BC Hydro
Power smart

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April 12, 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

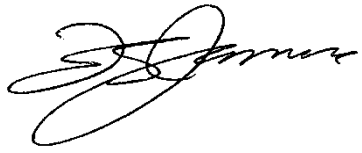
BC Hydro writes in accordance with BCUC Order No. G-70-18 (Exhibit A-23), submitting its responses to Panel Information Requests (IR) (Exhibits A-24 and A-25) as follows:

Exhibit B-24	Responses to BCUC Panel IRs

In an effort to ensure greater transparency of information and allow parties access to relevant information BC Hydro is providing a public response to the one confidential Panel IR (Exhibit A-25). BC Hydro notes that while BC Hydro's IR response can be disclosed publicly a portion of the IR preamble and question reference confidential information. Therefore, BC Hydro has redacted the confidential information contained in the IR. An explanation for the request for confidential treatment is provided in the IR response and Exhibit B-7. BC Hydro seeks this confidential treatment pursuant to section 42 of the Administrative Tribunals Act and Part IV of the Commission's Rules of Practice and Procedure.

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

Yours sincerely,



Fred James
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Enclosure

1.0 Load Forecast

Reference: BUSINESS CASE
Exhibit B-1 (Application), p. 25
BC Hydro Load Forecast

In the Site C Inquiry, page 63 of the Deloitte report "Alternative Resource Options and Load Forecast Assessment" contained the following Figure 3 to illustrate British Columbia Hydro and Power Authority's (BC Hydro) actual requirements for electricity compared to BC Hydro's historical estimates:[1]

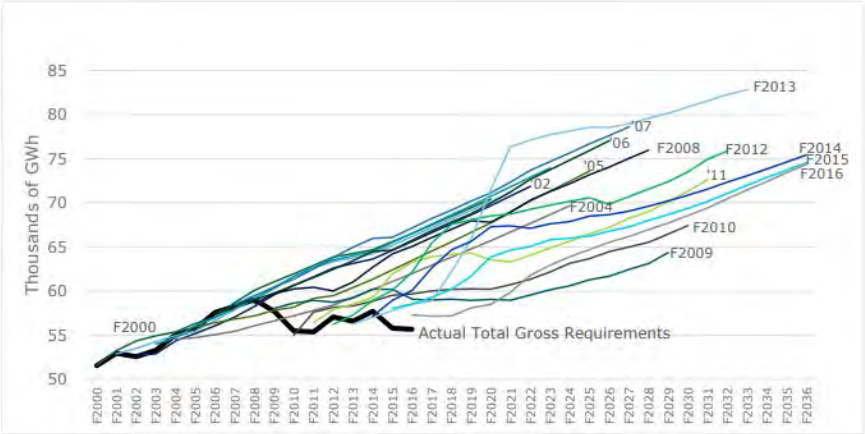

Figure 3: Total Gross Requirement Forecast Models Between 2000 and 2016 (with DSM

1.1.1 Please provide a table of figures, in 000's of GWh, for BC Hydro's actual requirements (i.e. domestic consumption) of electricity by year from the year F2000. Please include the figure for F2017 if available. If the figure for F2017 is not available, please provide an annualized value for the first three quarters of F2017.

RESPONSE:

Please refer to the working Excel spreadsheet attached to this IR which contains the actual and forecast total gross requirements from 1964 to the May 2016 Load Forecast. The actual load as requested is provided in row 5 of the attached spreadsheet. The fiscal 2017 values are actual, not annualized. The attached is consistent with the data issued on April 28, 2017 in BC Hydro's revised response to CEC IR 2.135.1 of the F17-F19 RRA.

[1] Site C Inquiry Deloitte Report, Exhibit A-9, p. 63, http://www.bcuc.com/Documents/wp-content/10/00700_A-9_Site-C-Inquiry_Deloitte-LLP-Independent-Report-No2.pdf

Note that the graph provided in the IR preamble reflects total gross requirements rather than domestic consumption, and thus includes losses. As a result the attached spreadsheet provides total gross requirements consistent with the graph.

Further note that there are two forecasts provided for May 2016 reflecting a minor timing change in how DSM savings are shown in the load forecast. Please refer to page 33 in Chapter 3 of the F17-F19 RRA.

