hydro's letter of January 17, 2018 (Exhibit B-7) for a description of the information redacted in BC Hydro's previous submissions and the rationale for these redactions.

15.0 Topic: Business Case

Reference: Exhibit B-1, Application Appendix N, p. 4 of 90

Under a heading "Risk of Amendments to Other Agreements", BC Hydro has made redactions on three lines.

1.15.2 If so, which agreements?

RESPONSE:

Please refer to BC Hydro's letter of January 17, 2018 (Exhibit B-7) for a description of the information redacted in BC Hydro's previous submissions and the rationale for these redactions.

15.0 Topic: Business Case

Reference: Exhibit B-1, Application Appendix N, p. 4 of 90

Under a heading "Risk of Amendments to Other Agreements", BC Hydro has made redactions on three lines.

1.15.3 If so, what is the nature of the amendments that BC Hydro contemplates?

RESPONSE:

Please refer to BC Hydro's letter of January 17, 2018 (Exhibit B-7) for a description of the information redacted in BC Hydro's previous submissions and the rationale for these redactions.

16.0 Topic: Business Case

Reference: Exhibit B-1, Application Appendix N, p. 42 of 90

BC Hydro includes the heading "Risk to Existing Agreements" and has redacted a portion of the first paragraph.

1.16.1 Does the redacted wording refer to any agreements involving FBC?

RESPONSE:

Please refer to BC Hydro's letter of January 17, 2018 (Exhibit B-7) for a description of the information redacted in BC Hydro's previous submissions and the rationale for these redactions.

16.0 Topic: Business Case

Reference: Exhibit B-1, Application Appendix N, p. 42 of 90

BC Hydro includes the heading "Risk to Existing Agreements" and has redacted a portion of the first paragraph.

1.16.2 If so, to which agreements does the redacted wording refer?

RESPONSE:

Please refer to BC Hydro's letter of January 17, 2018 (Exhibit B-7) for a description of the information redacted in BC Hydro's previous submissions and the rationale for these redactions.

17.0 Topic: Business Case

Reference: Exhibit B-1, Application Appendix N, p. 50 of 90

The Business Case provides: "In order to find a scenario in which the Transaction results in regret (i.e. is not cost-effective) one or more of the following would have to occur". BC Hydro then lists four items.

After listing the four items, BC Hydro states: "BC Hydro considers the combination of the above factors that would result in transaction regret to be unlikely. As a result, BC Hydro concludes that the Transaction is cost-effective and subject to a tolerable level of commercial risk."

1.17.1 Please clarify whether transaction "regret" would arise only from a "combination" of factors (as is indicated in the second-quoted sentence) or could occur from only one (as is indicated in the first-quoted sentence).

RESPONSE:

Based on the analysis in the Waneta 2017 Business Case, "regret" would arise only from a combination of factors. There is no single factor that results in transaction regret.

18.0 Topic: Business Case

Reference: Exhibit B-1, Application, p. 4-20, ll. 11-23

Under the heading "Incremental Value Potential", BC Hydro states that it "expects that additional value from the transaction can be expected to arise in a number of ways", and includes "Additional OATT revenue" in the list that follows.

1.18.1 Please explain how BC Hydro envisions that additional OATT revenue would be derived from the transaction that is the subject of its Application.

RESPONSE:

The Waneta 2017 Transaction includes the eventual purchase of Line 71 and other related Transmission Assets. When ownership is transferred to BC Hydro, these assets will become part of the BC Hydro's system and will generally be subject to OATT charges. The acquisition of the Transmission Assets is therefore expected to result in additional OATT revenue.

18.0 Topic: Business Case

Reference: Exhibit B-1, Application, p. 4-20, ll. 11-23

Under the heading "Incremental Value Potential", BC Hydro states that it "expects that additional value from the transaction can be expected to arise in a number of ways", and includes "Additional OATT revenue" in the list that follows.

1.18.2 From whom does BC Hydro envision collecting additional OATT revenue?

RESPONSE:

The additional OATT revenue would be collected from any party taking OATT service across Line 71.

19.0 Topic: Business Case

Reference: Exhibit B-1, Application Appendix N, p. 38 of 90.

