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December 10, 2018

VIA ELECTRONIC MAIL

British Columbia Utilities Commission
Sixth Floor, 900 Howe Street
Vancouver, BC
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Attention: Patrick Wruck, Commission Secretary

Dear Sirs/Mesdames:

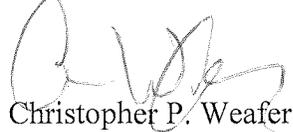
**Re: British Columbia Hydro and Power Authority Review of the Regulatory Oversight
of Capital Expenditures and Projects ~ Project 3698877**

We are counsel for the Commercial Energy Consumers Association of British Columbia (the "CEC") in this matter.

Enclosed please find the Information Request Responses of Mr. Scott Thomson in response to the Information Requests of Clean Energy Association of British Columbia – Exhibit C5-3.

Yours truly,

OWEN BIRD LAW CORPORATION



Christopher P. Weafer
CPW/jj
cc: CEC
cc: BC Hydro
cc: Interveners

**COMMERCIAL ENERGY CONSUMERS ASSOCIATION
OF BRITISH COLUMBIA**

**Scott A. Thomson Responses to Clean Energy Association of British Columbia's
Information Requests regarding Evidence**

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

December 10, 2018

1.0 Reference: Exhibit C3-11, Evidence of Scott A. Thomson

In the response to Question #3, the reply included the qualification “Subject to any jurisdictional exclusions in the empowering legislation or Special Directions to the BCUC,…” And in Question #4, the question was stated as “not from a legal perspective but from a business perspective…”

1.1 Are you aware of any legal restrictions or exclusions that would limit the Commission from asking for detailed quantitative information regarding the cost-effectiveness of BC Hydro's capital expenditures, along the lines of that proposed by CEC?

I am not aware of any legal restrictions or exclusions that would limit the Commission from asking for such information that it felt would assist it in fulfilling its mandate. I have not however attempted to identify and read the text of all current special directions from the government to the BCUC relating to BC Hydro. During the years that I was active in the Utility industry in BC, the oversight and powers of the BCUC as they related to BC Hydro were modified from time to time by successive provincial governments.

1.2 In your previous experience in regulated utilities, was it normal practice for the regulator to focus attention on the cost-effectiveness of your utility's capital spending?

Yes. The regulator's role is focused in large measure on ensuring monopoly utilities operate in the public interest. That interest is served in part by ensuring that the rates charged by public utilities are just and reasonable. That test is satisfied in part by ensuring that expenditures made to serve the public, which are then recovered in rates, are prudent. It follows that cost effectiveness is a dimension of assessing the prudence of expenditures.

In the years I was involved with investor owned gas and electric utilities in BC which were subject to regulation by the BCUC, there were a number of means by which the

regulator exercised that focus and tools the utilities used to ensure cost effectiveness of expenditures.

Major expenditures were the subject of CPCN proceedings and post implementation reporting, similar to BC Hydro. For many of the years that I had responsibility for regulatory affairs at the Fortis group of companies and their predecessors, we operated under performance based rate making (“**PBR**”) models that encouraged the utilities through financial incentives to improve productivity and efficiency (i.e. cost effectiveness). The early PBR models had elements specifically focused on capital expenditures.

We reported annually on the actual experience we achieved and this resulted in rate adjustments over the term of the PBR periods subject to review and confirmation by the BCUC.

- 1.3 *In your previous utility experience (including both investor-owned and crown-owned), did any of the utilities utilize some kind of economic screening model to estimate the return on investment or the cost-effectiveness of potential capital projects? If not, why not? If so, which utilities utilized such models, and please provide a description of the models’ inputs, analysis and outputs, and please describe what types of capital projects would be evaluated using that model and what types would not.*

Most major capital expenditures were subject to economic screening models utilizing such tools as Net Present Value (“**NPV**”) analysis to evaluate alternatives. Depending on the nature of the project, i.e. where uncertainties existed as to potential outcomes, we incorporated probabilistic modeling (Monte Carlo simulations) to assess potential outcomes/cost inputs.