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REFER TO LIVE SPREADSHEET MODEL

Provided in electronic format only

(Accessible by opening the Attachments Tab in Adobe)

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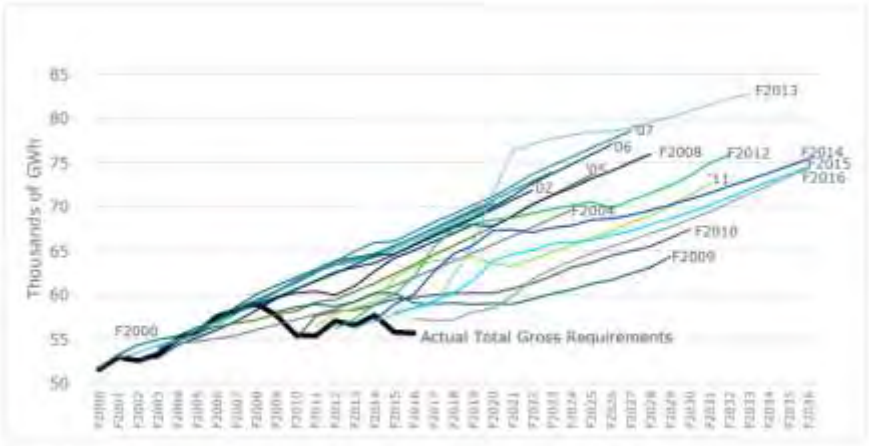


Figure 3: Total Gross Requirement Forecast Models Between 2000 and 2018 (with DSM

1.1.2 Please provide an updated version of Figure 3 from Deloitte's report including the actual consumption figure for F2017, if available. If the F2017 figure is not available, please use an annualized value based on the first three quarters of F2017. Please provide only the F2013 and F2016 historical load forecasts by way of comparison to the actual requirements.

RESPONSE:

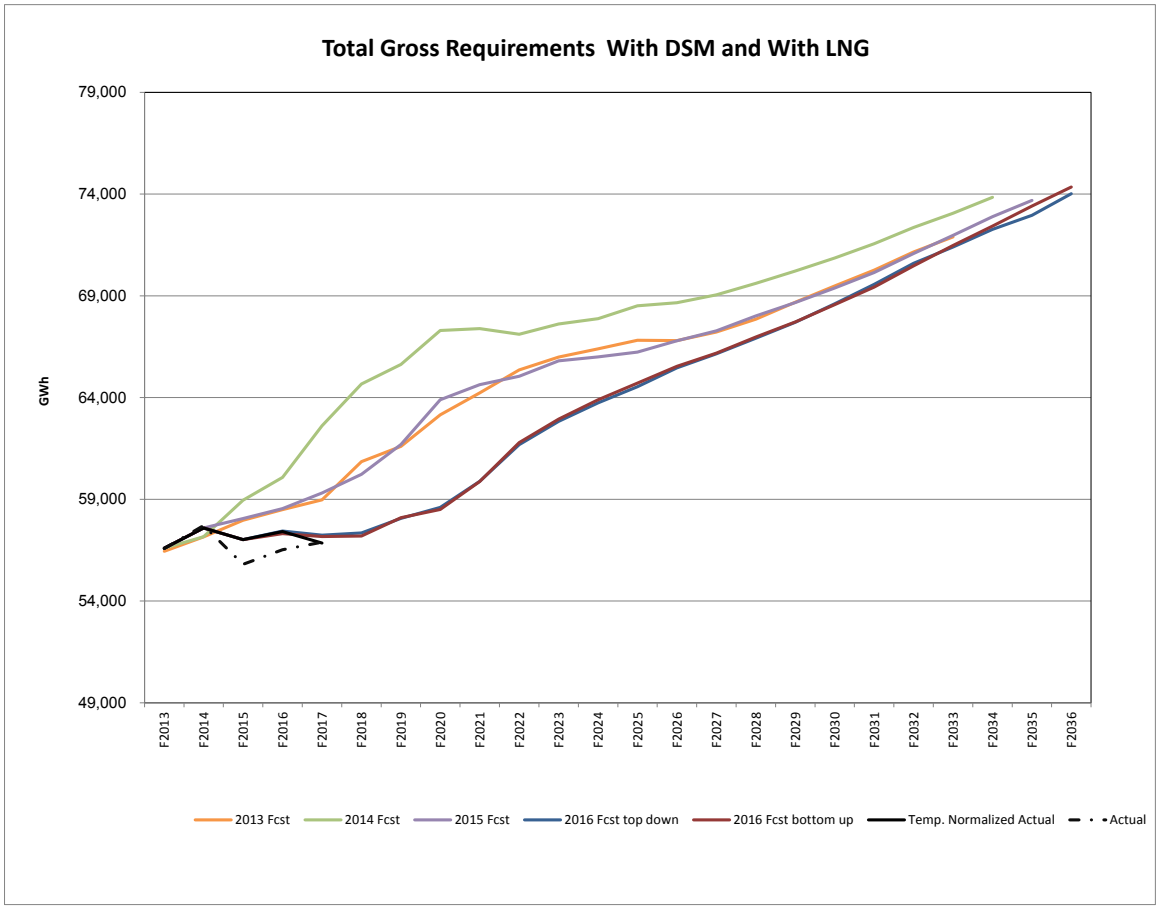
Please refer to the working Excel spreadsheet attached to this IR which contains the actual loads and the forecast total gross requirements from the fiscal 2013 Load Forecast to the May 2016 Load Forecast.