"A scenario where BC Hydro does not participate in the Transaction may still have costs and/or benefits associated with it. Even if BC Hydro does not participate in the Transaction, BC Hydro is a party to multiple agreements that will have to be amended if the 2/3 Interest is purchased by another entity. These amendments will have associated transaction costs associated with them, as well as the potential for commercial costs or benefits."

1.19.1 Please identify and quantify the "associated transaction costs" and the "potential for commercial costs or benefits" for the "no-go" scenario.

RESPONSE:

The transaction costs and commercial costs or benefits would occur assuming Teck sold Waneta to a third-party other than BC Hydro.

Transaction costs would include:

- **Staff and consultant costs associated with the assessment of the sale notice.**
- **Staff and consultant costs related to the renegotiation and amendment of agreements, including but not limited to the CPA.**
- **Staff and consultant costs for regulatory proceedings, if any, related to the third-party transaction.**

The transaction costs and potential commercial costs or benefits for a third-party transaction will vary significantly depending on the type of transaction and the nature of the contractual amendments and regulatory processes required. As a result, BC Hydro cannot identify the potential commercial costs or benefits, nor quantify the commercial costs and benefits or transaction costs for a hypothetical third-party transaction. BC Hydro does offer that transaction costs would a) exclude property transfer tax, and b) likely be less than BC Hydro has included for non-tax costs related to completion of the Waneta 2017 Transaction.

20.0 Topic: Business Case

Reference: Exhibit A-4, BCUC Information Request No. 1 to BC Hydro, IR 56.2

BCUC asks: "Please confirm that the amortization of the initial capital is based on the initial purchase price of $1.203 billion plus $50 million in transaction costs. If not confirmed, please explain."

1.20.1 What is the remaining net book value of the assets associated with the $1.203 billion purchase price?

RESPONSE:

As the purchase has not yet been made, there is no net book value on BC Hydro's books of the assets relating to the Waneta 2017 Transaction.

If the question is referring to the net book value of the assets on Teck's books, BC Hydro does not have this information. However, in a news release dated May 12, 2017 related to the Fortis Transaction, it is noted that "Teck expects to realize a net book gain of approximately $800 million on the closing of the transaction."[1]

[1] https://www.teck.com/news/news-releases/2017/fortis-and-teck-announce-waneta-dam-agreement

21.0 Topic: Review of Waneta Capital Expenditure Forecasts

Reference: Exhibit B-1, Application Appendix N, p. 62 of 90

1.21.1 A portion of section 2.3 is illegible but does not appear to have been deliberately redacted. Please provide the full text of the portion of section 2.3 on page 62 of 90.

RESPONSE:

The wording in section 2.3, page 62 of 90, Appendix N of Exhibit B-1 reads as follows:

"2.3. Transmission and Stations

Estimated Capital Requirements

The estimate of potential transmission capital requirements covers only those requirements associated with:

- the Facility substation,

- the transmission lines connecting the substation to the generating Facility (Lines 1-4)

- Line 71

- A portion of Emerald substation.

The identified capital requirements for the assets within the current scope are:

- Rehabilitation and/or replacement of the transformers and circuit breakers within the substation (estimated cost of $25 million)…[The remaining words are redacted]"

22.0 Topic: Alternative Transaction Structures

Reference: Exhibit B-1, Application Appendix N, p. 22 of 90

"If BC Hydro purchases the 2/3 interest there may be additional opportunities to optimize the Transaction through inclusion of a partner following the purchase – in order to maintain this option BC Hydro is seeking to add a right to assign the Transaction to another party."

1.22.1 By what process would BC Hydro undertake to identify potential partners and to enter into such a partnership?

RESPONSE:

BC Hydro will not enter into any partnerships prior to the closing of the Waneta 2017 Transaction. Following closing, BC Hydro could identify potential partners using the following methods:

- **Initiate discussions with third-parties that showed interest in partnering with BC Hydro during the Teck sales process.**
- **Identify additional potential partners through discussions with BC Hydro's financial advisors.**
- **Determine if any of the identified third-parties would have the ability or capacity to enhance value, whether from a financial, technical or operating perspective, to the Waneta Assets relative to BC Hydro owning them on the standalone basis.**

The process for entering into a partnership with a third-party would depend on the nature of the third-party and the contemplated transaction structure and would be subject to the heritage asset status of Waneta.

