

May 15, 2020

VIA EMAIL: BCHydroReview@gov.bc.com

**Re: Comments on BC Hydro Phase 2 Interim Report
FortisBC Energy Inc. and FortisBC Inc. (collectively FortisBC)**

FortisBC extends our appreciation to the Ministry of Energy, Mines and Petroleum Resources (MEMPR) for the opportunity to submit our comments on the Phase 2 Interim Report (the Report) of the Comprehensive Review of BC Hydro as part of the Government of British Columbia's efforts to contain BC Hydro's rate increases, control costs, and position BC Hydro for future success.

Overall, FortisBC is broadly supportive of the initiatives suggested in the Report and has prepared comments to address the questions posed by Government below. As noted in the Report, FortisBC will continue to work with BC Hydro and the provincial Government to realize benefits for our customers.

1. What factors are important to consider when looking at optional rates to support electrification?

The Report considers a number of innovative rate structures, to be offered on an optional basis, with the stated goals of providing customers with more choice, making electricity more affordable and reducing emissions while increasing electrification overall.

FortisBC agrees that increased use of electricity is a critical strategy to reduce GHG emissions in BC, however, as discussed in Guidehouse's *Pathways to 2050* analysis commissioned by FortisBC – building the new low- or zero-carbon electricity generation required to meet increasing loads is among the highest cost actions for BC. That is why it is so important to carefully consider the best use for any additional electricity and target those sectors where the highest greenhouse gas reduction benefit can be obtained for the lowest cost.

FortisBC supports customer choice and additional/optional rate options when they are underpinned by sound rate-making principles such as recovering the cost of service and

cost-causation, and that consider the degree of cross-subsidization that will result. End-use technology focused rates, such as those that provide a discount for the use of heat pumps or EVs, may shift costs to customers that may not have the ability or means to take part in the offering, and can least afford the additional costs. Ideally, an end-use rate should constitute a separate rate-class supported by a distinct load and cost profile and should not be directed to a specific technology.

Further, preferential rates for specific technologies can set back other promising technologies that could provide similar GHG emissions reductions at lower total costs. The *Pathways* report highlights that significant heat pump adoption in residential buildings is a higher-cost strategy than using the gas system with renewable gases for heat delivery. This is why FortisBC supports a technology neutral approach to ratemaking that reflects the cost of service and the carbon intensity through the carbon tax.

Similarly, if the overriding goal of a rate, such as a TOU or interruptible rate, is to lower customer costs, if the impact of the behaviour prompted by the rate does not result in overall savings to the utility, the revenue shortfall must be recovered from all customers.

If such rates are to be offered on an optional basis, consideration should be given to the degree of “free-ridership” that may occur. That is, to what extent can some customers lower their individual costs without any change in behaviour? This too, may shift costs to other customers. Ideally, one goal of an optional TOU rate is that the impact to customers who do not respond should be revenue neutral.

In FortisBC’s view, optional conservation rates should not unduly shift costs to non-participating customers, should be cost-based, garnering operational results for the utility that provide a demonstrable justification for the lower costs experienced by participating customers. British Columbians have made a substantial investment in the energy infrastructure of this province – the use of that system needs to target those areas that provide them with the highest benefit for their investment.

2. How can competitiveness for business and industry be prioritized in an electrified future?

FortisBC supports providing business and industry with energy choices that provide a balance between affordability, operational flexibility and efficiency, and climate action. Where additional options can be provided for these customers that are still cost based across the rate class, they should be offered. For example, the current 2-tier charge for large industrial customers could well be revisited as suggested given that these customers may have squeezed all the benefit from the rate that drove innovations within their plants.

This rate is currently cost based and the transition to a flattened rate that is also cost based has no disadvantages to other customer groups. A higher demand charge with either the existing Tier 1 energy charge or energy charge between the current Tier 1 and Tier 2 energy

charges, can still reflect the costs imposed in BC Hydro. It is important to note that, as the Report mentions, access to reliable and secure power at competitive, fair and stable rates continues to be relevant to the discussion of affordability. FortisBC does not believe that short-term reactionary rates should be developed.