The actual total gross requirements for fiscal 2016 and fiscal 2017 are included in the attachment. The attachment also contains the historical temperature

[1] Site C Inquiry Deloitte Report, Exhibit A-9, p. 63, http://www.bcuc.com/Documents/wp-content/10/00700_A-9_Site-C-Inquiry_Deloitte-LLP-Independent-Report-No2.pdf

normalized total gross requirements from fiscal 2013 to fiscal 2017 which can be compared to the forecast prepared on a temperature normalized basis.

Below is the updated figure that includes the actual total gross requirements for fiscal 2017 and fiscal 2016. This figure is based on BC Hydro's revised response to CEC IR 2.135.1 of the F2017-F2019 RRA as filed on April 28, 2017. It would appear that Figure 3 above from Deloitte Report No. 2 was based on the data contained in the original response which reflected an error for forecasts from fiscal 2003 and fiscal 2013.



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REFER TO LIVE SPREADSHEET MODEL

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2.0 Debt

Reference: Financial Risk
Exhibit B-1, pp. 1-1, 1-3; Appendix N of the Application – Business Case, p. 37; Exhibit B-8, BCUC IR 1.23.3

On page 1-1 of the Application, BC Hydro explains it "…enjoys through its fiscal agent, the B.C. Government, an 'AAA' credit rating (the highest possible)."

On page 37 of the Business Case, BC Hydro explains: "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."

On page 1-3 of the Application, BC Hydro also explains: "BC Hydro will purchase Teck's remaining two-thirds interest in Waneta for $1.203 billion."

1.2.1 Please confirm, or explain otherwise, that the additional debt of $1.2 billion resulting from the Waneta 2017 Transaction is not expected to lower the BC Government's current "AAA" credit rating.

RESPONSE:

Confirmed. The rating agencies that the B.C. Government engages with regularly (Moody's, DBRS, S&P) have been aware of the Waneta 2017 Transaction since it was announced and in all cases have continued to provide unchanged credit ratings regarding the B.C. Government since that announcement.

Please refer to the link provided to the article dated April 3, 2018 regarding the recent confirmation of credit ratings for the B.C. Government https://globalnews.ca/news/4120570/b-c-high-credit-rating/.

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On page 1-3 of the Application, BC Hydro also explains: "BC Hydro will purchase Teck's remaining two-thirds interest in Waneta for $1.203 billion."

1.2.2 Please discuss the implications to BC Hydro's borrowing rate under the scenario that the BC Government's credit rating is downgraded from "AAA" to "Aa1" or "AA+".

RESPONSE:

Please refer to BC Hydro's response to BCUC Panel IR 1.2.1.

