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By Electronic Filing

British Columbia Utilities Commission
Suite 410, 900 Howe Street
Vancouver, BC V6Z 2N3

Attention: Patrick Wruck, Commission Secretary

Dear Sirs/Mesdames:

Re: British Columbia Hydro and Power Authority ("BC Hydro")
F2020 to F2021 Revenue Requirements Application ~ Project No. 1598990

We enclose for filing BC Hydro's Reply Submission in the above-noted proceeding.

Yours truly,

FASKEN MARTINEAU DuMOULIN LLP

[Original signed by]

Matthew Ghikas
Personal Law Corporation

MTG/lh
Enclosure

BRITISH COLUMBIA UTILITIES COMMISSION

IN THE MATTER OF THE *UTILITIES COMMISSION ACT*,

R.S.B.C. 1996, CHAPTER 473

and

BRITISH COLUMBIA HYDRO AND POWER AUTHORITY

FISCAL 2020 TO FISCAL 2021 REVENUE REQUIREMENTS APPLICATION

Reply Submission of BC Hydro

May 27, 2020

FASKEN MARTINEAU DuMOULIN LLP
Matthew Ghikas, Christopher Bystrom and Tariq Ahmed

TABLE OF CONTENTS

PART ONE: INTRODUCTION AND OVERVIEW

1. BC Hydro's April 1, 2020 Final Submission started off by highlighting BC Hydro's two broad objectives for this proceeding. The first related to transparency and openness to feedback. The second was to convey that BC Hydro's revenue requirements and requested rate changes reflect a pervasive culture of restraint and cost containment in the face of external cost pressures and an increasingly complex operating environment. The intervener submissions are encouraging in both respects.

2. On the first objective, several interveners, including Zone II RPG,[1] CEC,[2] BCSEA[3] and Mr. McCandless,[4] have acknowledged BC Hydro's level of engagement and the depth of the evidentiary record. No interveners have expressed concern on this topic. On the second objective, BCSEA,[5] Mr. Ince[6] and MoveUP[7] explicitly endorse BC Hydro's efforts to manage costs. More generally, several interveners express general acceptance of BC Hydro's proposed rates and revenue requirements:

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[1] Zone II RPG states that "BC Hydro's efforts in this proceeding also meet its stated goals of being transparent and open…" (Zone II RPG Submissions, para. 5.)

[2] CEC "finds that BC Hydro has been quite transparent in its approach to the proceeding, and the CEC commends the Utility on its general responsiveness both in the written and oral hearing phases." (CEC Submissions, para. 2.)

[3] BCSEA notes, and characterizes as "very helpful", the "substantial new information" regarding BC Hydro's Operating Costs and Capital Expenditures, compared to the Previous Application. It also cites the "very large number of very informative responses" to information requests and questions during the oral hearing. (BCSEA Submissions, para. 17.)

[4] Mr. McCandless, for instance, "acknowledge[d] the management at BC Hydro for the tremendous amount of work they endured in develop the rate submission for 2019 and 2020…". (McCandless Submissions, p. 1.)

[5] BCSEA Submissions, para. 18: "BCSEA considers that BC Hydro has met that objective ["to convey that BC Hydro's revenue requirements and requested rate changes reflect a pervasive culture of restraint and cost containment in the face of external cost pressures and an increasingly complex operating environment"] during this proceeding." And see para. 25: "The evidence demonstrates that BC Hydro has made concerted efforts to contain controllable costs in the Test Period, and that BC Hydro's budgeting process is rigorous."

[6] Ince Submissions, p. 1: "Subject to any other concerns identified by the Commission or other interveners, this intervenor submits that general, BC Hydro has taken reasonable and required to manage costs, maintain reliability and safety, and to set appropriate priorities during the Test Period."

[7] MoveUP Submissions, p. 9: "The Accenture Repatriation and Workforce Optimization Project… contributed to a meaningful improvement in BC Hydro's industrial relations that will continue to benefit the Authority and its customers".

- **BCSEA:** BCSEA "supports approval of BC Hydro's F2020-F2021 Revenue Requirement Application and acceptance of BC Hydro's traditional DSM Expenditure Schedule for the Test Period", subject primarily to its desire for more spending on low-carbon electrification, "a more ambitious traditional DSM spending envelope, and a more ambitious amount of energy and capacity savings, in the Test Period".[8]

- **CEC:** "The CEC submits that this increase and subsequent decrease are generally acceptable."[9]

- **MoveUP:** "Subject to the various recommendations set out above, MoveUP says that the Commission should approve BC Hydro's Application, the proposed rates and the remaining orders sought."[10] MoveUP's recommendations are related to addressing the impacts of COVID-19, future approaches to demand-side management ("DSM") and rate design.

- **Zone II RPG:** "Zone II RPG supports the orders sought at paras. 1, 2, 3, 4(a), 7 and 10 of the Draft Order", which include the requested rate change, orders related to the Deferral Account Rate Rider ("DARR") and amortization of Cost of Energy variance accounts and DSM.[11] Otherwise, Zone II RPG takes no position on BC Hydro's requested orders. Zone II RPG adds that "BC Hydro's proposed rates meet the key criteria of affordability in this Test Period."[12] Regarding DSM: "Zone II RPG recognizes that BC Hydro's moderation strategy for DSM is reasonable in light of BC Hydro's energy surplus and the need for the upcoming Integrated Resource Plan ("IRP") to inform future decisions on DSM."[13]

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[8] BCSEA Submissions, paras. 7-9.

[9] CEC Submissions, p. 1.

[10] MoveUP Submissions, p. 14.

[11] Exhibit B-11, Evidentiary Update, Appendix B.

[12] Zone II RPG Submissions, para. 4.

[13] Zone II RPG Submissions, para. 5.

3. These statements come with caveats, but the issues raised in intervener submissions are limited in number relative to the breadth of the matters covered by the Application. Intervener requests for specific cost disallowances are few. Many intervener recommendations are prospective, and do not impugn the Test Period revenue requirements or the orders sought in the Application.

4. BC Hydro's April 1, 2020 Final Submission anticipated and answered many of the interveners' submissions on contentious matters. BC Hydro augments its responses in this Reply Submission where necessary, but we have avoided repeating prior submissions. Instead of replying line-by-line, BC Hydro focusses on the interveners' main arguments on matters relevant to BC Hydro's Application, i.e., the Test Period revenue requirements and BC Hydro's DSM expenditure schedule.[14]

5. This Reply Submission reinforces that (i) the forecast revenue requirements in the Test Period represent BC Hydro's reasonable cost of investing to meet system requirements and providing safe and reliable service to customers; and (ii) BC Hydro's requested DSM expenditure schedule is in the public interest. BC Hydro respectfully submits that the British Columbia Utilities Commission ("BCUC") should grant the orders sought.

[14] For these reasons, the BCUC should not interpret BC Hydro's silence on a particular intervener argument as agreement.

PART TWO: COVID-19 AND THE NEED TO BRING THIS PROCEEDING TO A CLOSE

A. INTRODUCTION

6. This Part addresses the importance of bringing the current proceeding to a conclusion and the fair and efficient way of reporting on the implications of COVID-19.

B. THERE IS CONSIDERABLE INTERVENER SUPPORT TO BRING PROCEEDINGS TO A CLOSE

7. In the April 1, 2020 Final Submission, BC Hydro acknowledged serious health and economic impacts that COVID-19 is having on customers and society generally. We remain in a critical period. However, BC Hydro also made the point that, from a ratemaking perspective:

(a) BC Hydro's regulatory accounts help to address the uncertainty regarding the impacts of the pandemic by capturing variances from forecast, which can then be returned to or recovered from customers in the next test period in accordance with existing BCUC orders; and

(b) BC Hydro can also bring forward any proposals for any particular relief needed over the remainder of the Test Period in separate applications.[15]

8. Most interveners expressed support for BC Hydro's submission that this proceeding — with less than 10 months currently remaining in the Test Period and BCUC deliberations still to take place — can and should be brought to a close. Notably:

- **Zone II RPG:** "With respect to BC Hydro's response to COVID-19, Zone II RPG agrees with BC Hydro that this proceeding needs to be brought to a conclusion."[16]
- **AMPC:** "AMPC concurs with BC Hydro, however, that this proceeding must be brought to a close, and the record should not be reopened to consider uncertain effects and new inputs in real time."[17]

[15] BC Hydro Final Submission, paras. 593 to 596.