For example, when performing system sustainment alternative evaluations, the analysis would focus on assessing the NPV of refurbishment versus replacement considering the lifecycle costs of the initial investment and expected maintenance costs over time of two or more alternatives and comparing them to identify the most cost-effective choice.

Qualitative considerations were often factored in as well, either by assigning a notional monetary value to them and building them into the quantitative analysis or through judgement. For instance, it might be “cheaper” over a period of time to continually take outages and make repairs at an aging electrical sub-station rather than replace it, but the impact on customer service, security of supply and economic impact in the service area might dictate a more expensive replacement project.

Model inputs would consider quantum and timing of capital expenditures versus operating expenditures, discount rates, incremental revenues (if any) associated with investment alternatives, etc.

1.4 *In your previous experience, was there a difference between an investor-owned utility and a crown utility in terms of its choice to use an economic screening model or not? If so, can you explain why that difference occurred?*

Not to any material degree for regulated operations. However, internal rate of return analysis factored in to capital allocation decisions for non-regulated operations.

For regulated operations in BC, the investor owned utilities have the responsibility of justifying the level of return on equity allowed to them by the regulator. This is done from time to time in cost of capital proceedings. At a high level, they make a determination whether the allowed returns are attractive enough, given the risk profile of the operating environment and the regulatory model in place, as to whether to participate in the market and invest capital. They also have to attract capital to finance investments.

However, both investor owned utilities and crown utilities are subject to the fiscal discipline as it relates to the impact on rates that capital expenditure decisions have. The financing cost (both debt and equity) and the cost of recovery of capital (depreciation) and operating expenditures driven by capital are usually the largest component in the cost of service of utilities.

Given the state of the electrical infrastructure around North America, aging asset sustainment/replacement is one of the most significant issues facing both Crown and investor owned utilities along with integration of distributed generation to the electrical grid. The rate impacts of renewal of infrastructure are significant and the appetite enormous.

Managing rate impacts for customers is a major consideration for both investor owned and Crown utilities. Rates are often politicized in the case of Crown utilities or subject to social license backlash for investor owned utilities, so managers of both Crown and investor owned utilities are keenly interested in minimizing impacts on rates which exerts significant fiscal discipline.

Similar economic screening tools were used by the management teams I worked with in both the investor owned organizations and the crown utilities. Even though some expenditures were non-discretionary, i.e. had to be made for safety reasons or regulatory compliance purposes, screening tools were still utilized to evaluate alternatives when more than one solution existed.

1.5 *In your previous experience, was it customary for the regulator to prescribe a standardized format and specified details for the cost-effectiveness information provided by your utility, or did the regulator simply accept the information in the formats and detail what the utility used for its internal evaluations?*

I would say there was a combination of the two that often followed an evolutionary path. Depending on the regulatory/rate making model employed (PBR vs forward test year), the compliance reporting requirements differed. Often due to submissions made by the utility to satisfy the information requests of interested parties or regulator

staff, future information reporting requirements were mandated by the regulator and subsequently incorporated into compliance type reporting by the utility, or in the case of PBR periods the information produced by the utilities for annual reviews.

The utilities would sometimes “negotiate” the level of reporting, especially if data wasn’t readily available and it would be time consuming/expensive to produce.

The annual reports that utilities produce for the regulator evolve over time. The regulator often makes determinations that it wants information produced in a prescribed format for reporting purposes and orders that the utilities do so in rate orders or CPCN orders. So it is certainly not unprecedented.

That said, every report produced by utility staff for regulatory purposes takes time, effort and resources, which ultimately factor into rates. In a perfect world the usefulness and benefit to the regulator and interested parties of having that information, should be greater than the cost of producing it (both direct cost and/or the opportunity cost of those resources that could have been spent on something potentially more productive).

2.0 Reference: Exhibit C3-11, Evidence of Scott A. Thomson

Question #5 asks if it is reasonable for the Commission “to focus on understanding the drivers and strategies of BC Hydro’s capital expenditures and investments,…”

- 2.1 *In your previous experience with respect to regulated utilities, was it normal practice for the regulator to focus attention on understanding the utility’s drivers and strategies? If so, in what regulatory proceedings would this focus take place, and how often would those occur?*

I think it is fair to say that regulators consider the drivers of capital expenditures in order to understand their justification in the determination of just and reasonable rates. This can be as part of CPCN proceedings for major capital or revenue requirements proceedings.