BC Hydro estimates that the increase in BC Hydro's borrowing rates due to a hypothetical credit downgrade of the B.C. Government's credit rating to Aa1 or AA+ would be approximately five basis points on both short term interest rates and long term interest rates, and would therefore result in higher borrowing rates of an estimated 0.05 per cent for both short-term borrowings and unhedged long-term future borrowings. These higher rates would apply to all of BC Hydro's short-term and unhedged long term future borrowings.

Please see the table below for an estimate of the overall incremental impact on BC Hydro's total finance charges (and revenue requirements) through fiscal 2024 due to a hypothetical increase of 0.05 per cent in short-term and long-term interest rates.

Estimated Impact of Credit Rating Downgrade ($ millions)	**F2019**	**F2020**	**F2021**	**F2022**	**F2023**	**F2024**	**Total**
Increase in Finance Charges (and Revenue Requirement)	**1.5**	**2.1**	**2.6**	**3.5**	**4.0**	**4.5**	**18.2**

BC Hydro assumes that the increase in finance charges for fiscal 2019 would result in a variance which would be deferred to the Total Finance Charges Regulatory Account, and recovered by ratepayers in the following revenue requirement application test period. As a result, there would not be any impact on rates in fiscal 2019.

BC Hydro estimates that an increase of $18.2 million in BC Hydro's revenue requirement as shown in the table above would increase BC Hydro's forecast annual rate increases over the fiscal 2020 to fiscal 2024 period from 2.60 per cent to 2.62 per cent, an increase of 0.02 per cent.

2.0 Debt

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Exhibit B-1, pp. 1-1, 1-3; Appendix N of the Application – Business Case, p. 37; Exhibit B-8, BCUC IR 1.23.3

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On page 1-3 of the Application, BC Hydro also explains: "BC Hydro will purchase Teck's remaining two-thirds interest in Waneta for $1.203 billion."

1.2.2.1 Please provide the incremental impact to BC Hydro's revenue requirement and the incremental impact to rates under the scenario that the BC Government's credit rating is downgraded from "AAA" to "Aa1" or "AA+".

RESPONSE:

Please refer to BC Hydro's response to BCUC Panel IR 1.2.2.

2.0 Debt

Reference: Financial Risk
Exhibit B-1, pp. 1-1, 1-3; Appendix N of the Application – Business Case, p. 37; Exhibit B-8, BCUC IR 1.23.3

In response to BCUC IR 1.23.3, BC Hydro stated:

> [A]s part of its debt management activities and in anticipation of the Waneta 2017 Transaction and other borrowing requirements, it hedged $1.25 billion of future long term debt in September and October 2017 at a rate of 3.18 per cent. The underlying debt would be borrowed in August 2018, approximately the time of the expected financial close of the Waneta 2017 Transaction, if approved.

1.2.3 Please elaborate on how long a time period is the "future long term debt" mentioned in the above preamble (i.e. 10 years, 30 years or another time period). Please provide a table with a breakdown of the $1.25 billion hedged debt by time period and interest rate.

RESPONSE:

BC Hydro targets long-term debt issuances with 10 and 30-year maturities. Please see the table below, which shows the interest rate hedges BC Hydro entered into relating to long-term borrowings of $1.25 billion and the forecast borrowing yields of each hedged transaction.

Duration (years)	Notional ($ million)	Forecast Borrowing Yield (%)
10	**200**	**2.96**
10	**200**	**3.00**
10	**100**	**3.01**
10	**100**	**3.01**
30	**200**	**3.35**
30	**100**	**3.36**
30	**100**	**3.38**
30	**250**	**3.37**
Total	**$1.25 Billion**	**Avg. 3.18%**

3.0 Rate Base

Reference: Regulatory Matters
Exhibit B-18, BCUC IR 2.120.2

1.3.1 If the British Columbia Utilities Commission (BCUC) were to deny BC Hydro's application to accept the schedule of expenditures regarding the Waneta 2017 Transaction under section 44.2 of the Utilities Commission Act, would BC Hydro still complete the transaction?

