



VIA EFILE

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April 24, 2017

**BC HYDRO F2017–F2019
REVENUE REQUIREMENTS EXHIBIT A-29**

Mr. Fred James
Chief Regulatory Officer
Regulatory & Rates Group
British Columbia Hydro and Power Authority
16th Floor – 333 Dunsmuir Street
Vancouver, BC V6B 5R3

Dear Mr. James:

Re: British Columbia Hydro and Power Authority
Project No. 3698869 / Order G-40-16
F2017 to F2019 Revenue Requirements Application

Further to your filing of rebuttal evidence and information on termination of Accenture contract dated April 5, 2017, enclosed please find Commission Information Request No. 3. In accordance with the regulatory timetable, please file your responses no later than Thursday, May 11, 2017.

Yours truly,

Original signed by:

Patrick Wruck

CMM/kbb
Enclosure

**BC Hydro and Power Authority
F2017–F2019 Revenue Requirements Application**

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A. RESPONSE TO BCSEA

339.0 **Reference: CAPACITY FOCUSED DSM
Exhibit B-20, Section 1.3, pp. 9–10; Exhibit B-9, BCUC IR 183.3
Curtailment frequency and duration**

BC Hydro states on pages 9 and 10 of its Rebuttal Evidence:

BC Hydro’s pilot program focuses on a product for planning purposes and potential deferment of long-term generation assets, which has been defined as 36 days of curtailment of 16-hours per day. ... While capacity-only demand side management programs and pilots are common in the industry, as far as BC Hydro is aware, no other jurisdiction has run a pilot or program for the product that BC Hydro requires to meet its system needs (36 days of curtailment of 16-hours per day).

BC Hydro described its capacity DSM programs in Table 5 of BCUC IR 183.3.

339.1 Does BC Hydro have any insight as to why no other jurisdiction has run “a pilot or program for the product that BC Hydro requires to meet its system needs (36 days of curtailment of 16-hours per day)”? Please explain.

339.1.1 Does BC Hydro consider that the cost to its customers of “36 days of curtailment of 16-hours per day” (i.e. the value of lost load) is significantly lower in BC compared to other jurisdictions? Please explain.

339.1.2 Does BC Hydro consider that its system needs are uniquely different from other utilities? Please explain.

339.2 Please reproduce Table 5 of BCUC IR 183.3, replacing the two DSM \$ budget columns (F2018 and F2019) with a single column showing the DSM budget for three years from F2017–F2019.

339.2.1 For each of the DSM programs in the table, please explain (i) whether the program is designed to obtain “36 days of curtailment of 16-hours per day” and (ii) whether similar programs are offered in other jurisdictions.

339.2.2 For each DSM program designed to obtain “36 days of curtailment of 16-hours per day,” please quantify the incentive paid to the customer in \$/MW-year. Please provide

supporting documentation, and explain whether this is lower than the long-term supply side cost of generation capacity.

339.3 For each of the DSM capacity programs identified in BCUC IR 183.3, does BC Hydro consider that, if the pilot program were to become permanent, (i) it would meet the definition of a rate and (ii) DSM costs would be limited to rate implementation/administration and exclude the incentive? Please explain.

340.0 **Reference: LOW-CARBON ELECTRIFICATION
Exhibit B-20, Section 1.4, p. 11
Greenhouse Gas Reduction (Clean Energy) Regulation, Order in Council No. 101**

The Greenhouse Gas Reduction (Clean Energy) Regulation, Order in Council No. 101 includes as a prescribed undertaking a program to encourage the public utility's customers, or persons who may become customers of the public utility, to use electricity instead of other sources of energy that produce more greenhouse emissions (subject to certain conditions).

340.1 Does BC Hydro consider that there is the potential for DSM low-carbon electrification programs that would not place upward pressure on rates? Please explain.

340.1.1 Does BC Hydro plan to file a supplemental DSM expenditure schedule in support of Order in Council No. 101? Please explain.

B. RESPONSE TO AMPC

341.0 **Reference: LOAD AND REVENUE FORECAST
Exhibit B-15-2, AMPC IR 2.2.1; Exhibit B-20, p. 24
Sensitivity of LNG**

In response to AMPC IR 2.2.1 in Exhibit B-15-2, BC Hydro presents a sensitivity comparison of two forecast model results, one with and one without the assumed LNG developments and associated upstream gas production. Table A compares the base case with the "without LNG developments" sensitivity case (Case 1). Table B compares the base case with the "only LNG-related developments" sensitivity case (Case 2) (i.e., without natural gas production unrelated to LNG development).