Furthermore, the “electrified future” should be considered as broadly as possible so as to meet the needs of all energy consumers in BC. For industries that need significant heating energy, electrified solutions may not be technologically viable or cost competitive. Electricity can still have a significant role in delivering energy to these industries through the production of hydrogen and other low-carbon gaseous fuels delivered through the gas transmission and distribution networks. In this sense, electricity used to produce more suitable gaseous energy will strengthen the competitiveness of industries as the world transitions to a lower-carbon energy system. FortisBC recommends that the provincial government and BC Hydro work with other critical stakeholders to develop approaches that minimizes the cost of producing hydrogen and other lower-carbon fuels where electricity is a key input cost.

3. How can BC Hydro reduce barriers to electrification for existing and new customers?

In its response to Question 1 above, FortisBC provided comments regarding rate related initiatives that could be pursued to support electrification. As noted, FortisBC is supportive of efforts to reduce GHG emissions and mitigate rate increases (by adding load) through electrification, provided that such initiatives are cost-based, do not result in cross-subsidization and generate significant and competitive GHG emissions reductions compared to other strategies.

Given these basic principles, BC Hydro should reduce barriers to electrification for new and existing large customers through streamlining of processes and a reduction in the time it takes to process applications and conduct studies, rather than through the creation of new rates. BC Hydro has previously commented that customer understanding and acceptance should inform transmission extension policy and as such it would assess the extent to which transmission extension policy options could be applied consistently and transparently, and would be simple to administer and update.¹ FortisBC agrees that these considerations are key in developing processes that would remove barriers that may exist to new electrification initiatives.

Furthermore, as discussed in (2) above, BC Hydro and the provincial government should also consider 'electrification' as using electricity to produce and deliver other low-carbon energy carriers like hydrogen. In this sense, a number of strategies should be explored to promote the cost-effective production of hydrogen through electrolysis including reviewing

¹ Transmission Extension Policy BC Hydro Summary and Consideration of Participant Feedback to Date 2015 Rate Design Application Module 2 (page 12)

appropriate costs, benefits and subsequent rate designs for interruptible load from electrolysis, demand charges, and access to the distribution and transmission networks.

With regard to the 150 MW threshold, which if exceeded by the customer, may prompt a contribution towards additions or alterations to generation plant and associated transmission, or transmission lines at 500 kV and over, FortisBC supports removal. BC Hydro has stated that it cannot find any reference to the 150 MVA threshold in any of the materials filed or the hearing documents concerning the 1990 Tariff Supplement 6 Commission proceeding. In the absence of any compelling rationale for maintaining the threshold, it should be removed.

Economic Development Rates (Interim Report p. 13) should only be considered where they can be shown to be necessary in order to prevent a customer from either locating in another jurisdiction, or closing down. Even in these cases, such rates should be required to exceed marginal costs, and to benefit all utility customers, or at the very least, leave them no worse off. Given the relatively low and stable level of rates currently enjoyed throughout BC, these criteria related to either load retention or attraction are reasonable and would limit the number of free-riders and the burden to other customers arising from the difference in revenues between the Economic Development Rate and the standard tariff rate. FortisBC views such rates as having merit provided that they are developed through an open regulatory process before the BCUC such that they can be thoroughly tested and understood.

4. What are key considerations for programs to reduce reliance on diesel for non-integrated communities?

FortisBC is supportive of off-grid and non-integrated communities reducing reliance on diesel in exchange for cleaner fuels. All utilities should incorporate a remote community Clean Energy Strategy. FortisBC is interested in continuing to work with BC Hydro and the province on reducing off-grid communities' reliance on diesel and believes LNG is a low-cost and reliable option.

Energy sources like LNG have greatly supported connecting off-grid communities at FortisBC. Diesel is an expensive fuel and incorporating LNG facilities in remote locations allows FortisBC to serve many different regions at competitive prices. Off-grid communities are dependent on diesel to generate electricity and/or heat. This can pose an economic challenge for the local communities, businesses and industries. Projects that incorporate LNG and other lower carbon fuels help bring economic incentives to these communities in the form of jobs and allows them to adopt a cleaner carbon fuel solution at a competitive price.

FortisBC is supportive of BC Hydro projects like the conversion of BC Hydro's Anahim Lake Generation Station partially converted from diesel generators to using mostly LNG². This allows communities like Anahim Lake to reduce GHG emissions and fuel costs and allows communities access to reliable, affordable and consistent energy throughout the day.

5. How should BC Hydro use a value for greenhouse gas emission reductions (for example, an internal carbon price) in its evaluation of investments?