RESPONSE:

If the Commission were to not accept the expenditure schedule regarding the Waneta 2017 Transaction, in Table 1-1 of the Application (Exhibit B-1), it could only be, as a matter of law, because it did not find the expenditures to be in the public interest (per section 44.2 (3) of the UCA). Such a conclusion, all else being equal, would be of significant concern and clearly make the transaction far less likely to proceed. However, BC Hydro expects that the Commission's reasons for drawing such a conclusion, and the Commission's determinations in regard to the other aspects of the transaction, would also factor into a BC Hydro decision whether or not to proceed. To illustrate by reference to the subject matter of the following IRs in this series, if the Commission were to grant the other orders requested, but decline to accept the expenditure schedule on the sole basis that the transaction is intended to serve B.C. Government interests rather than serve ratepayer interests (despite the evidence), then it is conceivable that BC Hydro would proceed. Conversely if the Commission declined to give any of the requested orders on the basis of reasonable findings of fact regarding the potential risks of the transaction, then BC Hydro would be less likely to proceed.

It is important to note that if the Commission does not issue the orders BC Hydro has requested, BC Hydro may not be able to proceed regardless of what it would prefer. That's because Teck could also decline to proceed with the transaction if, for example, the Commission found the expenditure schedule not in the public interest. A condition of closing in favour of both parties is that the Commission issue the requested orders. BC Hydro does not know, and cannot guess, whether in that circumstance Teck would be willing to proceed in the face of an adverse Commission decision. For example, BC Hydro does not know whether Teck has other potential buyers ready to purchase the assets, or perhaps whether it no longer has the same business imperatives to proceed that it had almost a year ago when it entered into the Fortis Transaction; in either of those cases Teck may decide not to proceed even if BC Hydro were otherwise willing and able to proceed. (Note that BC Hydro expects that Teck would not proceed if the Commission did not approve the Teck Wheeling Agreement regardless of any

other Commission orders or determinations. BC Hydro is comfortable making that inference because of the importance Teck has indicated that it gives to the certainty of being able to serve its smelter load after the Lease Period through imports from the U.S. using Line 71 pursuant to the wheeling services BC Hydro would be providing under that agreement).

Please also refer to BC Hydro's response to BCUC IR 2.104.1 and BCSEA IR 1.14.1.2.

3.0 Rate Base

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Exhibit B-18, BCUC IR 2.120.2

1.3.1 If the British Columbia Utilities Commission (BCUC) were to deny BC Hydro's application to accept the schedule of expenditures regarding the Waneta 2017 Transaction under section 44.2 of the Utilities Commission Act, would BC Hydro still complete the transaction?

1.3.1.1 If so, would BC Hydro's shareholder bear all the risks and receive all the benefits associated with the Waneta 2017 transaction?

RESPONSE:

Under section 6 of Direction No. 7, the Commission is obliged to set BC Hydro's rates (for revenue requirement purposes) on the basis that Powerex's net income equals "trade income". For all future revenue requirement test periods, "trade income" is calculated as the greater of zero and BC Hydro's consolidated net income less:

- **BC Hydro's net income;**
- **Net income from non-Powerex subsidiaries; and**
- **Changes to BC Hydro's consolidated net income arising from foreign exchange losses and gains.**

The indirect effect of the foregoing is that all BC Hydro revenues are included in its revenue requirements, regardless of how they are earned. It follows that the Lease revenues that will accrue to BC Hydro if it completes the Waneta 2017 Transaction would be for the benefit of its ratepayers regardless of any public interest determination by the Commission. For this reason, the B.C. Government would not "bear all the risks and receive all the benefits associated with the Waneta 2017 Transaction" even if, hypothetically, BC Hydro completed the transaction in the face of an adverse Commission decision. Of course, it would be inconsistent with regulatory principle for ratepayers to have the financial benefits of the transaction and none of the costs, and in consequence BC Hydro expects that if the transaction proceeds, ratepayers would receive the benefits and bear the costs.

3.0 Rate Base

Reference: Regulatory Matters
Exhibit B-18, BCUC IR 2.120.2

1.3.1 If the British Columbia Utilities Commission (BCUC) were to deny BC Hydro's application to accept the schedule of expenditures regarding the Waneta 2017 Transaction under section 44.2 of the Utilities Commission Act, would BC Hydro still complete the transaction?

1.3.1.2 If so, would BC Hydro apply for acceptance of the schedule of expenditures for the Waneta Assets under section 44.2 of the *Utilities Commission Act* at the end of the lease period?

