FINAL ARGUMENT

THE CLEAN ENERGY ASSOCIATION OF BRITISH COLUMBIA

Re: BCUC Review of Performance Based Regulation (PBR) for BC HYDRO

Project No. 1599045

June 1, 2021

BCUC Review of PBR Regulation for BC HYDRO

FINAL ARGUMENT of Clean Energy Association of BC ("CEABC")

I. CONTEXT

In B.C. Utilities Commission ("BCUC") Exhibit A-13, the Panel requested that parties:

> *"…make submissions on each of the following hypothetical outcomes and how they might affect the timing of future BC Hydro rate applications, including the proposed 3-year Revenue Requirement Application (RRA) BC Hydro expects to file in August 2021:*

1. Under a scenario where BC Hydro is directed to fully implement a Performance Based Regulation ("PBR") mechanism;
2. Under a scenario where BC Hydro is directed to implement some hybrid form of PBR; and
3. Under a scenario where BC Hydro is directed to implement any or all of its suggested improvements to its existing cost of service framework, as identified in its Supplementary Evidence (Exhibit B-8)."

CEABC filed a relatively detailed response to the Panel's request[1] and since much of that response is still relevant, CEABC will restate portions of it in this Final Argument.

In its F2020-F2021 RRA, BC Hydro described what it believes are the essential components of Performance Based Regulation, as follows:[2]

> *"In simple terms, PBR involves setting rates through a formula. This formula de-links costs and rates for a specified period of time. A typical approach to PBR in the electricity industry is a hybrid plan where some costs are subject to a PBR formula and other costs are set through cost of service regulation.*
>
> *Under PBR, a cost of service review would be conducted first, to set BC Hydro's base costs. In subsequent years, cost components subject to PBR would be determined by applying a formula to adjust the previous year's costs for the effects of inflation and productivity improvements. This means that the amount of revenue recovered through rates in subsequent years would be independent from BC Hydro's costs, rather than dependent on them."*

BC Hydro further expanded on its understanding of potential PBR measures or mechanisms in its Supplementary Evidence,[3] and summarized its positions on various potential elements in its Final Argument.[4]

---

[1] Exhibit C10-7
[2] Exhibit A2-1 extracted Chapter 11 from the BC Hydro F2020-F2021 Revenue Requirements Application, pages 11-3 to 11-4
[3] Exhibit B-8, BC Hydro Supplementary Evidence, particularly pages 10 to 19
[4] BC Hydro Final Argument, May 3, 2021

CEABC agrees with BC Hydro that any regulation:

> *"… should be viewed as a continuum, not a binary choice between COSR and PBR."*[5]

CEABC agrees that some combination of the two approaches is likely to be most effective and efficient for all parties.

BC Hydro supports the inclusion of several PBR measures being layered into the largely Cost of Service Regulation ("COSR") currently employed, namely:

1. The use of a 3-year test period.
2. Regularly scheduled statistical benchmarking.
3. Information only performance metrics.

And it rejects the use of certain other PBR measures, namely:

4. The use of a longer test period than 3 years.
5. The use of formulaic or index-based rate making.
6. The attaching of any financial consequences to any performance metrics.
7. The partial de-coupling of low-carbon electrification revenues.

In the sections to follow, CEABC outlines its agreement with some of BC Hydro's preferences and its disagreement with others.

II. SPECIAL CIRCUMSTANCES THAT MAKE PBR DIFFICULT

CEABC agrees with BC Hydro that certain special circumstances may make it very difficult for some PBR measures to be either effective or accepted, in BC Hydro's case. BC Hydro has summarized a few of these as follows:[6]

1. **BC Hydro is mandated as a Crown Corporation**. It has no incentive to exceed its allowed return, and hence no motivation that would respond to any earnings-based incentive mechanisms.
2. **Management compensation is constrained**. Since management is not rewarded for higher earnings, it has no incentive to maximize profits.
3. **Regular BCUC reviews establish credibility and public confidence**. Less scrutiny by the BCUC could undermine that credibility and confidence. A profit-maximizing motive for BC Hydro could make public acceptance problematic.