On page 24 of Exhibit B-20, BC Hydro states that "AMPC is isolating one factor among many – i.e., gas production – that go into the economic forecast in order to draw conclusions about the nature of the British Columbia natural gas industry and its dependence on LNG. It is methodologically incorrect to apply a broad-based economic analysis in the way AMPC has done."

BC Hydro further states that:

The similarity in the base case and Case 2 on a province-wide basis (with only slight differences for the North Region) actually shows that the Fairholm Economic Model:

- Is driven by a range of economic drivers well beyond the impacts associated with natural gas production in the province; and
- The economic impacts are relatively insensitive to the range of natural gas production values that were used in the analysis, namely the difference in production estimates between the base case and Case 2 (i.e., without natural gas production growth unrelated to LNG development).

- 341.1 Please confirm whether the results presented in Table 1 through 3 by BC Hydro in response to AMPC IR 2.2.1 can be relied on for making any inference on the effect of LNG on the economic drivers.
- 341.1.1 If yes, please explain the methodologically correct way to interpret the data presented in Table A and Table B in response to AMPC IR 2.2.1.
- 341.1.2 If not, please explain the basis of BC Hydro's statements regarding the similarity in the base case and Case 2 as quoted in the preamble.
- 341.2 Please explain how BC Hydro would interpret the difference between the economic drivers in the base case and Case 1 (without LNG) as shown in Table A in response to AMPC IR 2.2.1.

342.0 **Reference: LOAD AND REVENUE FORECAST**
Exhibit B-15-2, AMPC IR 2.2.1; Exhibit B-20, p. 26
Sensitivity of LNG

On page 26 of Exhibit B-20, BC Hydro states that:

For example, for sensitivity Case 1 in the response to AMPC IR 2.2.1, where employment and capital spending impacts from LNG are removed from the Fairholm economic forecast, BC Hydro's revised North Region Statistically Adjusted End Use model projections indicate that the total decline in the combined residential and commercial distribution sales relative to the May 2016 Load Forecast is 1 GWh in fiscal 2017 or 0.0 per cent, 10 GWh or 0.0 per cent in fiscal 2018, 39 GWh or -0.1 per cent in fiscal 2019

- 342.1 Please confirm, or explain otherwise, that the results referenced above are produced by replacing economic drivers in the North Area under the base case with those under Case 1 (as presented in Table A of AMPC IR 2.2.1), and re-running the load forecast model used for the residential and commercial sales forecast in the North Area.
- 342.2 Please clarify whether the results presented above reflects the impact to the load forecast in the North Region, or in the whole BC Hydro system.
- 342.2.1 If it is for the whole system, please explain why BC Hydro only revised the North Region Statistically Adjusted End Use model projections.
- 342.2.2 If it is not for the whole system, please explain the rationale for not providing results for the whole systems.
- 342.2.2.1 Please provide the results for the whole system if it can be produced within reasonable efforts. If not provided, please explain any difficulties and constraints in producing it, and comment on whether the results would differ from those presented in on page 26 of the rebuttal evidence.

C. RESPONSE TO LANDALE

343.0 **Reference: OTHER REVENUE REQUIREMENT ITEMS**
Exhibit B-1-1, Appendix S, Table S-3, p. 3; Appendix R; Exhibit B-10, BCUC IR 152.10;
Exhibit B-20, p. 32
Burrard remaining useful life

On page 32 of BC Hydro's rebuttal, BC Hydro explains: "The useful lives of the individual assets were adjusted to reflect the remaining useful life as a result of the change in use of the Burrard Facility. The adjusted remaining useful life was used as the basis to determine the depreciation for the assets."

In response to BCUC IR 152.10, BC Hydro explains:

The depreciation rates for the test period are the rates required to be applied against the net book value of the assets at the beginning of each year assuming all remaining assets at the Burrard Facility for the synchronous condenser function will be fully depreciated for accounting purposes by March 31, 2025. This date was selected based on a conservative estimate of the remaining useful life of the generators, which are the most significant component of the remaining assets at the facility.

In Appendix S, BC Hydro describes its Asset Health Index (AHI) methodology and results. In Table S-3 BC Hydro provides the AHI for four synchronous condensers. In Appendix R, BC Hydro describes its Equipment Health Rating (EHR) methodology.