[16] Zone II RPG Submissions, para. 11.

[17] AMPC Submissions, para. 11.

- **BCSEA:** "The proceeding will have been underway for 15 months by the time BC Hydro's reply argument is due on May 27, 2020. In BCSEA's view it is time to bring this proceeding to a conclusion."[18] BCSEA added:

> In case it needs to be said, BCSEA would oppose re-opening the evidentiary record to consider the impacts of the COVID-19 pandemic on BC Hydro's rates and DSM expenditures during the Test Period. BCSEA agrees with BC Hydro that the regulatory accounts "will mitigate much of the uncertainty caused by the pandemic by capturing variances from forecast which can then be returned to or recovered from customers in the next test period in accordance with existing BCUC orders." In BCSEA's view, the appropriate approach is expressed by BC Hydro when it states, "if any particular approval from the BCUC is required over the remainder of the Test Period due to the pandemic, BC Hydro will bring forward requests to the BCUC in separate applications as needed."[19]

- **MoveUP:** "There is no point attempting to adjust the picture now. The best the Commission can do is record the projections, set the rates, and (as with so many dimensions of the economy) reassemble the pieces once the crisis as passed – or at least has stabilized sufficiently to permit rational analysis and forecasts." MoveUP noted that "BC Hydro's accounts will be part of that."[20]

- **Mr. McCandless:** "Given that we are now into the second month of the second year of the test period, the Commission should approve the requested rate increases."[21]

9. As for the remaining two interveners that commented on this point directly: Mr. Ince was silent and Ms. Gjoshe deferred to the BCUC.[22]

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[18] BCSEA Submissions, para. 296.

[19] BCSEA Submissions, para. 298.

[20] MoveUP Submissions, p. 6.

[21] McCandless Submissions, pp. 5 and 6. Mr. McCandless does oppose BC Hydro's use of the Non-Heritage Deferral Account more generally, a point which is answered in Part Eight.

[22] Gjoshe Submissions, p. 3: "Recommendation: I encourage the Commission to consider new information *if* it so deems appropriate, in its pursuit of the science and *art* of rate setting."

C. REPORTING ON THE IMPACTS OF COVID-19 SHOULD OCCUR IN THE NEXT REVENUE REQUIREMENTS APPLICATION

10. MoveUP suggests that the BCUC "should ask BC Hydro to file a report shortly after the order is made, setting out how it plans to deal with the likely revenue shortfall" and describing "what further measures BC Hydro is contemplating to provide relief to hard-pressed ratepayers and communities."[23] BC Hydro's response is two-fold.

11. First, BC Hydro supports the idea of reporting on the impacts of COVID-19, but it is more appropriate for reporting to occur as part of the next revenue requirements application when more information is available. The uncertainty associated with COVID-19 is likely to persist at least through the Summer. In any event, the time for filing the next revenue requirements application is quickly approaching — the decision in this matter may come with less than eight months left before the end of the Test Period and BC Hydro's next application. It should be recognized, however, that it is the mid- to long-term impacts of COVID-19 on BC Hydro's business that will impact customer rates the most. It will be too early to report on those impacts, and we also expect this issue to arise in the context of the next IRP.

12. Second, BC Hydro, working with the Province and pursuant to Government direction, has implemented a number of measures to support customers during the pandemic. BC Hydro is following the developments associated with COVID-19 carefully. It is reporting to the BCUC monthly on aspects of the COVID-19 bill relief programs in accordance with BCUC Order No. G-79-20. Any further initiatives would similarly have to be assessed in conjunction with the Province. Reporting on other potential initiatives under consideration in the fashion envisioned by MoveUP may not be practical.[24]

[23] MoveUP Submissions, p. 5.

[24] Issues relating to Cabinet privilege will arise, for instance.

PART THREE: PROVIDING SAFE, RELIABLE AND COST EFFECTIVE SERVICE IN AN INCREASINGLY COMPLEX ENVIRONMENT

A. INTRODUCTION

13. In this Part, BC Hydro makes the following points in response to intervener submissions:

- First, many of the arguments advanced by interveners challenge the timing of cost recovery, rather than question the reasonableness of the underlying costs.
- Second, in answer to CEC, BC Hydro's approach to cost containment considers both the short and longer-term implications for ratepayers.
- Third, BC Hydro's attention to containing costs and driving revenues in furtherance of just and reasonable rates in the Test Period also promotes affordability and industrial rate competitiveness.

B. DESPITE A BROAD REVIEW OF BC HYDRO'S COSTS, INTERVENERS ADVOCATE VERY FEW DISALLOWANCES

14. In Part Three of the April 1, 2020 Final Submission, BC Hydro set out passages from Mr. O'Riley and Mr. Wong, in which they described (a) the rigour applied during the budgeting process, and (b) the challenge presented by managing within the budgets, upon which this Application is based. The BCUC's process invited a very broad and in-depth inquiry into BC Hydro's finances to test that evidence. The submissions of interveners after that inquiry are notable in several respects:

- First, BCSEA,[25] Mr. Ince[26] and MoveUP[27] explicitly endorse BC Hydro's efforts to manage costs.

- Second, the only interveners who advocated a specific Operating Cost disallowance were Ms. Gjoshe (holdback pay) and CEC (salary increases and holdback pay). Their narrow arguments in this regard are answered below in Part Six.

- Third, as discussed in Part Seven below, it is a similar story with BC Hydro's capital expenditures and additions, with the exceptions being the inclusion of electric vehicle charging infrastructure in rate base, AMPC's arguments challenging the prudence of past costs where some geotechnical work was conducted later in the project lifecycle,[28] and project write-offs.[29] Otherwise, interveners focused on topics such as BC Hydro's capital planning process, project evaluation, and the interconnection process.

- Fourth, only CEC opposes acceptance of BC Hydro's proposed DSM expenditure schedule. Zone II RPG considers the expenditure schedule to be consistent with the BCUC's previous directions, including responding to the needs in the non-integrated areas ("NIA").[30] Otherwise, the prevalent theme in intervener submissions is that ratepayer groups generally want more expenditures for the

[25] BCSEA Submissions, para. 18: "BCSEA considers that BC Hydro has met that objective ["to convey that BC Hydro's revenue requirements and requested rate changes reflect a pervasive culture of restraint and cost containment in the face of external cost pressures and an increasingly complex operating environment"] during this proceeding." And see para. 25: "The evidence demonstrates that BC Hydro has made concerted efforts to contain controllable costs in the Test Period, and that BC Hydro's budgeting process is rigorous."

[26] Ince Submissions, p. 1: "Subject to any other concerns identified by the Commission or other interveners, this intervenor submits that general, BC Hydro has taken reasonable and required to manage costs, maintain reliability and safety, and to set appropriate priorities during the Test Period."

[27] MoveUP Submissions, p. 9: "The Accenture Repatriation and Workforce Optimization Project… contributed to a meaningful improvement in BC Hydro's industrial relations that will continue to benefit the Authority and its customers".

[28] AMPC Submissions, Appendix I.

[29] AMPC Submissions, Appendix J.

[30] Zone II RPG Submissions, para. 51.

customers they represent. For example, BCOAPO argues for more residential DSM initiatives,[31] CEC argues for more commercial DSM initiatives,[32] and AMPC wants more industrial load curtailment programs.[33]

15. AMPC argues that, as a result of the DARR, "BC Hydro has obscured cost increases that it otherwise would have had to justify more strenuously."[34] The notion that the change in the DARR has spared BC Hydro the need to put forward its best case is untenable. The Application outlined in a transparent manner both the cost drivers facing BC Hydro, and the effect of the DARR in returning regulatory account balances to customers during the Test Period. The Application included hundreds of pages on BC Hydro's operating costs (Chapters 5 and 5A-G), capital costs (including a new Appendix K), Cost of Energy, and finance costs among other things. There were thousands of information requests over five rounds and an 11 day oral hearing, presenting ample opportunity for parties to seek information and test the evidence.

