

D Barry Kirkham, QC+
Duncan J Manson+
Daniel W Burnett, QC+
Ronald G Paton+
Karen S Thompson+
Laura A Wright
James H McBeath+
Scott H Stephens+
David W P Moriarty
Katharina R Spatzl
Patrick J Weafer

Robin C Macfarlane+
Alan A Frydenlund, QC+*
Harvey S Delaney+
Paul J Brown+
Gary M Yaffe+
Harley J Harris+
Kari F Richardson+
James W Zaitsoff+
Daniel H Coles+**
Sameer Kamboj
Georgia Barnard

Josephine M Nadel, QC+
Allison R Kuchta+
James L Carpick+
Patrick J Haberl+
Heather E Maconachie
Jonathan L Williams+
Paul A Brackstone+*
Pamela E Sheppard+
Jocelyn M Bellerud+
Brian Y K Cheng**

James D Burns+
Jeffrey B Lightfoot+
Christopher P Weafer+
Gregory J Tucker, QC+
Terence W Yu+
Michael F Robson+
Barbara E Janzen
George J Roper+
Tony R Anderson
Steffi M Boyce

OWEN BIRD

LAW CORPORATION

PO Box 49130
Three Bentall Centre
2900-595 Burrard Street
Vancouver, BC
Canada V7X 1J5

Rose-Mary L Basham, QC, Associate Counsel+
Jennifer M Williams, Associate Counsel+
Hon Walter S Owen, QC, QC, LLD (1981)
John I Bird, QC (2005)

+ Law Corporation
* Also of the Yukon Bar
** Also of the Washington Bar

June 6, 2019

VIA ELECTRONIC MAIL

British Columbia Utilities Commission
Sixth Floor, 900 Howe Street
Vancouver, BC
V6Z 2N3

Telephone 604 688-0401
Fax 604 688-2827
Website www.owenbird.com
Direct Line: 604 691-7557
Direct Fax: 604 632-4482
E-mail: cweafer@owenbird.com
Our File: 23841/0146

Attention: Patrick Wruck, Commission Secretary and Manager, Regulatory Support

Dear Sirs/Mesdames:

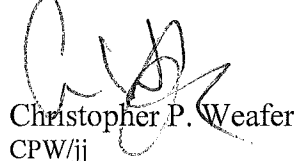
**Re: British Columbia Hydro and Power Authority ("BC Hydro") Review of the
Regulatory Oversight of Capital Expenditures and Projects ~ Project 3698877**

We are counsel to the Commercial Energy Consumers Association of British Columbia (the "CEC"). Attached please find the CEC's Information Requests on rebuttal evidence of Brattle Group on behalf of BC Hydro with regard to the above matter.

If you have any questions regarding the foregoing, please do not hesitate to contact the undersigned.

Yours truly,

OWEN BIRD LAW CORPORATION



Christopher P. Weafer
CPW/jj

cc: CEC
cc: BC Hydro
cc: Registered Interveners

**COMMERCIAL ENERGY CONSUMERS ASSOCIATION
OF BRITISH COLUMBIA**

**INFORMATION REQUEST ON REBUTTAL EVIDENCE OF BRATTLE GROUP, ON
BEHALF OF BRITISH COLUMBIA HYDRO AND POWER AUTHORITY**

**British Columbia Hydro and Power Authority Review of the Regulatory Oversight of
Capital Expenditures and Projects
Project No. 3698877**

June 6, 2019

1. Reference: Exhibit B-15-1 Expert Evidence page 2

Q3. By whom have you been retained in this proceeding?

A3. The Brattle Group has been retained by British Columbia Hydro & Power Authority (BC Hydro).

Q4. What assignment were you given in this proceeding?

A4. We were asked to address two questions concerning the written evidence of Mr. David Craig, submitted in this proceeding by the Commercial Energy Consumers Association of British Columbia (the CEC). The questions we address are set out in a letter from BC Hydro's counsel, appended to this evidence as Attachment 3, and are quoted in full in the body of our written evidence below.