22.0 Topic: Alternative Transaction Structures

Reference: Exhibit B-1, Application Appendix N, p. 22 of 90

"If BC Hydro purchases the 2/3 interest there may be additional opportunities to optimize the Transaction through inclusion of a partner following the purchase – in order to maintain this option BC Hydro is seeking to add a right to assign the Transaction to another party."

1.22.1.1 What criteria would BC Hydro use in evaluating a potential partner?

RESPONSE:

BC Hydro would utilize criteria including, but not limited to:

- **The potential partner's capability to enter into partnership and the potential resulting transaction.**
- **The potential partner's ability to enhance the value of the transaction to BC Hydro from a financial, technical or operating perspective.**
- **Any additional risks presented by a transaction with the potential partner.**

There may be other considerations depending on the nature of the potential partner and the transaction under consideration.

Please refer to BC Hydro's response to FBC IR 1.22.1.

22.0 Topic: Alternative Transaction Structures

Reference: Exhibit B-1, Application Appendix N, p. 22 of 90

"If BC Hydro purchases the 2/3 interest there may be additional opportunities to optimize the Transaction through inclusion of a partner following the purchase – in order to maintain this option BC Hydro is seeking to add a right to assign the Transaction to another party."

1.22.2 If BC Hydro were to add a potential partner, would it seek Commission approval?

RESPONSE:

BC Hydro is not adding a potential partner to the Waneta 2017 Transaction. If it were to do so at some future time it would give consideration then to whether any Commission orders would be required.

23.0 Topic: Load Resource Balance

Reference: Exhibit B-1, Application Appendix Q, p. 1 of 4

A BC Hydro news release dated August 1, 2017 states: "The transaction includes a 20-year lease agreement where the electricity generated from the two-thirds share will continue to supply power to the Teck smelter in Trail at set prices. Teck also has an option to extend the lease by a further 10 years. As a result, this decision has no impact on BC Hydro's energy supply and demand balance."

1.23.1 What is the "decision" referred to in the last sentence of the above-quoted paragraph?

RESPONSE:

The decision referred to is the decision to exercise BC Hydro's ROFO rights with respect to the Sale Notice.

25.0 Topic: Long Run Marginal Cost

Reference: Exhibit B-1, Application, p. 4-7, ll. 6-7

"BC Hydro's estimated long-run marginal cost of a combined block of new energy and capacity resources equivalent to Waneta, in 2018 dollars, is $145/MWh."

1.25.1 How does the $145/MWh compare to the current BC Hydro long-run marginal cost currently used for rate-making purposes?

RESPONSE:

The $145/MWh (fiscal 2018$) referenced in this IR is a <u>blended energy and capacity</u> product. It is an appropriate measure of the avoided cost of energy and capacity resources for the Waneta entitlement.

The last BC Hydro rate design application before the Commission was the 2015 Rate Design Application. In that proceeding BC Hydro's LRMC of energy for rate-making purposes, as accepted by the Commission, was $85/MWh (fiscal 2013$). See pages 10-11 of the Commission's January 20, 2017 decision accompanying Order No. G-5-17. This $85/MWh LRMC is comparable to the $106/MWh (fiscal 2018$) cost of marginal <u>energy</u> resources in Table 3 of Appendix N which is a component of the $145/MWh blended LRMC.

1.0 INCREMENTAL SYSTEM BENEFITS OF THE TRANSACTION

Reference: Exhibit A-1 Application pages 1-4 to 1-5:

During the Lease Period there will be no difference in the operation of Waneta, as a result of the sale of the Waneta Assets, relative to the current arrangements. For example, BC Hydro will continue to provide operating instructions for Waneta through the Canal Plant Agreement (CPA); generation and water flows on the Pend d'Oreille River will be the same as they would be in the absence of the transaction; FortisBC will continue to operate and maintain the entirety of Waneta under contract to Teck; and Teck's two-thirds leasehold interest in Waneta will continue to be used to serve its smelter load in Trail as it currently does.

Upon expiration or termination of the Lease, the entirety of Waneta will be used to meet BC Hydro's domestic load-serving obligations or, if BC Hydro has generating capacity in excess of those obligations, will be available for electricity sales on the wholesale market. The post-Lease Period does not begin until at least 2038, and, at the election of Teck, may not begin until 2048. However, BC Hydro's most recent government-approved long-term load-resource plan - the 2013 IRP - extends to 2033. It follows that there is a fair degree of uncertainty about when and how Waneta will fit into BC Hydro's resource stack. . . .