16. The evidence, summarized throughout BC Hydro's Submissions, is clear that BC Hydro has taken appropriate steps to control costs. Cost containment will remain a priority, as a key part of its overall mandate to have affordable and competitive rates. BC Hydro fully expects to have to justify its future rate requests.

C. INTERVENERS OFTEN FOCUS MORE ON THE TIMING OF RECOVERY THAN DISPUTING THE UNDERLYING COSTS

17. Many of the arguments advanced by interveners that challenge BC Hydro's rate request relate to forecast currency in circumstances where regulatory accounts ensure customers will pay the actual costs and receive actual revenues. These disputes are ultimately about when costs and revenues should be recognized, as opposed to impugning the reasonableness of the underlying costs and revenues that flow from management decisions. For example:

[31] BCOAPO Submissions, p. 51.

[32] CEC Submissions, paras. 489 to 525.

[33] AMPC Submissions, Appendix L.

[34] AMPC Submissions, para. 76.

(a) Several interveners note the uncertainty in the Load Forecast, particularly since COVID-19. The Load Forecast determines the domestic revenues to be included in the Test Period, while variances are included in the next test period. (See Part Four below.)

(b) AMPC and BCOAPO advocate forecasting Trade Income and Storm Restoration Costs using a five-year average that includes fiscal 2019 actual results, where the variance will be captured in regulatory accounts. They do not appear to dispute the appropriateness of crediting ratepayers with Trade Income or recovering actual Storm Restoration Costs from customers. (See Part Twelve below.)

(c) While AMPC disputes the discount rate used to calculate the non-current pension costs reflected in the Evidentiary Update, it does not challenge the reasonableness of BC Hydro's compensation framework or that pension costs are a proper component of BC Hydro's revenue requirements.

D. BC HYDRO IS COGNIZANT OF AFFORDABILITY AND INDUSTRIAL RATE COMPETITIVENESS

18. The cost of electricity for customers is a pervasive theme in intervener submissions. CEC, for instance, addresses affordability of rates for commercial customers.[35] Zone II RPG speaks to the need for affordable rates in the NIA.[36] AMPC addresses industrial rate competitiveness.[37] BC Hydro recognizes the importance of affordability and rate competitiveness for customers. Mr. O'Riley acknowledged this in his Opening Statement:

> As I emphasized in my opening statement at the workshop to begin this regulatory process, affordability is of great concern to us and I know to all of you. I talked about my meetings with the Low Income Advisory Council and Association of Major Power Consumers members, which have continued. A big focus of these meetings is always affordability. This year, we've experienced a downturn in the forest sector that was deeper and sharper than anyone seems to have forecast,

[35] See, e.g., CEC Submissions, paras. 171 and 559.

[36] Zone II RPG Submissions, para. 21.

[37] See, for instance, AMPC Submissions, paras. 34 and 35.

> including BC Hydro. We're very concerned about the impact of the forestry downturn on communities across B.C., on the companies themselves and on our broader ratepayers. It is a reminder of the challenging market conditions that many of our large customers must compete in and the importance of B.C. remaining competitive in terms of cost of power.[38]

As AMPC noted, Mr. O'Riley reiterated during cross-examination that industrial rate competitiveness is important.[39]

19. Given the broad consensus regarding the desirability of affordable and competitive rates, BC Hydro's submissions below focus on (a) how these outcomes are advanced in the context of a revenue requirements proceeding, and (b) AMPC's presentation of Hydro Québec rate survey data.

(a) Affordability and Competitiveness, in a Revenue Requirements Context, Are Advanced by Cost Management and Revenues

20. AMPC[40] and CEC,[41] as part of broader submissions about rate affordability and competitiveness, have argued for rate design changes and initiatives. AMPC also ties the upcoming return on equity ("ROE") application to the issue of industrial rate competitiveness, asking the BCUC to make determinations now about the relevance of certain evidence in that future proceeding.[42] BC Hydro submits that the proper scope of this proceeding — the determination of just and reasonable rates for the Test Period — can be respected while still advancing the policy goals of affordability and competitiveness. In a revenue requirements context, these policy goals are advanced by appropriate cost management and reflecting reasonable forecast revenues in rates.

21. Mr. O'Riley emphasized in his Opening Statement the link between cost discipline and affordability and rate competitiveness:

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[38] Exhibit B-30, O'Riley Opening Statement, p. 3. See also, Tr. 5, p. 357, l. 11 to p. 358, l. 1 (O'Riley).

[39] For instance, AMPC quoted the comments of Mr. O'Riley that BC Hydro is a "hundred percent in agreement with you that creating conditions that cause these companies to continue is important." (AMPC Submissions, para. 49.)

[40] See, e.g., AMPC Submissions, para. 93.

[41] See, e.g., CEC Submissions, paras. 558 and 559.

[42] See e.g., AMPC Submissions, para. 88. We address AMPC's ROE argument further in Part Thirteen below.

> My view is that we have put forward a business plan that is consistent with this objective and I'm proud of the efforts we've made to maintain our competitive position against a backdrop of increasing complexity in our operating environment, the need to maintain a highly skilled workforce across the company, aging infrastructure, and the rising service expectations that I will discuss in a moment.
>
> As a result of a changing operating environment, a lot of rigour goes in to our budgeting process. The Commission had questions about our budgeting coming out of our last revenue requirements application. My strong view is that our top-down / bottom-up budgeting process has limited operating and capital cost increases and that a full zero-based budgeting process that lacks the top-down constraint we have imposed would see greater cost increases.[43]

22. The evidence, described extensively in BC Hydro's Final Submission, demonstrates that BC Hydro is exercising cost discipline throughout the organization. As discussed above, several interveners (including BCSEA,[44] Mr. Ince[45] and MoveUP[46]) explicitly acknowledge BC Hydro's efforts in controlling costs.

23. BC Hydro is also focussing on revenue generation. It has pursued and is pursuing numerous capital investments related to electrification that will increase energy sales. For example:

- BC Hydro is developing charging stations to remove barriers to electric vehicle adoption[47] and recently received BCUC approval of two fleet charging rates to encourage customers to convert their fleet vehicles and vessels from fossil fuels to electricity.[48]

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[43] Exhibit B-30, O'Riley Opening Statement, pp. 3 and 4. See also, Tr. 5, p. 358, ll. 2-19 (O'Riley).

[44] BCSEA Submissions, para. 18.

[45] Ince Submissions, p. 1.

[46] MoveUP Submissions, p. 9.

[47] Tr. 5, p. 488, l. 9 to p. 489, l. 6 (O'Riley).

[48] *BC Hydro Fleet Electrification Rate Application*, BCUC Decision and Order No. G-67-20, March 27, 2020 ("Fleet Electrification Decision").
Online: https://www.bcuc.com/Documents/Proceedings/2020/DOC_57665_G-67-20-BCH-Fleet-Electrification-Final-Order-Reasons.pdf.

- The PRES Project is being implemented to realize the significant potential for electrification in the oil and gas sector.[49]

- BC Hydro is also investing in three other projects to encourage new load growth and revenue through electrification: (1) the Bear Mountain Terminal to Dawson Creek Transmission Voltage Conversion,[50] (2) the North Montney Transmission Development,[51] and (3) the Prince George to Terrace Capacitors Project.[52]

BC Hydro responds to intervener submissions on electrification in more detail in Part Eleven of this Reply Submission.

(b) Industrial Rate Competitiveness Should Be Presented Using an Appropriate Peer Group and Metrics

24. AMPC quotes extensively from the evidence of its consultant, InterGroup, comparing industrial rate competitiveness using data from the Hydro Québec survey. The Hydro Québec survey is an appropriate data source. BC Hydro also agrees that its rate increases over the past 15 years have affected BC Hydro's position relative to the other surveyed utilities. However, InterGroup's presentation of the data obscures the reality that, despite past rate pressures, BC Hydro remains in the top (i.e., most favourable) quartile among the surveyed North American jurisdictions. BC Hydro's industrial rates remain very competitive.