We are aware that we owe a Duty of Independence, as described in Attachment 3, and confirm that we have prepared this report in accordance with the Duty of Independence. If called upon to give oral or written testimony, we will give that testimony in conformity with the Duty of Independence.

1.1 Please provide a description of the Brattle Group's specific knowledge of BC Hydro, BC Hydro's planning processes and its regulatory history.

1.2 Is the Brattle Group aware of the initial impetus behind the Capital Review proceeding?

1.2.1 If yes, please provide the Brattle Group's understanding of the impetus behind the Capital Review proceeding.

2. Reference: Exhibit B-15, Expert Evidence page 3

Mr. Craig's evidence emphasizes the Commission's role in relation to the cost-effectiveness of BC Hydro's capital spending. However, it also appears to conflate control of BC Hydro costs with assessing cost-effectiveness of proposed projects. The latter is part of the Commission's role but the former, control of costs, is not.

- 2.1 Please confirm that it is the Brattle Group's understanding that the Commission has a responsibility to ensure that BC Hydro's overall costs are prudently incurred and that rates are fair, just and reasonable.
- 2.2 Please confirm that controlling costs and benefits is a key element of managing cost-effectiveness and the prudence of expenditures.
- 2.3 Please confirm that it is the Brattle Group's understanding that the Commission would need information about BC Hydro's control of costs and benefits to exercise its responsibilities.

3. Reference: Exhibit B-15-1, Expert Evidence page 5

A key role of energy regulators is to ensure that rates charged for utility service are just and reasonable. As part of ensuring that rates are just and reasonable, regulators want to make sure that utilities do not recover in rates the costs of investments that were unrelated to providing utility service or which were unnecessary or wasteful. Such investments would be judged imprudent. Imprudent capital expenditure is not consistent with just and reasonable rates, so regulators will review capital expenditure incurred before authorizing the corresponding capital additions to be included in rate base. This is an after-the-fact review focused on the prudence standard. While prudence reviews take place after a decision has been implemented, they are necessarily forward-looking in the sense that they should use only information available to the utility at the time decisions were taken.

- 3.1 Please provide the considerations that a regulator should consider in an after-the-fact prudence review.
- 3.2 Please discuss the types of issues that would reasonably characterize a project as being imprudent. Please consider how pre-existing project approval, and spending within the project budget would typically be considered in a prudency review.

4. Reference: Exhibit B-15-1 Expert Evidence page 6

Regulators often have a role in relation to longer term strategic plans. For example, a utility may have identified a long-term need to replace aging generation resources, and it may have choices over the type of replacement capacity to procure. Some stakeholders might advocate procuring coal capacity because coal is expected to be cheap; others may advocate gas-fired capacity because emissions are lower; while still others might advocate a mix of renewables and other resources. Consideration of such strategic options typically takes place in an IRP process. The IRP process is focused on long-term strategy and does not usually result in approval of specific projects. Rather, subsequent project approval processes may include testing how proposed projects contribute to or are consistent with the approved IRP.

Regulators also often have a role in approving certain projects before they are implemented. The utility may identify that new capacity will be needed in future—for example, a constraint on the network, or a declining margin between peak demand and peak supply. There may be more than one option for delivering the needed new capacity, where the options have different characteristics. For example, one project might be more expensive but have more favourable environmental characteristics. The regulator may have a role in evaluating alternatives to a proposed project as part of the approval process before the project is implemented.

- 4.1 Would the Brattle Group agree that adoption of a particular ‘strategy’ can have significant financial implications for future capital expenditures? Please discuss and consider the relevance when capital projects are justified on the basis of adhering to a previously-determined ‘strategy’.
- 4.2 Is it the Brattle Group’s understanding that the Commission, in its approval role would find value in understanding BC Hydro’s strategies and how they change over time? Please discuss.
- 4.3 Would the Brattle Group agree that for projects being implemented under a given strategy, the options or alternatives for review may change if the strategy changes?
- 4.4 Please have the Brattle Group review the BC Hydro strategies referenced in Schedule K of the BC Hydro RRA 2020-2021 and comment on what additional information the Brattle Group would need to properly understand the strategy and to evaluate if the

strategy is the best strategy available and whether or not it would optimize value to BC Hydro's customers and the public interest.