To this list of special circumstances that tend to complicate the use of any PBR measures, the CEABC would add a few additional issues:

---

[5] BC Hydro Final Argument, May 3, 2021, page 9
[6] BC Hydro Final Argument, May 3, 2021, page 28 to 46

4. **As a Crown Corporation, BC Hydro can be tasked, at any time, with achieving new Government policy objectives**. It could be difficult for formulas, or indexes, or incentive mechanisms to anticipate or respond to a changing policy environment. For instance, the Government has recently set aggressive objectives for GHG reductions, which have the potential to place enormous new demands on BC Hydro.
5. **BC Hydro's operating environment has significant inherent instabilities**. In addition to the variabilities in the political environment, there are also many unpredictable and uncontrollable variables in the natural and economic environments. Examples are water inflows, energy markets, interest rates, or even the Covid-19 pandemic. It could be very complex to construct formulas, or indexes, or incentive mechanisms that could anticipate or respond to such variables.
6. **BC Hydro has experienced extremely rapid growth of both capital and operating costs over the past 15 years and this is likely to continue for the next decade.** Domestic energy sales have remained static, at approximately 53,000 GWh/yr. since 2006. However, during the same period, the revenues from those sales have more than doubled due to rate increases (Domestic Sales Revenues rose from $2.7 billion in F2006 to $5.7 billion in the F2021 budget).[7] Large capital expenditures have more than tripled the size of the asset base (fixed assets plus regulatory accounts have increased from $11.7 billion in F2006 to $37.7 billion in F2020). This expansion is continuing at an equally rapid pace, with Site C expected to add another $16 billion, plus additional amounts for other capital assets by 2026. CEABC believes that such rapid change in the size of the company will make it very challenging to construct effective formulas, indexes, or incentive mechanisms.
7. **The extensive use of Deferral and Regulatory Accounts effectively insulates both management and the shareholder from many financial consequences.** BC Hydro makes a point of emphasizing that this allows all benefits to ultimately flow through to the ratepayers, and none is diverted to the benefit of the shareholder, regardless of any errors in forecasts. While this may seem a commendable altruistic motivation, it is also true that adverse consequences are similarly passed on to the ratepayers, and rarely to the shareholder or, through the shareholder, to management.

   While it may seem justifiable to insulate management and shareholders from the consequences of unpredictable and uncontrollable external variables, it should never be the case that management and shareholders are insulated from the adverse consequences of their own decisions. For most unregulated businesses this kind of protection does not exist – management and shareholders must take the consequences of decisions, whether the results were controllable or not.

[7] BC Hydro 2007 Annual Report, and 2020/21-2021/2023 Service Plan

All of the above factors will tend to make the effectiveness of PRB measures problematic. CEABC believes that PBR mechanisms (particularly formulaic or index-based measures) would operate most effectively in a fundamentally stable environment. Highly variable political, economic, and natural conditions combined with BC Hydro's high rate of capital spending and the heavy reliance on Deferral and Regulatory Accounts are likely to make it difficult or impossible to anticipate or accommodate the complexities of the changing conditions within a formulaic or index-based approach.

Nevertheless, CEABC believes there is one area in which PBR measures might be effective at positively motivating BC Hydro's performance, and this could be initiated on a pilot basis. This one potential area will be discussed in Section III, point 7, below.

III. CEABC RECOMMENDATIONS.

CEABC will address its remarks to those particular PBR measures or mechanisms highlighted by BC Hydro as either favoured or opposed, as previously enumerated in Section I.

To recap, the PBR measures favoured by BC Hydro are:

1. The use of a three-year test period.
2. Regularly scheduled statistical benchmarking.
3. Information-only performance metrics.

And the measures opposed by BC Hydro include:

4. The use of a longer test period than 3 years.
5. The use of formulaic or index-based rate making.
6. The use of performance metrics that include financial consequences to apply rewards or penalties.
7. The partial de-coupling of low-carbon electrification revenues.

CEABC's comments address each of these as follows:

1. **The use of a 3-year test period.**

The CEABC believes that a 3-year test period may prove useful and effective in the future but CEABC cannot support a 3-year test period for the upcoming RRA. For the upcoming RRA the timing is inappropriate for a three-year test period. In the current circumstances an additional one-year or two-year application would probably be the only appropriate options.