25. The problematic aspects of InterGroup's (and, accordingly, AMPC's) presentation include the peer group and metrics it has chosen to emphasize. BC Hydro's current industrial rate competitiveness is best defined in relation to:

(a) a peer group consisting of jurisdictions that do or could support industrial activity similar to the type of industrial activity in British Columbia; and

(b) the relative rate level expressed in dollars per kW/h.

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[49] Tr. 12, p. 2312, l. 23 to p. 2313, l. 18 (Kumar).

[50] Exhibit B-12, BCUC IR 2.254.2.

[51] Exhibit B-12, BCUC IR 2.254.2; Tr. 5, p. 515, l. 1 to p. 516, l. 5 (O'Riley).

[52] Exhibit B-12, BCUC IRs 2.247.6 and 2.247.6.1.

26. InterGroup and AMPC highlight a subset of the jurisdictions surveyed by Hydro Québec for comparison — Manitoba, Québec and Newfoundland — and characterized BC Hydro as having the highest rates of any of these jurisdictions. While true, these three jurisdictions are also the only three jurisdictions in the Hydro Québec survey that have lower industrial rates than BC Hydro; the other 18 have higher (some much higher) industrial rates.

27. InterGroup justified singling-out three other jurisdictions on the basis that those utilities are also hydroelectric-based utilities, and AMPC notes[53] that BC Hydro had used three hydroelectric utilities in a high-level operating cost comparison (Manitoba Hydro, FortisBC and Hydro Québec). Again true; however, the objective of the analysis being performed should inform peer group selection. In an assessment of industrial rate competitiveness, the relevant comparators are the jurisdictions that might host industrial activity, irrespective of how the electricity in those jurisdictions is generated.[54] By contrast, BC Hydro's peer group for the indicative operating cost comparison consisted of hydroelectric utilities because the nature of the generation mattered in that context; the Brattle Group had observed that low-cost large hydroelectric generation affected utility power production cost comparisons measured in cost per customer and cost per MW/h.[55]

28. What jurisdictions could host a competitor to BC-based industry, so as to be part of an appropriate peer group for InterGroup's analysis? The competitors of BC Hydro's industrial customers are located in more jurisdictions than just Manitoba, Newfoundland and Québec.[56] As

[53] AMPC Submissions, para. 55.

[54] Ultimately, the nature of the generation gets reflected in the cost of service and the rate charged. Hydroelectricity, being relatively inexpensive per kw/h, is a key driver of low rates in British Columbia, Manitoba, Québec and Newfoundland. It is the promise of low rates due to low cost generation, not a love of large hydro *per se*, that makes hydroelectric-based jurisdictions attractive.

[55] See BC Hydro Final Submission, paras. 232 and 235.

[56] During cross-examination, InterGroup conceded that there were no paper mills and only one pulp mill in Manitoba that would represent competition for BC industry. Tr. 11, p. 2046, ll. 3-8 (Bowman).

InterGroup conceded, the markets for industrial products are global in nature.[57] As such, the entirety of the Hydro Québec survey population are relevant comparators.[58]

29. A second problematic aspect of InterGroup's rate comparison (re-emphasized in AMPC's Submission[59]) is that it highlights *percentage changes* in rates, as opposed to changes in dollars per kW/h, to compare the rates of different utilities over time. BC Hydro submits that, while it might be reasonable to consider the percentage increase in BC Hydro's industrial electricity rates since 2003 as an indication of how BC Hydro's rates have changed over the past 17 years, it makes little sense to compare percentages among utilities as a measure of competitiveness. The starting point for each utility differed; increasing a small price per kW/h by, say, 100% still yields a small number, whereas a small increase in a high price per kW/h still yields a large number. Examining the changes in rates in dollars per kW/h for the jurisdictions in the Hydro Québec study provides a fairer depiction of how the competitive position of BC Hydro has changed. Ultimately, BC Hydro's rates are still the fourth lowest among all of the North American jurisdictions surveyed, as shown in the figure below.[60]

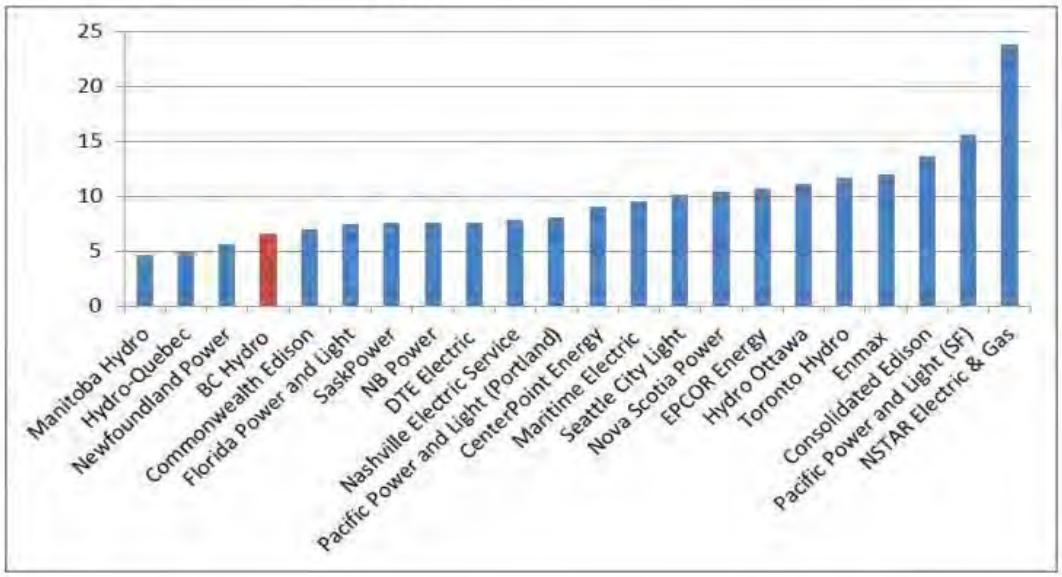
[57] Tr. 11, p. 2040, l. 15 to p. 2041, l. 21 (Bowman).

[58] InterGroup implicitly recognizes that the entirety of the peer group is relevant because, unlike when it compared the absolute rates, it performed its comparison of percentage change using the entire Hydro Québec survey group. Exhibit C11-11, InterGroup Report, p. 18.

[59] See, for instance, AMPC Submissions, paras. 37 and 38.

[60] Exhibit B-28, BC Hydro Rebuttal Evidence, p. 4.

Figure 1 **Comparison of average electricity prices for Large Power Customers (cents per kWh)**



E. COST MANAGEMENT DECISIONS CONSIDER COST-EFFECTIVENESS AND BOTH SHORT AND LONGER-TERM IMPLICATIONS FOR RATEPAYERS

30. CEC generally recognizes BC Hydro's cost management efforts to date;[61] however, CEC maintains that BC Hydro's cost containment culture needs to give greater consideration to "cost/benefit analysis" with an eye to longer-term benefits for ratepayers.[62] In relation to operating costs, CEC recommends that the BCUC request BC Hydro to report annually on improvement in its processes for evaluating cost-effectiveness.[63] In relation to capital, CEC recommends that the BCUC adjust its oversight process to assess the cost-effectiveness of BC Hydro capital expenditures over time.[64] BC Hydro submits that these recommendations are not warranted, and makes four points in response.

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[61] See, for instance, CEC Submissions, para. 3: "The CEC further finds that BC Hydro appears to be working to reduce costs and ensure value in its decision-making. For instance, BC Hydro is working to improve its capital planning processes, is taking steps to mitigate IPP energy costs, and is implementing various practices to increase its benefit-to-cost analyses."

[62] CEC Submissions, para. 9: "The CEC is pleased that the Utility is working hard to contain costs, but encourages the Utility to include a focus on cost/benefit analysis as it continues to transition to a leaner culture. The CEC submits that cost containment is less useful than cost-effectiveness when seeking longterm benefits for ratepayers."

[63] CEC Submissions, para. 217.

[64] CEC Submissions, paras. 364 to 378.