- 343.1 Please explain why BC Hydro selected March 31, 2025, as the appropriate date to fully depreciate all remaining assets at Burrard.
- 343.2 Are there any assets which are not affected by the generators' synchronous condenser operations (e.g. C82504 Loader/Backhoe)?
- 343.2.1 If yes, please identify them and explain the rationale for these assets being fully depreciated by March 31, 2025.
- 343.3 Does BC Hydro anticipate having synchronous condensers at Burrard post 2025?
- 343.3.1 Does BC Hydro expect to require compensation at that location at that time, and/or does BC Hydro expect to replace the synchronous condensers with static VAR compensators or other passive compensation equipment at Burrard or elsewhere? Was this considered in selecting March 31, 2025? Please elaborate.
- 343.4 If BC Hydro had estimated the remaining life of each individual asset (or asset class) without consideration of the generators useful life, how would this impact depreciation expense and the total revenue requirement in F2017, F2018 and F2019? Would this approach result in a materially different revenue requirement than BC Hydro's approach?
- 343.5 For a similar facility such as Revelstoke, does BC Hydro depreciate all assets at that facility to match a conservative estimate of the remaining useful life of the generator assets? Please elaborate and compare the methodology used at Revelstoke to the methodology proposed for Burrard.
- 343.6 Please confirm, otherwise explain, that the four synchronous condensers in the asset class included in Table S-3 are in reference to the four synchronous condensers at Burrard.
- 343.6.1 If not confirmed, please confirm these are the Vancouver Island Terminal (1) and Kelly Lake (3) synchronous condensers.
- 343.6.2 If confirmed, please further confirm, otherwise explain, that Table S-3 shows that 40 percent of the synchronous condensers asset class are considered to be in very good condition and 60 percent in very poor condition.
- 343.6.2.1 Given there are only four assets, please explain how this is possible.
- 343.7 Please elaborate on how the Asset Health Index methodology can be used to determine an engineering estimate of the remaining useful life of each synchronous condenser generator asset (e.g. for a very poor rated generator asset, overhaul or replacement may be required within three years).
- 343.8 Please confirm, otherwise explain, that prior to conversion to synchronous condense only mode,

the generator assets at Burrard were evaluated using EHR or a comparable engineering methodology.

343.8.1 If confirmed, please provide the ratings, the estimated remaining life, the findings and the recommendations provided in these evaluations. Please comment on any changes/actions taken post conversion and how these actions may have affected the estimated remaining useful life of the generators.

343.9 Please elaborate on how the Equipment Health Rating or a comparable methodology was used to determine an engineering estimate of the remaining useful life of the generators (e.g. a Poor rated generator may be expected to have major capital investment or be replaced in 10 to 12 years).

343.10 Please confirm, otherwise explain, that the depreciation rates applied in F2015 and F2016 for assets that were not fully depreciated by the end of F2016 were based on the assumption that all remaining assets at the Burrard facility for the synchronous condensers function would be fully depreciated for accounting purposes by March 31, 2025.

343.10.1 If not confirmed, please provide those assumptions and explain why the F2017–F2019 assumptions are different than the F2015 and F2016 assumptions.

343.11 Is the Burrard Facility Asset C30102 still used and useful?

343.11.1 If yes, please explain why it is needed.

343.11.2 If not, please explain why it has not yet been fully depreciated.

344.0 **Reference: OTHER REVENUE REQUIREMENT ITEMS
Exhibit B-1-1, Section 8.1, pp. 8-1 – 8-2;
Basis for Burrard depreciation rates regulatory approval request**

In section 8.1 of the Application BC Hydro explains:

In this Application, BC Hydro is seeking approval for the depreciation rates of certain property, plant and equipment at [Burrard], as the rates prescribed by Direction No. 7 only included depreciation rates for fiscal 2015 and fiscal 2016. Table 8-1 provides the detailed depreciation rates for each year of the test period for which BC Hydro is seeking British Columbia Utilities Commission approval. The depreciation rates shown in Table 8-1 for a given fiscal year would be applied against the net book value of the asset at the beginning of that fiscal year.

344.1 Please confirm, otherwise explain, that BC Hydro is seeking Commission approval pursuant to UCA section 56(2) for the depreciation rates of certain property, plant and equipment at Burrard.

D. RESPONSE TO ZONE II

345.0 **Reference: RESPONSE TO EVIDENCE OF ZONE II RATEPAYERS GROUP
Exhibit B-20, Section 5, pp. 44, 47
Funding levels, reporting**

BC Hydro states on page 47 of its Rebuttal Evidence that it does not believe increased reporting on Zone II DSM is required.

345.1 Please estimate DSM spending for F2014–F2016 and requested for F2017–F2019 for BC Hydro’s non-integrated areas (NIA) as a percentage of NIA revenues received, and compare this to the

BC Hydro's integrated areas.

345.1.1 Does BC Hydro consider that the DSM spending as a percentage of revenues in the NIA should reasonably be different than those in the integrated area (for example, as a result of differences in avoided costs/emission reduction benefits, and as NIA customers may be 'harder to reach')? Please explain.

345.2 Please explain why BC Hydro does not believe that it should "report annually on the implementation of its DSM programs in the NIA communities."