1.1.1 Please confirm that the transaction will not convey any incremental benefits to BC Hydro customers in the operation of its generation, transmission and distribution systems until at least 2038 or, if Teck exercises its option, 2048, unless Teck closes its smelter operation in the interim. If not confirmed please explain and quantify those benefits in detail.

RESPONSE:

The Waneta 2017 Transaction essentially continues the current operation of the BC Hydro's generation, transmission and distribution systems for the term of the Lease.

1.0 INCREMENTAL SYSTEM BENEFITS OF THE TRANSACTION

Reference: Exhibit A-1 Application pages 1-4 to 1-5:

During the Lease Period there will be no difference in the operation of Waneta, as a result of the sale of the Waneta Assets, relative to the current arrangements. For example, BC Hydro will continue to provide operating instructions for Waneta through the Canal Plant Agreement (CPA); generation and water flows on the Pend d'Oreille River will be the same as they would be in the absence of the transaction; FortisBC will continue to operate and maintain the entirety of Waneta under contract to Teck; and Teck's two-thirds leasehold interest in Waneta will continue to be used to serve its smelter load in Trail as it currently does.

Upon expiration or termination of the Lease, the entirety of Waneta will be used to meet BC Hydro's domestic load-serving obligations or, if BC Hydro has generating capacity in excess of those obligations, will be available for electricity sales on the wholesale market. The post-Lease Period does not begin until at least 2038, and, at the election of Teck, may not begin until 2048. However, BC Hydro's most recent government-approved long-term load-resource plan - the 2013 IRP - extends to 2033. It follows that there is a fair degree of uncertainty about when and how Waneta will fit into BC Hydro's resource stack. . . .

1.1.2 Please confirm that the extent to which such incremental system benefits are realized will be influenced by whether and to what extent Teck maintains the operation of its smelter beyond 2048, assuming that it continues to make use of Waneta output for that purpose. If not confirmed, please explain in detail.

RESPONSE:

Teck has no right to use Waneta output after the expiry or termination of the Lease. BC Hydro has reviewed multiple valuation scenarios including ones that do and do not involve BC Hydro providing service to Teck's smelter following the Lease.

1.0 INCREMENTAL SYSTEM BENEFITS OF THE TRANSACTION

Reference: Exhibit A-1 Application pages 1-4 to 1-5:

During the Lease Period there will be no difference in the operation of Waneta, as a result of the sale of the Waneta Assets, relative to the current arrangements. For example, BC Hydro will continue to provide operating instructions for Waneta through the Canal Plant Agreement (CPA); generation and water flows on the Pend d'Oreille River will be the same as they would be in the absence of the transaction; FortisBC will continue to operate and maintain the entirety of Waneta under contract to Teck; and Teck's two-thirds leasehold interest in Waneta will continue to be used to serve its smelter load in Trail as it currently does.

Upon expiration or termination of the Lease, the entirety of Waneta will be used to meet BC Hydro's domestic load-serving obligations or, if BC Hydro has generating capacity in excess of those obligations, will be available for electricity sales on the wholesale market. The post-Lease Period does not begin until at least 2038, and, at the election of Teck, may not begin until 2048. However, BC Hydro's most recent government-approved long-term load-resource plan - the 2013 IRP - extends to 2033. It follows that there is a fair degree of uncertainty about when and how Waneta will fit into BC Hydro's resource stack. . . .

1.1.3 Please confirm that the extent to which such incremental system benefits are realized will depend upon the continued status and operation of the Canal Plant Agreement (or any modified or new agreements of a similar nature covering the Waneta facility). If not confirmed, please explain in detail.

RESPONSE:

Not confirmed. At the conclusion of the Lease, Waneta will substantially be removed from the CPA. The only function it will have in the CPA is as follows:

- **It will continue to be modeled in the entitlement studies for the Waneta Expansion Project, and**
- **Waneta's operation will continue to be coordinated with the Waneta Expansion project.**

As such, the system benefits from the Waneta 2017 Transaction are not dependent upon the continued status and operation of the CPA.