- 4.5 Would the Brattle Group agree that a long-term strategy relating to capital expenditures should optimize the value from capital costs and benefits? Please explain.
- 4.6 What process should a regulator, in the Brattle Group's view, use to evaluate whether or not the company's strategies have been prudent?
 - 4.6.1 If a regulator determines that a strategy is less than optimal and results in the undertaking of projects that are compliant with the strategy, but are generally not the most cost-effective option, how should the regulator address these issues?
- 4.7 What criteria would the Brattle Group use to determine the frequency of review for BC Hydro for strategies to be assessed by the regulator for cost-effectiveness? Please explain.
- 4.8 Would the Brattle Group agree that one objective of the Commission's oversight of BC Hydro strategies should be to determine the degree to which BC Hydro is improving and optimizing the value from its strategies?

5. Reference: Exhibit B-15-1, Expert Evidence page 7

Q8. In BC Hydro's case, does the Commission need to be concerned about anticipated levels of capital expenditure as it relates to future rates paid by customers?

A8. Anticipated levels of capital expenditure for different options are inputs to an assessment of which option is the most cost-effective. However, anticipated levels of capital expenditure do not ultimately influence the level of costs recovered from customers. BC Hydro's rates are tried-up such that rates ultimately only reflect actual capital expenditure. In particular, if actual capital expenditure turns out to be lower than the anticipated level, then that difference is returned to customers by reducing rates. It does not accrue to BC Hydro as increased returns. In contrast with BC Hydro's situation, many other utilities are governed by a regulatory framework in which rates are set to recover anticipated capital expenditures and are not tried up (retrospectively) for differences between actual and anticipated expenditures. For these utilities it is necessary for regulators to assess the cost-effectiveness of the planned level of capital expenditure, since for these utilities the planned level of capital expenditure is reflected in rates.

Q9. When would such concerns arise?

A9. Concerns about the level of anticipated capital expenditure reflected in rates arise in jurisdictions where the true up for differences between anticipated and actual expenditure is infrequent and is not retrospective. Great Britain, Australia, New Zealand, California and, to an extent, Alberta are examples of jurisdictions where actual capital expenditure below anticipated levels would result in increased returns for the utility.

5.1 Would the Brattle Group agree that anticipated levels of capital expenditures and their cost-effectiveness may influence Commission decision-making and therefore could influence the levels of costs allowed into rates?

5.1.1 If not, please explain why not.

5.2 Would the Brattle Group agree that poor capital expenditure decision-making can have a direct impact on customer rates? Please explain why or why not.

6. Reference: Exhibit B-15-1, Expert Evidence page 8 and page 9 and 10

Q11. Is it possible to achieve the same effect – encouraging the utility to control costs – through regulatory oversight of capital expenditure plans?

A11. No. Controlling capital costs involves identifying worthwhile initiatives that have a good chance of reducing costs, and managing their successful implementation. This is the function of utility management, and regulators typically do not try to second guess management decisions because they do not have the staff expertise and other resources to be effective in doing so.

The Commission's oversight of the costs and importantly the benefits of these expenditures can lead to improvements of BC Hydro's cost-effectiveness. Over 10 years the total capital expenditures may involve over \$220 billion. If the oversight of the BC Hydro cost-effectiveness results in a 1% improvement on \$10 billion of expenditures this could be worth \$100 million of benefit for each 1% or \$10 billion to which it may be applicable. The benefit potential for ratepayers of improved Commission oversight could be \$10s of millions.

In the quoted extract the CEC makes clear that it is talking about the benefit to ratepayers of controlling costs rather than cost-effectiveness as that term is used in Commission proceedings to approve major projects. Existing processes already provide for the approval of the most cost-effective major projects and for imprudent costs to be excluded from recovery in rates. Success in controlling costs would benefit ratepayers, but this is a function of utility management.