Strategy assessments are made when looking at long term resource plans, i.e. long range planning for system capacity requirements and how best to meet those requirements. For instance, meeting demand growth with conservation programs (like Power Smart incentives, etc. which offset demand growth) is one strategy for meeting demand growth.

In Manitoba the Crown electric utility was subject to Needs For and Alternatives To (“NFAT”) proceedings to consider the drivers and evaluate alternatives to meet capacity requirements. However, under that regulatory construct the regulator did not have the power to approve or reject capital expenditure plans of the Crown utility, it simply made recommendations concerning the same to the Provincial Government.

During my time in BC we held periodic information sessions with BCUC commissioners and staff to provide updates on the utilities and share planning considerations outside formal regulatory proceedings. The intent of these meetings was to provide the background thinking on future plans outside a formal hearing environment. This was meant to be educational in nature and allow the Commission an opportunity to gain insight into management's thinking outside a (potentially) adversarial regulatory proceeding.

All this is to say that it is not unusual for regulators to focus attention on the cost drivers and strategies employed to address them by the utilities that they regulate.

2.2 *In your previous experience with respect to regulated utilities, did the regulators ever attempt to assess the utility's strategies, as to whether they were either appropriate or cost-effective? If so, please provide some detail as to the specific strategies and how the regulator attempted to assess them.*

Yes, in my experience, regulators regularly assess utilities strategies and the cost effectiveness of their expenditures. A good example would be BC Hydro's conservation programs to meet demand growth. While BC Hydro is mandated to meet a percentage of demand growth through conservation, there is extensive documentation of plans and reporting on progress against those plans by the utility as well as updates on mitigation measures the utility intends to undertake to mitigate benefit realization shortfalls.

As noted previously, the Fortis companies and their predecessors operated regularly under PBR mechanisms, some of the earliest ones which had explicit capital efficiency mechanisms that measured the unit costs of recurring capital expenditures like customer attachment costs and main extensions.

Under PBR, the utilities reported annually against the metrics that factored into the PBR rate setting formulas and were typically subject to a round of information requests following an annual workshop with Commission staff and interested parties.

Typically, investor owned utilities which are subject to CPCN filing requirements have their expenditure plans subject to approval by the Commission and both the drivers for the expenditure and the strategies considered by the utility to meet the need will be scrutinized by the regulator as part of that process. The utility takes comfort from such proceedings that, subject to prudent execution of the project, its costs will be recoverable in rates. There is a strong financial incentive for this as the investor owned utility's shareholders are at risk of denial of imprudently incurred costs.

While the same mechanism is generally available to the regulator when dealing with rates for Crown entities (subject to government directives which require the regulator to allow cost recovery), it is generally too late once the expenditures have been made because the "shareholder" at risk is the Crown. As such there is a significant overlap between the ratepayer and taxpayer, i.e. A denial of rate recovery of costs results in a

shortfall for the utility/crown which indirectly and ultimately must be made up by the taxpayers who are virtually all BC Hydro ratepayers.

I believe this is one of the central tenants of the CEC's proposals, i.e. so that the Commission may consider BC Hydro's expenditure drivers and strategies proactively.

3.0 Reference: Exhibit C3-11, Evidence of Scott A. Thomson

The response to Question #6 indicated that you, as a utility executive, could find it "not unreasonable" for the Commission to provide a prescribed framework for gathering of cost and benefit information, "If the Commission saw value in having objective, quantitative information available to it to fulfil its regulatory oversight requirements."

3.1 In your previous experience with respect to regulated utilities, did the regulators ever attempt to provide such a prescribed framework? If so, what was the response of the utility?

In my experience, it is not unusual for regulators to prescribe a framework or reporting format for information. This is often requested in tabular format and may be based on the format of evidence presented by the utility in a regulatory proceeding or in its responses to interrogatories in regulatory proceedings, or it may be a format developed by Commission staff.