31. First, CEC appears to have based its submission, to a significant extent, on a word search of the evidentiary record: "The CEC has thoroughly reviewed the Application for examples of BC Hydro using cost/benefit analysis. In over 3,000 pages, cost/benefit or related terms is used only 28 times. Over 80% of these references relate to DSM."[65] Leaving aside the limitations in the search parameters (e.g., synonyms like "cost-effective" appear in the record many times), the assessment of whether or not BC Hydro considers long-term implications when it develops budgets cannot reasonably be conducted in this fashion.

32. Second, BC Hydro submits that, to the extent that CEC's concern is that certain Test Period budgets (e.g., maintenance) are too low, the evidence shows that BC Hydro management is well aware of the need to consider short and long-term impacts when making budgeting decisions. Maintenance is an area that BC Hydro has identified as requiring greater investment in the next test period. It is evident from the discussion with the witnesses responsible for maintenance that they have done their due diligence in terms of whether they can carry out appropriate maintenance activity with the budgeted funding.[66]

33. Third, CEC's broad statement about BC Hydro's non-use of cost-benefit analysis, whether based on a word count or otherwise, is demonstrably incorrect.

- BC Hydro's "top-down, bottom-up" budgeting approach for operating costs is, at its heart, an exercise in determining the right balance between rate affordability and carrying out tasks that would benefit ratepayers in some fashion, whether today or in the future. There are also specific examples of decisions, such as in-sourcing decisions under the Workforce Optimization[67] and the Accenture repatriation,[68] where BC Hydro has undertaken a quantitative cost-benefit assessment with consideration of short and long-term implications. While CEC is critical of analysis that focusses on cost reduction in the absence of a quantitative

[65] CEC Submissions, para. 195.

[66] See paras. 115 to 117 below.

[67] BC Hydro Final Submission, paras. 166 to 169.

[68] BC Hydro Final Submission, paras. 174 and 175.

assessment of benefits, generally speaking, doing the same work for less operating dollars will by definition be more cost-effective.

- With respect to capital, the entirety of BC Hydro's capital planning and delivery process is geared around optimizing the portfolio.[69] BC Hydro chooses the most cost-effective alternatives for its projects,[70] prioritizes its capital portfolio,[71] delivers its projects on time and on budget,[72] and meets its service plan goals.[73] In BC Hydro's submission, this is strong evidence of a cost-effective capital plan.

34. Fourth, the BCUC recently completed a review of its regulatory oversight of BC Hydro's capital expenditures and projects. In that proceeding, CEC filed evidence setting out its proposal to adjust the BCUC's oversight process centered on the principle of cost-effectiveness, which reflects CEC's recommendations on cost-effectiveness made in this proceeding. The BCUC rejected CEC's proposal stating:

> **The Panel is not persuaded by CEC's proposed recommendations that the BCUC establish an ongoing process to systematically improve the information available to enable the BCUC to more effectively perform its regulatory oversight of capital expenditures.**
>
> While CEC notes that its proposals are illustrative and are not an attempt to provide an end position, the Panel finds CEC has not made a case that pursuing its recommendations further is necessary or that such an approach could result in improvements in regulatory efficiency. CEC has not provided clear evidence that there are deficiencies in BCUC's current regulatory processes that need to be addressed, and the Panel is not convinced that CEC has identified specific information that is missing and warrants inclusion in BC Hydro's proposed information filing requirements. CEC's suggested direction, while illustrative, does not fit in well with existing IRP, section 44.2, CPCN and RRA processes and legislative framework which enable the BCUC to set rates that are just and reasonable and ensure capital expenditures and integrated resource plans are in the public interest. The Panel agrees with BC Hydro that adding additional process as recommended by CEC would result in additional costs for BC Hydro to produce

[69] Exhibit B-1, Application, Chapter 6.

[70] E.g., project summaries in Exhibit B-1, Appendix J and business case examples in Exhibit B-5, BCUC IR 1.114.1.

[71] Exhibit B-1, Application, Section 6.3.4.

[72] Exhibit B-1, Application, Section 6.2.1.2.

[73] Exhibit B-12, BCUC IRs 2.228.3.1 and 2.228.3.2; Exhibit B-13, CEC IR 2.92.2.

> the proposed additional information and could result in significant duplication of effort for BC Hydro, Interveners and the BCUC. Further, if the BCUC and parties require further information or increased understanding it is efficient to ask for this information or clarifications within the existing regulatory processes as issues arise.
>
> In addition to not demonstrating that its proposals will result in regulatory efficiency, CEC fails establish [sic] that its recommendations for additional information and processes will result in a more effective review of capital investments by the BCUC. The Panel finds that BC Hydro's Rebuttal Evidence establishes doubt that CEC's proposals will result in in a more effective review by the BCUC and indicates that BC Hydro Capital Management processes are operating effectively. The Panel also agrees with MoveUP's that "reducing the evaluation of Hydro capital projects to a system of quantitative scoring" may not improve effectiveness since many risks and benefits associated with capital expenditures that the BCUC must consider cannot be quantified.
>
> Further, as pointed out by BCSEA, CEC's proposals do not directly address the role of the BCUC and the tests it applies under the UCA to consider the public interest and to set rates that are not unjust, unreasonable or unduly discriminatory. While the CPCN and section 44.2 processes do test prospective capital expenditures for cost-effectiveness, Mr. Craig's submission that the BCUC has a role in overseeing capital expenditures "to ensure that they are cost-effectively deployed and provide full value for ratepayers" goes beyond the BCUC's mandate. Similarly, the Panel agrees with BC Hydro that CEC's position that the BCUC should evaluate if BC Hydro optimizes its IT strategies is not grounded in the BCUC's role as set out in the UCA.[74] [Emphasis in original]

35. While the BCUC's review was focussed on capital, similar comments are true in relation to CEC's cost-effectiveness recommendations for the BCUC's review of operating expenses. CEC's focus on cost-effectiveness as a governing regulatory principle is not supported by clear evidence demonstrating its effectiveness. It is also a poor fit with the BCUC's role and the tests it applies under the *Utilities Commission Act* (the "*UCA*") to consider the public interest and to set rates that are not unjust, unreasonable or unduly discriminatory.

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[74] *BC Hydro and Power Authority Review of Regulatory Oversight of Capital Expenditures and Projects*, BCUC Decision and Order No. G-313-19, December 2, 2019, Decision at pp. 46-47 ("Capital Expenditures Decision").

Online: https://www.bcuc.com/Documents/Proceedings/2019/DOC_56448_2019-12-02-BCH-Review-of-BCH-Capital-Expenditures-Decision.pdf.

36. BC Hydro provides additional reply to CEC regarding Operating Costs and Capital in Parts Six and Seven below.

PART FOUR: LOAD AND REVENUE FORECASTS

A. INTRODUCTION

37. BC Hydro's Final Submission set out the evidence demonstrating that the October 2018 Load Forecast, and the associated Revenue Forecast, are reasonable for the purposes of setting rates in the Test Period. In light of intervener submissions, we make the following points:

- First, interveners broadly support using BC Hydro's Load Forecast for the purpose of setting rates in the Test Period.
- Second, future load forecasts will incorporate recent developments, including the impacts of COVID-19.
- Third, a number of intervener comments about the Load Forecast suffer from various shortcomings, including being impractical, being based on erroneous assumptions about the Load Forecast inputs, and undermining the objective nature of BC Hydro's load forecasting function.

B. INTERVENERS BROADLY SUPPORT USING BC HYDRO'S LOAD FORECAST

38. Several interveners, including BCOAPO,[75] BCSEA,[76] CEC[77] and MoveUp,[78] indicate their support for BCUC acceptance of BC Hydro's Load Forecast for the purpose of setting rates in the Test Period. Some, like BCOAPO and MoveUP, cite pragmatic considerations such as the COVID-

[75] BCOAPO Submissions, p. 15: "As a result, we are, in these unique circumstances [COVID-19], content to let the load forecast as submitted with the Evidentiary Update, stand as reasonable for the purposes of determining BC Hydro's F2020 and F2021 electricity rates. In coming to this position, we have taken into consideration not only the possible impacts of COVID19, but the fact that the variances that may occur between the forecast and actual Domestic revenues are eligible for deferral to BC Hydro's regulatory accounts: a fact that lends our clients some small comfort in these uncertain times."