2.0 SUMMARY OF ANTICIPATED SYSTEM BENEFITS

COMMENTARY: This Information Request is aimed at incremental system benefits in the operation and management of BC Hydro's generation, transmission and distribution resources that flow from the increase in BC Hydro's ownership stake in the Waneta facility resulting from the purchase transaction (viewed in isolation) as compared with two alternative scenarios:

(a) Maintenance of the pre-transaction status quo, and subject to a continuation of pre-transaction ownership, management and dispatch arrangements, and
(b) Completion of the proposed purchase by FortisBC had it not been potentially pre-empted by BC Hydro's exercise of its option to purchase Teck's interest in the facility.

1.2.1 Using the most up-to-date data (including data compiled in response to the Commission's Information Request #1), please provide the following information in table form and discuss the results, under each of the two alternative scenarios described above:

i. Identification of system benefit to BC Hydro customers
ii. Description and quantification of the benefit
iii. Anticipated date when the benefit would begin to operate
iv. Duration of the benefit
v. Contingencies affecting realization and extent of the benefit
vi. Value of the benefit

Please also provide any additional information relevant to the quantification and timing of any such system benefit.

RESPONSE:

The Waneta 2017 Transaction is not expected to have an impact on the operation and management of BC Hydro's generation, transmission and distribution resources. As such, there are no expected system benefits to be realized as a result of the Waneta 2017 transaction compared to the status quo. BC Hydro cannot speculate on whether the Fortis Transaction would have resulted in changes to the operation and management of the system as is therefore unable to quantify any potential impacts to BC Hydro's generation, transmission and distribution resources.

Please refer to the Waneta 2017 Business Case for a description of the ratepayer benefits that were considered in the decision to proceed with the Waneta 2017 Transaction.

3.0 RENEGOTIATION AND EXEMPTION OF CANAL PLANT AGREEMENT

Reference: Exhibit B-1, Application, Page 1-4, footnote 7:

7 The CPA will require amendments to accommodate Teck as a leasehold owner instead of an asset owner of the Waneta Dam and a handful of other miscellaneous issues, as explained in section 2.5.6.

1.3.1 In BC Hydro's view, does the Commission have the jurisdiction to revisit the exemption of the CPA from regulation, in the event of its substantial modification? If not, why not?

RESPONSE:

The CPA, as amended from time, is exempt from Commission regulation by Order No. G-41-06 "from all provisions of the Act". That is, the Commission did not expressly reserve for itself the right to re-visit the order. Moreover, the exemption order was issued pursuant to section 88(3) of the *UCA*, which requires the advance approval of the Lieutenant Governor in Council. In these circumstances, BC Hydro does not believe that the Commission has a unilateral right to re-visit Order No. G-41-06.

3.0 RENEGOTIATION AND EXEMPTION OF CANAL PLANT AGREEMENT

Reference: Exhibit B-1, Application, Page 1-4, footnote 7:

7 The CPA will require amendments to accommodate Teck as a leasehold owner instead of an asset owner of the Waneta Dam and a handful of other miscellaneous issues, as explained in section 2.5.6.

1.3.2 In BC Hydro's view, at what point do modifications of a contract that is exempt from regulation by the Commission make it appropriate for the Commission to revisit its exemption? Please detail BC Hydro's position including the following considerations:

(a) Changes to parties to the contract
(b) Changes to the scope of control over dispatch and other operational determinations exercised by any party
(c) Changes to the system, economic and financial impacts and benefits of the contract in relation to any party or its customers
(d) Novation of the contract

RESPONSE:

Please refer to BC Hydro's response to MoveUp IR 1.3.1.

3.0 RENEGOTIATION AND EXEMPTION OF CANAL PLANT AGREEMENT

Reference: Exhibit B-1, Application, Page 1-4, footnote 7:

7 The CPA will require amendments to accommodate Teck as a leasehold owner instead of an asset owner of the Waneta Dam and a handful of other miscellaneous issues, as explained in section 2.5.6.

1.3.3 Does BC Hydro anticipate that modifications to the CPA, including those referenced in footnote 7, will call for a review of its exemption from regulation?

RESPONSE:

BC Hydro is not aware of anyone advocating for a review of Commission Order No. G-41-06.