In the Report, BC Hydro states that *"an internal carbon price for BC Hydro could be used to guide decision-making on programs and investments that reduce greenhouse gas emissions"*³. It is unclear why BC Hydro needs or would use its own elevated valuation by incorporating an internal carbon price, when British Columbia has an explicit and official carbon price. BC Hydro should continue to rely on the carbon price set by the Province's carbon tax to inform its business decisions and investments.

FortisBC believes that the carbon tax rate is sufficient to evaluate the carbon-related costs of business decisions. The other jurisdictions BC cited in the report, Washington and Minnesota, use an internal carbon price, because there is no carbon tax or other carbon pricing scheme established and implemented in those jurisdictions. Should BC Hydro or Powerex extend its business and investments outside of BC to other jurisdictions with no carbon pricing policies, then the BC carbon tax rate could be applied to those activities.

6. What are important considerations for a 100% clean electricity energy standard for BC Hydro's integrated system?

An important consideration for BC Hydro to take into account is allowing a 100% clean electricity standard to be flexible rather than prescriptive. Costs for generation change and new technologies develop and evolve rapidly, and the standard would need to allow flexibility to reflect these changes so that BC Hydro will not necessarily be limited in any potential future opportunities. A 100% clean electricity standard should have an ample time horizon, for example, a rolling 3-5 year average basis. A multi-year standard would allow BC Hydro to manage supply and demand throughout the seasons and hedge against potential water restrictions on a given year. This would also allow BC Hydro to take advantage of cost savings and mitigate fluctuating customer rates. Lastly, assigning a number like a 100% clean electricity standard is arbitrary and can have similar effects on greenhouse gas emissions as a 99% or another percentage clean electricity standard, but the advantages of cost savings and increased system reliability from the lower percentage can be material.

² <https://www.coastmountainnews.com/news/bc-hydros-anahim-lake-generating-station-partially-converting-to-lng/>

³ Report, page 16

To meet the proposed clean electricity standard, BC Hydro and the provincial government should continue to evaluate clean power projects in BC and, where possible, prioritize projects that advance First Nations reconciliation. FortisBC is working with various Indigenous communities across BC to identify and develop clean power projects which will deliver very competitive energy while delivering meaningful community benefits.

Lastly, another opportunity that should be considered, is removing the self-sufficiency provision in the Clean Energy Act. This would allow BC Hydro to acquire cost-effective electricity from outside of the Province. This would allow greater access to energy that could aid BC Hydro in achieving the 100% clean electricity energy standard for BC, while keeping costs low for customers. One thing to keep in mind with this clause is emissions accounting from obtaining energy from outside of BC. Currently, there is little language in emissions accounting from energy acquired from outside of BC. Emissions accounting should apply to all sources of energy, including electricity.

7. What are important considerations to empower BC Hydro to make the most cost-effective decisions on resource options, under the oversight of the BCUC, with respect to clean electricity?

As stated in Question 5, flexibility in regulatory practices is necessary to ensure that BC Hydro makes the most cost-effective decisions on resource options. Behind the meter, FortisBC is supportive of investing in smart metering and modernizing the grid with demand forecasting tools, distributed energy management systems, and modernizing communication and control technology to further efforts in making cost-effective decisions with respect to clean electricity.

8. Other jurisdictions, including Ontario and Quebec, invest in research and development in the electricity space to expand their customer offerings. How can BC Hydro best position itself to drive innovation? What is the best way to fund these efforts?

FortisBC supports BC Hydro's interest in driving forward innovation by developing its own innovation fund for approval with the BCUC. Many jurisdictions have incorporated innovation funding for utilities, as the need to advance innovation in light of climate change objectives and activities has grown in importance. This need was highlighted in the Clean Growth Innovation Fund section in the FortisBC Application for Approval of a Multi-Year Rate Plan for 2020 through 2024 which was filed in 2019⁴.

The responsibility for advancing clean growth innovation to meet BC's climate objectives is shared between utilities, regulators and policymakers. Innovation funding allows utilities to address expectations to reduce emissions and support the transition to a lower carbon economy while maximizing the use of energy delivery systems for the benefit of customers.