[76] BCSEA Submissions, paras. 32, 33, 35, 27, 43 and 51.

[77] CEC Submissions, para. 82: "The CEC accepts BC Hydro's Load Forecast as provided but expects that the actual load will likely be significantly lower than currently forecast and that the Load Forecast could be appropriately adjusted to a lower level."

[78] MoveUp Submissions, p. 7: "MoveUP submits that the Commission should accept BC Hydro's October 2018 load forecast for the purposes of setting its rates in the current cycle, despite the fact that it will be proven inaccurate."

19 pandemic and regulatory accounts; however, BCSEA[79] and MoveUP[80] both express confidence in BC Hydro's methodology.[81] While some interveners provide comments and observations on the Load Forecast (addressed below), including comments related to load changes in light of COVID-19, no intervener expresses opposition to its use for the purpose of setting rates for the Test Period.

C. FUTURE LOAD FORECASTS WILL REFLECT THE IMPACT OF COVID-19

39. Mr. Ince[82] and CEC[83] recommend that BC Hydro prepare updates related to the Load Forecast, primarily citing COVID-19. For example, CEC recommends that BC Hydro lower its Load Forecast for the 2020 period and/or revisit its Load Forecast "in light of the current economic conditions and other factors to make a suitable adjustment" for this Application.[84] BC Hydro submits that these approaches should be rejected for several reasons:

- As described in Part Two of this Reply Submission, there is a strong need to bring this proceeding to a close. Reporting on the impacts of COVID-19 should occur in the next revenue requirements application when more information is available.

[79] BCSEA agrees that "Since the May 2016 Load Forecast, BC Hydro made improvements to its load forecast methodology and governance based on feedback from the BCUC and internal audit recommendations." (BCSEA Submissions, para. 38) And it "concurs with BC Hydro that the Load Forecast and Revenue Forecast for the Test Period reflected in the Evidentiary Update are reasonable." (BCSEA Submissions, para. 51)

[80] MoveUp Submissions, p. 6. MoveUP submits that "BC Hydro's load forecasting and its most recent forecasts were the subject of extensive pre-hearing process and oral hearing time. No-one has demonstrated that the load forecast is the product of flawed methodology and Hydro's evidence withstood close scrutiny."

[81] In addition to the comments of MoveUP and BCSEA, BCOAPO indicates that it only addresses "those aspects of BC Hydro's load forecasting methodology or the resulting forecast for the test period (F2020-F2021) that cause concern." The list of issues BCOAPO identifies is relatively short. (BCOAPO Submissions, p. 12.)

[82] At page 3 of his submissions, Mr. Ince recommends that BC Hydro provide an update on the most recent (high-level estimated) load and revenue impacts. At page 4 of his submissions, Mr. Ince recommends that BC Hydro prepare an update on the load forecasts specific to the LNG, oil and natural gas sectors.

[83] As described above, though CEC accepts BC Hydro's load forecast, at para. 50 of its submissions, CEC says that BC Hydro should "review its forecast in light of the current COVID-19 pandemic" and at para. 83 of its submissions recommends that "BC Hydro lower its Load Forecast for the 2020 period and/or request that BC Hydro revisit its Load Forecast in light of the current economic conditions and other factors".

[84] CEC Submissions, p. 1 and para. 83.

- BC Hydro anticipates returning to an annual load forecasting cycle.[85] BC Hydro will provide a 20-year load forecast in the upcoming IRP.[86] As described in BC Hydro's Final Submission, as well as Subsection D(e) below, BC Hydro's Load Forecast includes an uncertainty band given the inevitability that actual results will vary from forecasts. The uncertainty band includes recessionary effects, and BC Hydro's description of those bands make clear black swan events will fall outside of these probabilities.[87]

- Variances in the Cost of Energy associated with load are included in the revenue requirements for the next test period, such that customers pay the actual Cost of Energy.

D. INTERVENER COMMENTS DO NOT GO TO THE HEART OF THE LOAD FORECAST

40. As described below, a number of intervener comments about the Load Forecast suffer from various shortcomings, including being impractical, being based on erroneous assumptions about the Load Forecast inputs, and undermining the objective nature of BC Hydro's load forecasting function. They can accordingly be set aside.

(a) Load Forecast Uses Appropriate Electricity Rate Assumptions

41. BCOAPO comments that BC Hydro should, "to the extent possible…align the rate increase assumptions used for purposes of determining price elasticity impacts on its load forecast with the proposed rate increases".[88] BCOAPO's recommendation is impractical and would have adverse implications. A footnote in BCOAPO's submissions recognizes the underlying issue: "It is recognized that the load forecast is an input to the determination of the test period revenue requirements and resulting proposed rate increases and, as such, total alignment may

[85] Exhibit B-5, CEC IR 1.7.1; Tr. 8B, p. 1261, ll. 1-5 (Rich); Tr. 9, p. 1572, ll. 3-13 (Rich and Clendinning); Tr. 10, p. 1643, ll. 2-7 (Rich).

[86] Exhibit B-5, CEC IR 1.42.2. See also, Exhibit B-22, BCUC IR 4.318.4.

[87] BC Hydro Final Submission, paras. 44 to 47.

[88] BCOAPO Submissions, p. 12.

not be possible."[89] The effect of using BCOAPO's approach would be to delay the filing of a revenue requirements application because the rate assumptions would be required to feed in to the Load Forecast.

42. Further, there is little reason to believe such a change would have a meaningful effect on the Load Forecast. As described in BC Hydro's response to BCUC IR 2.211.2,[90] the effect of using the proposed rates would be a negligible change from the October 2018 Load Forecast (0.1% higher forecast load for fiscal 2020 and 0.5% higher forecast load in fiscal 2021). These changes are insignificant relative to the other load drivers and load reductions. As such, BC Hydro anticipates other drivers will contribute more significantly to the variance for the Test Period. For example, for temperature variation from normal could be a dominant source of the variance the residential sector over the test years compared to the rate impact projections.[91] While this analysis is in respect of the Test Period, it is illustrative of the limited impact that BCOAPO's suggested change would have on the Load Forecast more generally.

43. BC Hydro's focus on continual improvement to the Load Forecast methodology was described in the Application[92] and highlighted in its Final Submission.[93] BC Hydro intends to continue on this course; however, the BCUC should reject a direction in the nature sought by BCOAPO. There is no basis upon which to conclude that this is an item for which significant effort is currently required.

(b) Elasticity Values Are Based on Recent Expert Advice

44. Mr. Ince, while acknowledging that the "price elasticity assumption has a minimal impact on the load forecast during the Test Period",[94] suggests that BC Hydro needs an approach to elasticity that is beyond a "single invariant value."[95] The BCUC should favour BC Hydro's

[89] BCOAPO Submissions, p. 12, FN 33.

[90] Exhibit B-12.

[91] Exhibit B-5, BCUC IR 1.5.3.1.

[92] Exhibit B-1, Application, pp. 3-3 to 3-30.

[93] BC Hydro Final Submission, paras. 24 to 43.

[94] Ince Submissions, p. 23.

[95] Ince Submissions, p. 22.

approach to price elasticity, which is based on recent advice from an independent expert, and already employs a site-by-site assessment for a selection of energy intensive facilities.

45. In March 2018, BC Hydro retained DNV GL to conduct an electricity price elasticity study for each of the customer sectors. DNV GL is a global quality assurance and risk management company, with a highly regarded energy advisory services division offering institutional, legal and technical expertise on electricity systems.[96] DNV GL's study was included as Appendix Q to the Application.