Although the environment that BCH operates in is always in flux, it is currently in an abnormally high state of flux. Among other things the Phase 2 of the Comprehensive

Review of BCH has not yet been made public. It is difficult to determine whether there will be any lingering impacts of COVID on the demand for electricity. Site C remains uncertain, and the confidentiality surrounding even the basic details such as whether its ultimate cost will be $16 billion or what its in-service date will be. The global costs of BCH's compliance with Mandatory Reliability Standards may extend for a number of years. All of these factors would indicate a greater need for public review of BCH operations, at a minimum every two years.

Perhaps the most important problem with the present timing is that there is no current long-term resource plan ("LTRP") in place, and one will not be available to be assessed until December, 2021. The timing of the upcoming RRA, which is supposed to filed by the end of August, 2021 ("August 2021 RRA"), is inconsistent with a three-year test period, since it is mistimed with respect to the timing of the LTRP.

The LTRP must provide the context for any short-term capital or operating plans or budgets. There is little point to embarking on a 3-year Revenue Requirements test period until a long-term plan has been filed, reviewed, and approved, and BC Hydro has integrated the longer-term goals and objectives into its 5-year projections, including its long-term plans to achieve the Government's electrification goals for GHG reductions. It would not be a prudent use of time to embark on a 3-year test period that that did not synchronize with the longer-term objectives.

BC Hydro appears to have decided to develop a 5-year electrification plan that will be incorporated into the August 2021 RRA but not into the LTRP.[8] This would move BC Hydro even further away from integrating its long-term LTRP goals and objectives into its August 2021 RRA. According to BC Hydro:

> *"To bring all this together, we are working on an overall electrification plan which will be part of the next revenue requirements application. It will cover our existing electrification efforts from across the company as well as our plans for additional actions to help drive an increased electrification. We will be hosting engagement workshops over the next couple of months to ensure customers and interveners have input into the type of electrification opportunities and barriers that exist and actions BC Hydro can take to help overcome those barriers."*

In addition:[9]

> *Austin: Q: Why wouldn't the electrification plan be fully melded into the resource plan?*
>
> *O'Riley: A: Well, because we're choosing to put it in the RRA because we think what it represents is a series of actions which require resources which have to be incorporated into budgets, that it makes most sense to put it in the RRA.*

---

[8] BC Hydro F2022 RRA, Transcript, Vol. 1, page 39
[9] Ibid, pages 209-210

Consequently, if any form of PBR is attempted in relation to the August 2021 RRA, it would have no connection to the LTRP. If the August 2021 RRA is for a term of three years commencing in F2022 and ending in F2025 then realistically the earliest PBR could be instituted is F2026. Given the length of time available between now and August 2021 it would not be possible to incorporate PBR into the August 2021 RRA.

2. **Regularly scheduled statistical benchmarking**

The CEABC supports regular statistical benchmarking provided the data for this purpose is readily available, accurate and complete, the methodology for the benchmarking is transparent and the benchmarking is useful in relation to the management of BCH's operations.

The difficulty with implementing such benchmarking might be in finding the appropriate peers to compare performance. If this obstacle can be overcome, then CEABC believes that benchmarking studies might provide the insight needed to develop and implement some new performance metrics for BC Hydro. At least this benchmarking should be done as a necessary first step towards identifying further PBR measures for future adoption.

3. **Information only performance metrics**

With similar conditions, the CEABC supports information-only performance metrics at this time. CEABC agrees that it would be advisable for any new performance metrics to be initiated for information only. However, should they prove effective, these metrics might be enhanced in the future to incorporate rewards or penalties.

4. **The use of a longer test period than 3 years**

BC Hydro opposes this option and CEABC agrees. For the same reasons outlined for the 3-year test period, CEABC does not believe any longer period would be appropriate at this time. It is important that the longer-term plans, which are to be reflected in the LTRP, should first be presented and vetted, and then incorporated into any shorter-term planning periods.

5. **The use of a formulaic or index-based approach.**

CEABC agrees with BC Hydro that a fully formulaic approach to regulation would not only be extremely difficult to implement but also would not offer any advantage over the present approach. CEABC does not believe that any total-company formulas or indexes would prove superior to the formulas that BC Hydro is already employing throughout its business forecasting.