⁴ https://www.cdn.fortisbc.com/libraries/docs/default-source/about-us-documents/regulatory-affairs-documents/gas-utility/190311-fei-fbc-2020-2024-mrp-application-no-appendices-ff.pdf?sfvrsn=1e31bee4_2

Both BC Hydro and FortisBC have a responsibility to invest in innovative activities that help BC achieve its climate objectives. FortisBC supports BC Hydro on collaborating in innovation and is interested in leveraging funds between BC Hydro, FBC (electric) and FEI (gas). Separate funds for gas and electric activities are necessary to ensure innovative activities are covered throughout the value chain for both types of utilities, similar to the structure of innovation funding in the UK held by the regulator, Ofgem⁵. Innovation funding, like in most jurisdictions, should be recovered through customer rates to ensure consistency for utilities, and to ensure the burden to cover utility innovation funding does not fall on general taxpayers.

An example of where FortisBC and BC Hydro could both collaborate would be hydrogen, as BC Hydro stated in its Phase 2 report, “achieving BC’s GHG targets will require a major shift from fossil fuels to clean electricity generated by BC Hydro and other low-emission energy sources, such as hydrogen”⁶. For hydrogen alone, BC Hydro requires innovation funding to demonstrate how hydrogen electrolyzers could impact the BC Hydro system, while FortisBC requires innovation funding to research how to successfully integrate hydrogen into the existing natural gas supply chain and determine appropriate blend concentration levels and other critical technical requirements. The ability for both utilities to invest in innovation unlocks significant collaboration opportunities on priority issues like hydrogen.

9. What emerging issues and trends will BC Hydro need to address in the Phase 2 Review and beyond?

In Section 2 of the Interim Report, the new and growing area of load related to transportation is identified as an emerging trend, and also as supporting B.C.’s Energy and Economic Development Goals through CleanBC (Section 3). FortisBC believes that electric utilities, including BCH, can benefit from the increased load associated with transportation electrification.

FortisBC believes that charging stations should be operated on a cost-recovery basis to the extent possible and that establishing a price for DCFC services will ensure overall customer demand for these relatively expensive services is realistic. Establishing a price will also allow for non-utility DCFC infrastructure investments. The use of such price signals will also aid BC Hydro in helping to prioritize which barriers to address for transportation electrification. As such, FortisBC encourages BC Hydro to begin implementing cost-based pricing for the charging services currently provided in support of these overall objectives.

Beyond Phase 2, Guidehouse’s *Pathways to 2050* report highlights significant hurdles after 2030 in expanding the supply of clean, firm electricity generating capacity to meet the provincial government’s GHG reduction objectives. Significant new resources for

⁵ <https://www.ofgem.gov.uk/electricity/distribution-networks/network-innovation/low-carbon-networks-fund>

⁶ Report, Page 10

generation, transmission and distribution will be required through to 2050, which will challenge all entities responsible with overseeing, building and managing BC's energy systems. FortisBC recognizes this challenge and believes that greater coordination between the utilities and the provincial government is required. Furthermore, FortisBC believes that resource adequacy challenges to 2050 need in-depth and transparent evaluation in consultation with all key stakeholders to develop optimal strategies now, to address what appear to be major challenges in the future.

10. What are the key issues and trends for Indigenous and non-Indigenous communities related to electricity and BC Hydro?

In the coming years, BC Hydro will need to determine how to best advance Reconciliation efforts in the province along with advancing self-determination of Indigenous Nations. Such efforts could include singular measures such as capacity building, or more appropriately ensuring the absence of obstacles for First Nation communities by collaborating with them.

The report on the BCUC Indigenous Inquiry⁷ outlines many ways to move this agenda forward. FortisBC supports partnering with First Nations utilities to develop clean energy and as such believes there are ways that BC Hydro can assist in these efforts. For instance, as noted in the report of the Indigenous Inquiry, the reconsideration of the (currently suspended) BC Hydro Standing Offer Program using market rates for electricity or other flexible rate measures would allow for the reduction of economic barriers for Indigenous groups.

To facilitate this opportunity, the Provincial Government and BC Hydro should also review the "retail access" on BC Hydro's transmission and distribution systems and the potential to remove obstacles for the use of the grid by third parties, including Indigenous utilities. Finally, the report notes that Renewable Natural Gas is a potentially significant opportunity for Indigenous groups through its sale to incumbent gas distribution utilities like FortisBC. As such, FortisBC would be supportive of any measures BC Hydro can take to realize the potential of Renewable gases on Indigenous lands.

Yours sincerely,



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⁷ https://www.bcuc.com/Documents/Proceedings/2019/DOC_56157_2019-11-01-BCUC%E2%80%93Indigenous-Utilities-Inquiry-Glossy.pdf