46. BC Hydro's continued use of a single price elasticity for all customer sectors reflects DNV GL's recommendation.[97] DNV GL recommended that BC Hydro continue to use the same price elasticity estimate for all sectors, citing (a) practices at other utilities, and (b) BC Hydro's complementary use of a site-by-site assessment for industrial facilities, which captures the price effect for a selection of energy intensive facilities:

> In general, we find BC Hydro's application of price elasticity to be consistent with that of many of the Canadian and U.S. utilities we reviewed. DNV GL supports the continuation of BC Hydro's approach to load forecasting which involves building up sector specific forecasts, including site-specific large commercial and industrial forecasts, and applying a single price elasticity to account for price changes in the forecast. Given that BC Hydro employs a site by site assessment for industrial facilities which captures price effect for a selection of energy intensive facilities, such as pulp mills; and precedent elsewhere, of applying the same price elasticity across all three sectors, we recommend that BC Hydro continue to use the same price elasticity estimate for all sectors.[98]

47. Further, a sensitivity analysis provided by BC Hydro in response to an Information Request demonstrated that changing the price elasticity assumption had minimal impact on the overall Load Forecast.[99]

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[96] Exhibit B-1, Application, pp. 3-15 and 3-16.

[97] Exhibit B-5, BCUC IR 1.8.4.

[98] Exhibit B-1, Application, Appendix Q, Elasticity Study and GDP Study, p. 19.

[99] Exhibit B-5, BCUC IR 1.8.1. See also, Exhibit B-6, Ince IRs 1.8.7 and 1.8.9.

(c) Stock and Flow Model Development Is Already In Progress and Should Not Be Used for Elasticity

48. Mr. Ince also submits that "BC Hydro needs to continue work on its stock turnover model."[100] BC Hydro's evidence through this proceeding has been that it is doing just that.[101] A residential stock and flow model (beta version) has been completed and being calibrated and tested using the fiscal 2017 residential end use survey data.[102] Development of a stock and flow model is in its early stages[103] and represents a significant undertaking that could take several load forecasts to complete. BC Hydro's future plans are to use its stock and flow data to provide those longer-term projections and ultimately replace information that BC Hydro obtains from the United States Energy Information Administration.[104]

49. Mr. Ince also submits that a stock turnover model would "solve" the issue of elasticity.[105] This implies that BC Hydro should derive its elasticity estimates from the stock and flow model, which was not a topic that was examined during the course of the proceeding, and is an approach with which BC Hydro does not agree. BC Hydro notes that the DNV GL electricity price elasticity study does not describe this practice.[106]

(d) DSM Persistence Values Are Based on Practical Limitations

50. BCOAPO notes that persisting savings from DSM activities prior to fiscal 2019 are not included in the October 2018 Load Forecast because the actual sales data up to fiscal 2018 (used in the load forecast model calibration) already reflects the impact of historical DSM activities.[107] BCOAPO further noted that persistence of saving from DSM activities undertaken prior to fiscal 2019 declines after fiscal 2019 such that the persisting savings in fiscal 2020 and fiscal 2021 are

[100] Ince Submissions, pp. 23 and 24.

[101] Exhibit B-6, Ince IR 1.8.6.

[102] Exhibit B-6, Ince IR 1.8.45; Tr. 8B, p. 1303, l. 2 to p. 1304, l. 12 (Rich).

[103] Tr. 8B, p. 1303, l. 2 to p. 1304, l. 12 (Rich); Tr. 9, p. 1565, ll. 2-13 (Rich).

[104] Tr. 9, p. 1565, l. 2 to p. 1566, l. 3 (Rich).

[105] Ince Submission, p. 23 and 24.

[106] Exhibit B-1, Application, Appendix Q, Elasticity Study and GDP Study.

[107] BCOAPO Submissions, p. 14.

less than those in fiscal 2018. BCOAPO's position is that "future load forecasts should include some allowance for loss in the persistence of savings from historical DSM activities over the forecast period in order to avoid this kind of overestimation of future impacts."[108]

51. BC Hydro explained that any quantification of the loss of savings persistence related to DSM activities prior to fiscal 2019 would be uncertain.[109] DSM measures are assigned a persistence value for the purposes of DSM cost-effectiveness analysis, as a conservative assumption for how long the savings are attributable to the utility's actions. However, from a load forecast perspective, it is possible that the reduction in consumption associated with those DSM measures continue beyond the assigned persistence period (e.g., if a customer replaces the efficient measure with a measure of similar efficiency when it reaches its end of life). Due to these uncertainties, it is not possible to estimate the impact during the Test Period of the loss of savings persistence. Given this, BC believes it is better to focus on developing statistically sound forecasting models and forecasts with drivers that are well supported.

(e) Load Forecast Already Incorporates the Potential for Recessions

52. Some of CEC's submissions with respect to BC Hydro's load forecasting appear to be based on a misunderstanding as to how BC Hydro prepared the Load Forecast. CEC says, for instance, that BC Hydro should "develop potential practices that would enable it to include a probability of recessions".[110] BC Hydro's Final Submission[111] summarized the evidence that, although BC Hydro does not forecast any specific period of economic recession or recovery, the modelling does consider recessionary effects and accounts for the possibility of recessions. BC Hydro's Final Submission included a passage from Mr. Clendinning in which he indicated that "we do feel confident that our Monte Carlo processes do incorporate the risks associated with

[108] BCOAPO Submissions, p. 14.

[109] Exhibit B-13, BCOAPO IR 2.97.1.

[110] CEC Submissions, para. 56.

[111] BC Hydro Final Submission, para. 46.

recessions and other potential negative consequences to customer demand for load that could in aggregate really hurt us. And that is where we get that lower part of the band."[112]

53. Given that BC Hydro already includes the probability of recessions in its Load Forecast, CEC's request that BC Hydro do so would serve no purpose.

(f) Load Forecast Already Considers Moderation of Growth

54. In its submission, CEC expresses skepticism over the Load Forecast for 2020 and urges that the merits of "more consistent flattening" be considered.[113]

55. With respect to "flattening", BC Hydro's witnesses indicated that the company was aware of the North American phenomenon that shows a weakening of the relationships between the traditional economic drivers that drove load.[114] BC Hydro's witnesses explained that this shift is what has led BC Hydro to an approach of relying on the uncertainty band and to look at supplementing its load forecasting approaches.[115] Mr. Clendinning was asked if this trend was indicative of the future and responded:

> Not necessarily. I think we do see in our traditional sectors, our traditional customer segments, you know, a moderating of growth, and so I think the forecast that we've put forward in the range of 0.5 to 1 percent. That said, I think as everyone in the room knows, there's the potential for electrification as we respond to the climate crisis. There are other industries that are evolving that could provide additional growth, and so sometimes the rearview mirror is a useful way to chart your -- navigate your way forward, but it comes with risks. So I'd be hesitant to characterize it as one way or the other.[116]

56. The Load Forecast considers moderating growth in traditional sectors, which is accounted for in the uncertainty band, and has the potential to be offset by growth in emerging

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[112] Tr. 8B, p. 1356, l. 21 to p. 1357, l. 23 (Clendinning). In Exhibit B-1, Application, Appendix O, pp. 61-100, BC Hydro's discrete large industrial low forecasts, which are inputs into the Monte Carlo model incorporate recessionary drivers as "downside risks". For example, closures, reduced demand for products and other market disruptions.

[113] CEC Submissions, p. 1 and paras. 30 and 50.

[114] Tr. 8B, p. 1294, ll. 17-24 (Rich); Tr. 8B, p. 1342, l. 24 to p. 1343, l. 22 (Rich).

[115] Tr. 8B, p. 1302, l 26 to p. 1303, l. 9 (Rich); Tr. 8B, p. 1297, ll. 12-23 (Clendinning).

[116] Tr. 8B, p. 1294, l. 25 to p. 1295, l. 13 (Rich and Clendinning).

sectors. As described in Section C above, BC Hydro anticipates returning to an annual load forecasting cycle and future load forecasts will incorporate more recent developments.