BC Hydro currently uses a variety of quite complex formulas to project its future costs. For instance, its load forecasts may depend upon external predictions of CPI inflation, GDP growth, population growth, industry outlooks and expansion plans, etc. It is difficult to see how the BCUC could arrive at a superior assortment of forecasting

formulas than those that BC Hydro is already using, especially not given the short time frame available before the August 2021 RRA.

However, CEABC does believe that comparative industry benchmarking might reveal some opportunities for formulaic or index-based performance metrics or targets for BC Hydro. However, that will take more time than available before the next RRA.

6. **The use of performance metrics which include financial consequences to apply rewards or penalties.**

At present, CEABC does not see how financial rewards or penalties could be imposed on BC Hydro's management or made effective in motivating management's decisions. However, if comparative industry benchmarking reveals some opportunities, then superior objective performance metrics could be developed. Thus, CEABC believes that financial rewards or penalties could be incorporated in the future.

7. **Reducing full revenue decoupling to encourage low carbon electrification.**

Although BCUC's consultant suggested this as a way to motivate low carbon electrification,[10] BC Hydro was skeptical that it could provide any additional impetus. CEABC, however, agrees with BCUC's consultant. It believes that there could be a way to boost the motivation BC Hydro shows towards GHG reducing electrification initiatives. CEABC believes that his could be the best opportunity to initiate a PBR measure that could effectively motivate BC Hydro's performance.

Because electrification initiatives are, for the most part, not currently buffered by Regulatory Accounts, low-carbon electrification measures or electrification in general, might be a suitable area for PBR measures. This area could serve as a pilot initiative to test whether incentives could operate effectively for BC Hydro.

BC Hydro is skeptical, stating that the lack of a Regulatory Account could deny ratepayers receiving some of the potential benefits from the measures.[11] The premise of BC Hydro's view appears to be that the potential benefits from overachieving the electrification targets might be lost to the ratepayers. However, BC Hydro makes no mention of the fact that ratepayers would also be spared any losses due to underachieving the targets. By making sure that the electrification targets are set ambitiously high – as the Government's stated targets appear to be – the loss of potential benefits to the ratepayers should be minimal relative to the protection from potential losses. That is to say, it is much more likely the ratepayers would be protected from the downside rather than suffer the loss of the upside.

When a Regulatory Account is used, any variances from BC Hydro's forecast (whether over or under), will flow into that Regulatory Account at the end of the year, and will be subsequently passed on to the ratepayers in a later period. That is why BC Hydro observes that the ratepayers will always receive the actual results, rather than BC

[10] Transcript, Vol.2, page 255
[11] Exhibit B-9, response to BCUC IR 1.6.3, and Exhibit B-10, response to CEABC IR 1.3.6

Hydro's forecast results. And this is true whether the variance from the forecast is good or bad for the ratepayers.

On the other hand, in the absence of a Regulatory Account, the forecast outcomes (rather than the actual outcomes), will go to the benefit (or cost) of the ratepayers. And this is true whether BC Hydro achieves its forecast or not. Any variance from the forecast will go directly to Net Income, and will alter the shareholder's return. In the case of targets set to implement Government policy objectives, this should not be considered inappropriate and it would make BC Hydro management accountable to the shareholder for achieving the Government's objectives.

CEABC asserts that the fundamental premise in BC Hydro's skepticism is that there is a roughly an equal probability of underachieving or exceeding a given forecast. If the forecast is a profitable one for ratepayers, then exceeding it would bring them more profit, but only if that extra profit were deferred into a Regulatory Account for passing on to ratepayers in a later period. Without the Regulatory Account, the ratepayers receive the forecast profit, regardless of the actual achievement.