The utilities' response or level of compliance with such requests may vary from issue to issue depending on the nature of the information requested. In my experience, the utility normally complies wherever it can unless it feels the Commission has exceeded its regulatory authority, or if there is commercially sensitive information being requested, or if compliance would place an unreasonable burden on the utility. In such cases the utility typically responds with a request to the Commission to vary its direction, either formally or informally, depending on the circumstances. Most utilities do not seek out conflict and confrontation with their regulators.

However, there are circumstances where utilities will refuse such requests or directions. For instance, when I was with Manitoba Hydro, the Public Utilities Board ("PUB") requested copies of export power sales contracts, ostensibly to determine if they were "cost effective" in assessing the utility's plan to build new capacity infrastructure and in the determination of rates.

These export power sales contracts were commercially sensitive and had non-disclosure clauses which could result in breach of contract. Moreover, the PUB had no jurisdiction over the export power sales contracts and were required by legislation to accept the forecast revenues associated with such contracts in the determination of revenue requirements. In this case the utility refused to comply with the regulators demands and ultimately went to court to defend its position.

That said, the production of performance metrics to assist the regulator in determining cost effectiveness would not be likely to result in objections from the utility unless it did not have ready access to the information, or, if the cost/effort to

produce it would be prohibitive or there was some commercially sensitive reason not to.

- 3.2 *With a view to providing the Commission with whatever information it requires, while at the same time avoiding unreasonable cost or resource impacts on BC Hydro, do you think a reasonable way to proceed would be to initiate a workshop forum, in which BC Hydro could demonstrate the methods and formats it already uses; the Commission and/or interveners could communicate what elements, if any, they found confusing or inadequate; and together they could arrive at an information set and format that would meet everyone's needs?*

Yes I do.

BC Hydro, in its follow up information requests to CEC, is seeking further information on the proposed framework and the specific information request in the tables that CEC was proposing. From this it would appear there is a lack of clarity on the utility's part of what is being requested.

A workshop forum can be a much more productive environment for the sharing of information and positions than a hearing room. As I noted in my response to Question 11 posed to me by CEC in my evidence: "*A collaborative approach to considering the various templates between BC Hydro and the Commission with input from the proposer to clarify intent would likely be most constructive in my opinion.*"

A workshop forum allowing participation of additional interested parties would be an extension of this and may be helpful to all involved.

4.0 Reference: Exhibit C3-11, Evidence of Scott A. Thomson

Question #7 asked whether you agreed that the following 4 specific categories can be key drivers of capital expenditures for utilities, namely:

- a. Load Growth;
- b. System Sustainment Condition;
- c. External Risk Exposure; and
- d. Stakeholder Concern Standards.

Your response was to agree, but you also added, "Crown corporations such as BC Hydro often have to address broader stakeholder interests than investor-owned utilities and are subject to shifting political drivers and directives as well over time."

- 4.1 *From your crown utility experience, can you please enumerate some of these other "broader stakeholder interests" that might also become key drivers for the capital spending of a utility such as BC Hydro?*

Crown utilities are often mandated to execute elements of public policy beyond their pure utility service. Examples of this may be to meet economic development objectives, climate change goals, employment objectives, alleviation of poverty, etc.

These generally go beyond what investor owned utilities would normally get involved in.

For instance, when I was at Manitoba Hydro, demand growth had to be met by hydro-electric or other renewable generation rather than gas fired generation, even if that was a more cost-effective solution. This was government policy and within the governments rights. Similarly, the options available to the utility to meet new transmission capacity requirements for north to south transmission in the province were restricted by the government of the day for over-riding public policy reasons rather than strictly economic reasons. An investor owned utility would not necessarily be constrained in the same way (although for practical purposes may still have difficulty obtaining the necessary permits to construct infrastructure that is at odds with the government's wishes).

That said, where the approval authority falls to an independent economic regulator the focus is typically on seeking out the most cost-effective solution for rate payers.

In BC, the "clean power" directives are a similar example where government policy mandated the development of intermittent renewable power (primarily wind IPPs) that drove costs in the form of requirement for new transmission (to move wind energy from where it was produced to load centres) and firming resources to back up the intermittent power resources when the wind isn't blowing. These directives do not necessarily ensure the lowest cost of energy is produced. Both Ontario and Germany are prime examples of the potentially high costs/consequences for ratepayers of, some would say, flawed public policy initiatives.