E. TERMINATION OF ACCENTURE BUSINESS SERVICES

346.0 **Reference: TERMINATION OF ACCENTURE BUSINESS SERVICES (ABSBC) CONTRACT Exhibit B-20, Section 6, pp. 50-52; Exhibit B-1-1, Appendix A, Tab 5S; Exhibit B-9, BCUC IR 35.4, 35.5 Financial information**

In response to BCUC IRs 35.4 and 35.5, BC Hydro stated that variances between forecast and actual costs in "Services – ABSU" (Exhibit B-1-1, Appendix A, Tab 5S, line 2) were due to Tempworks and project and initiative work which is commonly planned for in "Services – Other" (Exhibit B-1-1, Appendix A, Tab 5S, line 3).

346.1 For clarity, please confirm that the termination of the ABSBC contract impacts line 2 of Tab 5S in Appendix A to the Application (i.e. F2017 forecast = \$49.1M, F2018 forecast = \$48.4M, F2019 forecast = \$49.6M). If not confirmed, please explain and provide details for the correct impacted operating expense line(s).

346.2 Please clarify and explain the extent to which BC Hydro will continue to use Tempworks once the outsourcing contract with ABSBC terminates and what impact, if any, there is to forecast F2017-F2019 "Services – Other" costs from the termination of the ABSBC contract.

On page 51 of Exhibit B-20, BC Hydro states its best estimate at this time is "the net impact on revenue requirements for the current test period will be in the range of \$0-2 million."

346.3 Please clarify whether the \$0-2 million net impact on revenue requirements for the current test period is an increase or decrease. In addition, given that the ABSBC contract expires April 30, 2018, please also confirm whether the \$0-2 million impact relates to F2019 only.

346.4 Were there any significant costs overruns in each of the past five fiscal years with ABSBC compared to the original forecast of payments to ABSBC? If yes, please explain the magnitude of the variance and provide an explanation as to why the variance occurred.

346.4.1 If there were significant cost overruns in the past five years, please discuss if BC Hydro expects to achieve immediate and significant cost savings from repatriating ABSBC services and if not, why not.

346.5 Please discuss what cost savings, if any, BC Hydro anticipates in the long term (i.e. beyond the test period) from repatriating ABSBC services.

Furthermore, BC Hydro states on page 51 of Exhibit B-20 it is "not requesting a new regulatory account or seeking to use an existing regulatory account for the deferral of costs or savings related to the termination of the Accenture contract..."

346.6 In the event that significant costs or savings materialize in the current test period due to the

transition of ABSBC services, is there a possibility that BC Hydro will later request the costs or savings be captured in a regulatory account for future recovery/refund to ratepayers?

347.0 Reference: TERMINATION OF ACCENTURE BUSINESS SERVICES CONTRACT
Exhibit B-20, Section 6, p. 48
Quality of service

BC Hydro states on page 48 of Exhibit B-20:

In February, 2017, BC Hydro's Board of Directors approved the repatriation of services upon the expiry of the outsourcing contract. An important consideration in BC Hydro's analysis was our key corporate objective of making it easier for customers to do business with us. The outsourcing contract includes our call centre agents, who are often the first contact with our customers. It also includes critical back office functions that ultimately have customer service implications. BC Hydro has made the decision to bring these functions back in-house so that we can adapt and grow these services and align them with our future business needs.

347.1 Please identify and explain all anticipated improvements related to the "key corporate objective of making it easier for customers to do business with us" which BC Hydro anticipates will arise from repatriating Accenture services.

347.1.1 What other management efficiencies from repatriating services does BC Hydro anticipate going forward? Please explain.

BC Hydro also stated on page 48 of Exhibit B-20 that it's "partnership with ABSBC has been successful."

347.2 Please provide a further explanation of the statement "BC Hydro's partnership with ABSBC has been successful." Please discuss the advantages and disadvantages of the ABSBC model and the in-house model.

348.0 Reference: TERMINATION OF ABSBC CONTRACT
Exhibit B-20, Section 6, p. 50
Risk mitigation

BC Hydro stated on page 50 of Exhibit B-20:

The outsourcing contract includes the following services: Customer Care (customer call centre, billing, learning and knowledge, credit/collections); Human Resources (payroll, recruitment services, pension administration); Finance (accounts payable); Office Services (switchboard, mail and document services, and graphic design).

348.1 Recognizing the extensive outsourcing that BC Hydro undertook with ABSBC, please explain what steps BC Hydro has taken or will take to ensure that repatriation goes smoothly and is on-budget. Please provide the specific nature and design of the planned controls, processes, project team(s) or resources, and governance to efficiently manage the transition.