RESPONSE:

Assuming BC Hydro did complete the Waneta 2017 Transaction in the face of an adverse Commission decision, and assuming the B.C. Government did receive all the benefits and risks associated with the transaction, both as hypothesized in this IR, BC Hydro does not understand why it would seek an acceptance of expenditures that would have been incurred some 20 or 30 years earlier, which the Commission would have had long-since concluded should be borne by the B.C. Government, and which is after the Lease and therefore after the Lease revenues are available for the benefit of ratepayers. In particular, by the end of the Lease Period ratepayers would have already foregone the substantial benefits of the 20 to 30 years of net cashflows from the asset. BC Hydro struggles to understand what basis it would have to defer the Commission's approval to that later time.

A premise of the BCUC Panel IR 1.3 series seems to be that the Waneta 2017 Transaction is meant to serve B.C. Government or at least non-ratepayer objectives. BC Hydro confirmed in its response to BCUC IR 1.23.5 that is not the case. It reiterates that it has examined the transaction from a ratepayer perspective, and whether it serves ratepayer interests. If upon its analysis BC Hydro concluded that the transaction did not serve ratepayer objectives it would not have applied to the Commission for its approval, and would not continue to seek the Commission's approval.

3.0 Rate Base

Reference: Regulatory Matters
Exhibit B-18, BCUC IR 2.120.2

In response to BCUC IR 2.120.2, BC Hydro stated:

> It is true, as a matter of law, that BC Hydro and Teck could in the future negotiate amendments to the Lease, and that such amendments would not require Commission approval to become legally effective…. The BCUC continues to have ongoing regulatory responsibility for BC Hydro and could, for example, require BC Hydro to bring to the Commission's attention any material changes to the Waneta arrangements including changes to the terms of the Lease. If any such amendments were found to negate the benefits of the transaction, and were found to be imprudent, it would be within the authority of the Commission to hold BC Hydro ratepayers harmless through the exercise of its normal rate-making (revenue requirement) powers.

1.3.2 Please elaborate on BC Hydro's interpretation of how the BCUC could "hold BC Hydro's ratepayers harmless through the exercise of its normal rate-making (revenue requirement) powers?" Please provide examples.

RESPONSE:

In the course of setting BC Hydro's revenue requirements it is in the usual scope of the Commission's jurisdiction to conclude that cost consequences of imprudent decisions should be excluded from BC Hydro's revenue requirements. For example, if in the future the need for a capital expenditure related to Waneta becomes apparent, and if Commission were to conclude that i) the need for the expenditure would have been apparent now but for a negligent review by BC Hydro of Waneta condition reports and ii) that consideration of that expenditure might have tipped the balance in favour of not approving the Waneta 2017 Transaction, then the expenditure could be excluded from BC Hydro's revenue requirements. Another example might include a negotiation of lower Lease payments for purposes unrelated to BC Hydro's public utility service obligations; in that case the cost consequences of the decision to accept lower Lease payments (which is not contemplated in the Lease) could be excluded from BC Hydro's revenue requirements.

1.0 Financial Risk

Reference: Financial Risk
Exhibit B-1-1, Confidential Business Case, p. 37

On page 37 of the confidential version of the Business Case, BC Hydro explains:

> 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. [redacted]

1.1.1 Please elaborate on what Moody's means by "[redacted]"

RESPONSE:

In an effort to ensure greater transparency of information and allow parties access to relevant information BC Hydro is providing a public response to this IR. This IR has words, in the preamble, that were redacted from the public version of Waneta 2017 Business Case because they were based on a confidential discussion between BC Hydro and Moody's. This redacted information is commercially sensitive to BC Hydro and Moody's. The public disclosure of the information would harm BC Hydro's future ability to receive input from Moody's and other rating agencies.

Subsequent to this discussion, Moody's issued a public report regarding the B.C. Government on January 18, 2018. That public report included words which respond to this IR, as follows: "Given its steady revenue stream that generates sufficient cash flow to support operations, we view BC Hydro as a self-supporting entity and therefore exclude the related debt from our debt metrics of the province". Moody's was aware of the Waneta 2017 Transaction, including price, revenues and how it would be funded, when it issued the public report. This would imply that Moody's considered the impact of the transaction when reporting that BC Hydro is a self-supporting entity.