Provided that the objectives are set at a very ambitious level (as CEABC believes the Government's electrification objectives to be), then the probability of exceeding those objectives will be very much less than the probability of falling short. In this case, the absence of a Regulatory Account to buffer the outcome would mean that the ratepayers would receive all the benefits inherent in the objectives, whether BC Hydro actually achieves those objectives or not – and management's accountability would be to the shareholder for achieving what are, essentially, the shareholder's objectives. Even without an explicit profit mandate, the shareholder has all the levers necessary to hold management accountable,

CEABC observes that, in this instance, the presence of a Regulatory Account is not for the purpose of insulating the ratepayers from the consequences of management missing its objectives. It merely serves to insulate management from those consequences. Without the Regulatory Account shield, the shareholder would feel the impact of management underachieving the shareholder's objectives, but this should not be considered inappropriate since those particular objectives are specifically intended to serve the shareholder's policy objectives for GHG reductions (as articulated in its CleanBC Plan, and as legislated in the BC Climate Accountability Act.)[12]

It is true that the shareholder would also receive any benefit from BC Hydro exceeding the electrification objectives, but because those objectives will be set at a very ambitious level, any exceedance should be relatively minor compared to the benefits conferred on the ratepayers by the very existence of the forecast that meets those objectives.

[12] Target levels stated in Part 2 of the BC Climate Accountability Act

The PBR value in this approach is that the responsibility to incent management to achieve the objectives would fall squarely on the shareholder – which is exactly where it belongs in the case of achieving the shareholder's objectives. And the shareholder is the one party who holds the real power to motivate management -- in spite of the absence of any explicit profit mandate. In this case, BC Hydro's Net Income will simply be an indication of whether management has achieved the electrification objectives or not.

A different kind of forecast

The reason why this kind of approach could provide an effective incentive in the case of forecasting electrification load, is because this is a totally different type of forecast than BC Hydro is used to making.

BC Hydro is very much accustomed to making forecasts that are based on a lot of exogenous variables – variables to do with the general economy, or inflation or population growth, or factors affecting one industry or another – generally things that are not under BC Hydro's control.

However, in the case of GHG-reducing electrification, the forecast is fundamentally different from the usual situation. In this case, BC Hydro has a significant amount of influence over the outcome. There are a great many things that BC Hydro can do to bring about the desired outcome – these may require some very aggressive actions and may cost some major investments of time and money, but they can be achieved if there is a strong motivation to do so.

Achieving the Government's GHG-reduction electrification objectives is not a forecast of the same type that BC Hydro is used to dealing with. It does not represent a "what-if" scenario that BC Hydro can be indifferent to. Rather, it is a goal that must be reached. Indeed, it is a legislated goal, enshrined in the BC Climate Accountability Act. It cannot be regarded as one of a number of scenarios that might or might not come true, depending on a lot of exogenous variables. It must be treated as a mandatory requirement that BC Hydro will be responsible for seeing through to fruition.

As pointed out in the Navius Report,[13] only one scenario will meet the Government's GHG reduction objectives. The one that that meets the objectives must be accepted as the reference case, and BC Hydro must develop a plan to achieve it. Any scenario that falls short of achieving the objectives should not form the basis of the long-term plan. The plan must be focused on achieving the objective, not on falling short of it. This is not a matter of letting exogenous variables take control of the outcome. This must be treated as a matter of a mandatory requirement.

---

[13] *British Columbia Electrification Impacts Study: Forecasting the Impact of Achieving British Columbia's Greenhouse Gas Emissions Targets on Provincial Electricity Consumption*". As prepared for BC Hydro and as referenced in the CEABC's Final Argument in the BC Hydro F2022 RRA proceeding, pages 3 and 4.

The forecast for electrification is not the usual projection of where the current demand trajectory will take us. The usual projection would be best described as a prognosis, rather than a plan. What is really needed is a plan – one that maps out a route to achieving the desired objectives, rather than just describing the trajectory of where we're headed if we take no purpose-directed action. The objectives have to be set and a plan developed to achieve them.

The situation with regard to achieving electrification is very analogous to the situation with regard to how BC Hydro handles its conventional Demand Side Management (DSM) initiatives. The difference being that conventional DSM is aimed at reducing demand, while electrification is aimed at increasing demand.

In the case of conventional DSM, BC Hydro has been given certain objectives to achieve; it looks at the obstacles to achieving those objectives and it maps out a strategy for overcoming those obstacles. BC Hydro should adopt the same approach in the case of increasing electrification, as a means to reducing GHG emissions.

All of which is respectfully submitted.

June 1, 2021

Clean Energy Association of B.C.