- 6.1 Please confirm that the regulators have a responsibility to ensure that the Utility has an opportunity to achieve a fair return on its investment and a responsibility to ratepayers to ensure that rates are fair, just and not unduly discriminatory.
 - 6.2 Would the Brattle Group agree that in ensuring that rates are fair, just and not unduly discriminatory, the Commission has an obligation to understand whether or not capital expenditure costs and benefits are managed appropriately and prudently by the utility?
 - 6.3 Would the Brattle Group agree that in ensuring that rates are fair, just and not unduly discriminatory the Commission has an obligation to ensure that the Utility is developing the 'most cost-effective strategies' and projects in its capital planning processes? Please explain.
7. **Reference: Exhibit B-15-1, Expert Evidence page 8 and 9**

Q12. What do you understand by the term “cost-effective” as that term is used by the Commission in its decision-making on major projects?

A12. “Cost-effective” is a term that can have different meanings in different contexts. In one context, implementation of a particular project might be said to be cost-effective if the work was done without incurring any unnecessary cost, or if the overall cost of the project was minimized (without compromising the project’s scope). In a different context, one *option* might be said to be more cost-effective than another option if the former had a better overall balance of costs and benefits than the latter. In this second context, the more cost-effective option is not necessarily the option with the lower expected financial cost. The more cost-effective option might cost more but have a better environmental outcome, for example, or it might have higher capital cost, but have a longer expected economic life and lower expected lifetime costs once maintenance is included.

We understand that when the Commission uses the term “cost-effective” in its decision-making, it is referring to the second context described above: where there is a choice between several different options, the Commission will approve the most cost-effective option (even if that option does not have the lowest expected cost).¹

¹ For example: “The principal distinction between most cost-effective and least-cost is the scope of considerations that are relevant. In the context of this Decision, most cost-effective includes consideration of project characteristics such as reliability, dispatchability, timing, and location as well as the cost or price, in the case of an EPA. Least-cost is taken to only include cost or price considerations.”(BCUC, Decision and Order No. G-55-03, September 8, 2003, p. 77); “The task is not to select the least cost project, but to select the most cost-effective project. Therefore, as suggested by BC Hydro, reliability, safety, schedule, financing arrangements and other factors itemized in the VIGP

In this evidence, when we use the term “cost-effective” we are referring to the choice between several different options that have different expected costs and different characteristics. In order to avoid confusion, when we refer to the idea that utilities should *implement* chosen projects without incurring unnecessary costs we use the term “cost control”. When we refer to Commission proceedings to approve major projects, we are referring to CPCN and Section 44.2 proceedings.²

7.1 Would the Brattle Group agree that an appropriate definition of ‘cost-effective’ is that the benefits outweigh the cost of the project?

7.1.1 If not, please explain why not.

7.2 Would the Brattle Group agree that improving the cost effectiveness of an activity, strategy, project or anything else would result in an improvement in the benefit/cost ratio?

7.2.1 If not, please explain why not.

- 7.3 Would the Brattle Group agree that projects should not be undertaken if the benefits of the projects, however they may be measured (i.e. including risk reduction, workflow improvements, etc.) do not outweigh the costs of undertaking the project?

7.3.1 If not, please explain why not.

- 7.4 Please confirm that a comparison of cost-effectiveness, using the definition above, would examine comparative levels of cost-effectiveness i.e. a project would be 'more' cost effective if it had a higher ratio of benefit to cost vs. the other, and a project would be 'most cost effective' if it had the highest ratio of benefit to cost of all the options.
- 7.5 Please have the Brattle Group review BC Hydro's primary metric for tracing its cost performance (B-15, Page 15, Figure 5) and comment on whether or not, given the cost-effectiveness objective, BC Hydro and the Commission might benefit from tracking cost-effectiveness metrics, as BC Hydro is proposing to do (reference: B-15, pages 34-35).

8. Reference: Exhibit B-15-1, Expert Evidence page 9

Q13. When "cost-effective" and related terms are used in Mr. Craig's evidence, what is implied by those terms?