Another major area relates to Aboriginal interests. Any utility or large infrastructure development proponent must address the government's duty to consult with aboriginal groups respecting their aboriginal rights that may be impacted by such developments. This is an obligation of the Crown (not the Crown Corporation or investor owned utility) but the utility generally pays the costs of the process and meeting any accommodation requirements to allow the project to proceed.

Utility personnel are often involved with the discussions with aboriginal groups at various points, and consideration of both the utilities and the Crown's consultations with aboriginal groups must be given by the regulator in reaching its decisions on projects. The perception of inadequate consultation by the regulator can result in delays or denials of projects/expenditure; and even when these are approved by the regulator, can be subject to court challenges. The recent Federal Court of Appeal decision overturning the approval of the TransMountain pipeline expansion is a good example. So, utilities have a strong vested interest in ensuring that such consultations are done properly.

Crown utilities are largely viewed by aboriginal groups as extensions of the Government, and for practical purposes are heavily involved in the consultation process, often directly negotiating accommodation packages with the leadership of aboriginal groups in order to garner acceptance, if not outright support of projects.

The cost of accommodation can material to a project (and by extension to customer rates) if not properly managed.

The government can, and in my experience, did inject itself into situations to manage political or policy considerations. This can effectively restrict the Crown utilities' options to respond to situations such as protests/blockades, etc. which can cause delays and add significant costs to major projects.

For instance, where an investor owned utility might resort to the courts to enforce its rights, the government may direct management of the crown directly or indirectly to de-escalate, negotiate and compensate in order to diffuse a situation. Again, that is the governments' prerogative but is not necessarily the most "cost effective" approach to dealing with the matter.

Governments can also step in and overturn decisions or actions of the management of Crown utilities. An example of this situation occurred earlier this year when two accommodation agreements between Manitoba Hydro and the Manitoba Metis Federation were abrogated by the Provincial government. It is too soon to tell what the ultimate impact of this action by the government will have, but if it results in disruption and delays to the large transmission and generation projects currently underway, then the impact on project financing costs and delays could be material.

4.2 *Given the government's priorities for British Columbia in 2018, would some of these additional drivers likely include such priorities as:*

- *Climate Action – in the form of electrification aimed at reducing greenhouse gas emissions;*
- *Assisting industrial development around the province;*
- *Assisting First Nations development around the province; or*
- *Maintaining a world class power development industry in the province?*

Yes, the drivers could include some of the items listed above. See my response to question 4.1 above.

4.3 *Based on your crown utility experience, would these additional drivers be accommodated in the capital program even if they conflicted with the overall objective of cost-effectiveness? If so, in your experience, how would the cost-effectiveness objective be modified in order to accommodate the additional priorities?*

I believe that cost-effectiveness can never be judged in isolation. The objective is not to see utility service provided at the lowest possible cost, but rather in my view, the objective is to provide safe reliable service at the lowest reasonable cost all things considered. Including in the case of Crown corporations, government policy objectives.

So, while certain options or avenues for meeting its various corporate objectives and mandates may be restricted or "off the table" to the crown utility, it still pursues the

most cost effective of the options open to it. In that way, additional drivers or policy objectives can be accommodated.

As I understand the reporting framework proposed by CEC, with both its historical and forecast information elements, it means to develop a repository of performance information over time. This information may show trends that support or controvert the utility's assertions that its plans and strategies and its execution of those plans are being cost effective.

If the forward-looking information outlined in those tables are made available to the regulator, it may provide an opportunity for the regulator and interested parties to prospectively consider the utilities plans, and if appropriate, to challenge them and have the utility defend and/or modify them as appropriate, to ensure that future expenditure decisions are made in the public interest.

The additional information being requested by the CEC, as I understand it, isn't intended to supplant the Revenue Requirements and CPCN processes, but rather to complement them and allow the Commission an opportunity to signal to the utility if it feels it may be heading in a direction that could result in denial of costs in the future. A situation that benefits neither the utility its ratepayers or taxpayers.