A13. It appears that when "cost-effective" is used in Mr. Craig's evidence, the term sometimes means "cost-effective" as the Commission uses the term in CPCN proceedings, and sometimes the term means "cost control". For example, Mr. Craig's evidence states "The CEC provides in Part I of the evidence a set of templates for quantitatively representing BC Hydro's cost-effectiveness in managing and planning capital expenditures and investments."³ "Planning" of capital expenditures could include both cost-effectiveness and cost control, but "managing" capital expenditures seems to focus on cost control. Furthermore, Mr. Craig's recommendations are for ongoing annual filings across the utility as a whole, whereas cost-effectiveness is focused on *options* and a choice between specific projects. In addition, in response to an information request about cost-effectiveness of capital investments, the CEC said:⁴

The Commission's oversight of the costs and importantly the benefits of these expenditures can lead to improvements of BC Hydro's cost-effectiveness. Over 10 years the total capital expenditures may involve over \$220 billion. If the oversight of the BC Hydro cost-effectiveness results in a 1% improvement on \$10 billion of expenditures this could be worth \$100 million of benefit for each 1% or \$10 billion to which it may be applicable. The benefit potential for ratepayers of improved Commission oversight could be \$10s of millions.

- 8.1 Please provide specific evidence that the term cost-effectiveness is only related to 'options and a choice between specific projects' and does not have broader application.
- 8.2 How should the regulator determine if the Utility management has capable planning processes, resulting in the most cost-effective strategies and projects being provided for review? Please explain.
- 8.3 If the regulator is unable to determine whether or not the Utility has highly-capable planning processes, how should the regulator proceed when provided with strategies and/or projects for approval? Please explain.

9. Reference: Exhibit B-15-1, Expert Evidence page 10

Q14. Is there any connection between cost-effectiveness, as the Commission uses that term in major project proceedings, and prudence?

A14. Yes. There is a connection in the sense that both cost-effectiveness and prudence should be forward-looking assessments (when properly conducting a prudence review, the regulator will assess the decision from the point of view of utility management at the time the decision was taken, using only information that management knew or ought to have known at that time). If a regulator had approved a project as cost-effective, and the project was implemented as anticipated, the regulator would not reject it for inclusion in rates due to imprudence even if unanticipated changes in business or market conditions occurred such that the project became less cost-effective after the fact. In short, an assessment of cost-effectiveness is undertaken before a project is completed, whereas prudence is properly a forward-looking assessment undertaken afterwards without resort to hindsight review.

Q15. Is it possible that a project approved as cost-effective could nonetheless be subject to a prudence review and cost disallowance subsequently?

A15. Yes. If a utility were imprudent in implementing a particular project after the project was approved as cost-effective, such as in the case of an imprudent cost overrun, the costs of such imprudence should be excluded from rates.

- 9.1 In the Brattle Group's view, if a regulator had approved a project with inadequate information or misleading information, and the project turned out to be ill-conceived in light of adequate information available at the time but not provided to the Commission, though properly executed, should the regulator reject the expenditures as being imprudent? Please explain.

10. Reference: Exhibit B-15-1, Expert Evidence page 15

Q24. Assume that BC Hydro's planning process does not result in imprudent spending. Would it be possible for additional or improved Commission oversight to find ways of improving cost-effectiveness?

A24. No. Cost-effectiveness concerns the selection of the right project in a given circumstance. That is addressed through the CPCN and Section 44.2 processes, and Mr.

Craig's evidence does not express concerns that these processes are not operating as intended. Cost *control* in relation to project implementation could perhaps be improved, but cost control is different from cost effectiveness, as we explained above.

10.1 Assume that BC Hydro's planning processes do not provide for the most cost-effective solutions to be developed as a result of embedded practices that may misinterpret the circumstances and confine the options being considered. Is it the Brattle Group's view that the Commission could not request or require BC Hydro to improve the cost-effectiveness of the projects by understanding the management processes that lead to the inadequate consideration of options?