(g) Electric Vehicle Load Forecast Already Accounts for Uncertainty

57. CEC accepts BC Hydro's reasoning that there is an asymmetrical risk regarding the electric vehicle load forecast, but states that "BC Hydro has not adequately considered the potential for conservation and efficiency in the electric vehicle forecast and the potential role DSM can and should play in reducing load and load impacts".[117]

58. In its response to CEC IR 2.95.1[118] BC Hydro explained the basis for its belief that there is an asymmetrical risk (i.e., there is more upside potential than downside) for future electric vehicle stock and load is based on a number of factors that have occurred since the development of the October 2018 electric vehicle forecast, including:

- the federal government has introduced a new electric vehicle incentive program that provides up to a maximum of $5,000 purchase incentive;
- the Government of B.C. has committed an additional $41.5 million toward the CEVforBC rebate program for fiscal 2020 and has lowered the maximum price eligibility threshold to $55,000;[119]
- the Government of B.C. passed Zero-Emission Vehicle legislation as part of its CleanBC plan, which will require all new vehicles sold in B.C. to be electric by 2040; and
- municipalities such as the City of Vancouver have recently adopted policies that seek to increase the number of electric vehicle charging facilities.

[117] CEC Submissions, para. 81. CEC also submits that the EV forecast may be disrupted by the economic fallout from COVID-19.

[118] Exhibit B-13.

[119] See also, Exhibit B-12, BCUC IR 2.205.1.

59. These upside factors would pull in the opposite direction to the conservation and efficiency considerations noted by CEC, as CEC appears to acknowledge. In addition, BC Hydro's electric vehicle load forecast considers factors including charging start time in generating the electric vehicle forecast band.[120] In any event, the electric vehicle contribution to BC Hydro's overall forecast during the Test Period is small. BC Hydro has also recognized that the actual electric vehicle load growth may be higher or lower than the electric vehicle uncertainty bands in the June 2019 Load Forecast. BC Hydro continues to monitor electric vehicle market development and actual sales growth. It will be incorporating that information as part of future load forecast updates.[121]

(h) BC Hydro's Load Forecast Is Objective and Considers Growth Forecasts

60. CEABC's submissions include comments related to BC Hydro's load forecasting and what CEABC terms "sales objectives".[122] BC Hydro agrees that there are opportunities for electrification and that electrification is beneficial (as further described in Part Eleven, Section G of this Reply Submission). However, CEABC's specific suggestions on this matter, including with respect to load forecasting, are misguided.

61. CEABC's submissions appear to be based in part upon a misapprehension of the nature of BC Hydro's load forecasting, stating that the "load forecasting group does not attempt to conjecture about possible future loads" and "They will only include a load once it is committed to by a customer."[123] CEABC goes on to characterize BC Hydro's Load Forecast as "a prognosis of where the load is going on its present path."[124] The reality is that BC Hydro's Load Forecast does consider possible future loads, both committed and uncommitted. For example:

[120] Exhibit B-23-2, Ince IR 4.9.0.

[121] Exhibit B-22, BCUC IR 4.323.1.

[122] CEABC Submissions, pp. 30 to 34.

[123] CEABC Submissions, p. 30.

[124] CEABC Submissions, p. 30.

- Residential load is based in part on the number of accounts forecast using a housing forecast from the Conference Board of Canada.[125]

- Commercial load is based in part on forecasts of economic variables (commercial GDP, employment, retail sales).[126]

- Light Industrial load is based on part on account-by-account forecasts, often at the customer level.[127]

- Large Industrial load is forecast on an individual customer account basis.[128] For each potential new customer, industry experts, market research and customer information are used to develop probability weightings to forecast if and when new demand will materialize.[129]

62. The thrust of CEABC's submissions with respect to the Load Forecast appears to be that an "electrification scenario" should be presented alongside the Load Forecast.[130] As described in Part Eleven of this Reply Submission, BC Hydro is pursuing electrification opportunities in coordination with Government. However, having "sales targets" that are separate from the Load Forecast — regardless of who within BC Hydro prepares those "sales targets"[131] — would be self-defeating and of little value for planning purposes. By having a sales target that is not reflected in the Load Forecast, BC Hydro would be, in effect, planning not to achieve its target. A better approach is the current one where the Load Forecast is based on an objective and reasonable

[125] Exhibit B-1, Application, p. 3-11.

[126] Exhibit B-1, Application, p. 3-19.

[127] Exhibit B-1, Application, pp. 3-21 and 3-22.

[128] Exhibit B-1, Application, p. 3-23.

[129] Exhibit B-1, Application, pp. 3-24 and 3-25.

[130] CEABC Submissions, p. 31.

[131] CEABC seems to suggest that this issue would be solved by having a sales team develop targets, upon which the Load Forecast would be based: "CEABC totally concurs that the Load Forecast team is not a sales team and, therefore, CEABC recommends that the key account managers, being the sales representatives of BC Hydro, should be tasked with developing the Sales Objectives, and also the means for achieving them. The Load Forecast team should take on more of a reporting role, presenting these Sales Objectives alongside the Load Forecast." See CEABC Submissions, p. 33.

determination that considers several factors including the level of detailed planning undertaken, the funding allocated to achieve the objectives, the enactment of legislation and regulations, and the expected availability of enabling technologies.[132] As Ms. Daschuk put it: "Our goal is to be impartial and to remove the bias from what someone might perceive as an overly aggressive sales forecast and including that in our load forecast."[133]

63. The IRP will be the appropriate venue to discuss longer-term implications of electrification.[134] The analysis of electrification initiatives will influence the extent to which potential demand is reflected in future "high", "mid" or "low" load forecasts.

E. CONCLUSION AND REQUESTED FINDINGS

64. The BCUC should find that the Load Forecast and Revenue Forecast for the Test Period reflected in the Evidentiary Update are reasonable. Intervener comments and observations do not call this into question.

[132] Exhibit B-12, BCUC IR 2.207.2. See also, Exhibit B-22, BCUC IR 4.325.2.

[133] Tr. 9, p. 1527, ll. 1-13 (Daschuk).

[134] In undertaking an assessment of the impact of CleanBC in future load forecasts, BC Hydro will examine several factors including the level of detailed planning undertaken, the funding allocated to achieve the objectives, the enactment of legislation and regulations, and the expected availability of enabling technologies. Exhibit B-12, BCUC IR 2.207.2. See also, Exhibit B-22, BCUC IR 4.325.2; Tr. 8B, p. 1365, ll. 6-16 (Clendinning).

PART FIVE: FORECAST COST OF ENERGY

A. INTRODUCTION

65. BC Hydro's Final Submission set out the evidence demonstrating that BC Hydro's forecast Cost of Energy, as updated in the Evidentiary Update, is reasonable for the purposes of setting rates in the Test Period. BCSEA expresses overall support for BC Hydro's forecast Cost of Energy and the steps BC Hydro is taking to manage Independent Power Producer ("IPP") costs,[135] while BCOAPO endorses several key determinants of BC Hydro's forecast Cost of Energy.[136] No intervener argues against accepting the forecast Cost of Energy. While some interveners provide comments, the commentary suffers from various shortcomings, including duplicating existing processes, relying on erroneous assumptions about the purpose of the Energy Studies, and being premature.

66. In this Part, we focus on the following points:

- First, appropriate oversight of BC Hydro's Cost of Energy already occurs in the context of revenue requirements proceedings, making further reporting redundant.

- Second, CEABC's suggestion that BC Hydro's Energy Study modelling effort should shift to focus on optimizing domestic sales is misguided. The current objectives of Energy Modelling are appropriate.

[135] BCSEA also "supports BC Hydro's request that the BCUC find that BC Hydro's forecast Cost of Energy for the Test Period is reasonable, being based on a sound methodology and appropriate assumptions." (BCSEA Submissions, para. 77; see also para.52.) And: "In BCSEA's view, the evidence supports BC Hydro's position that it "is managing energy costs from IPPs to the extent possible within the parameters of its contractual obligations under EPAs." (BCSEA Submissions, para. 58.)

[136] BCOAPO Submissions, p. 17. BCOAPO states that it "is of view that maximizing the expected value of BC Hydro's energy supply portfolio is an appropriate objective for system operations and our clients wish to see BC Hydro continue its work in this area as it has proven effective, in our submission, in doing so in the past". BCOAPO also states that: "Overall, BCOAPO has no issues with BC Hydro's proposed Heritage Energy costs as determined by the May 2019 Energy Study" (p. 19); and "Overall, BCOAPO has no issues with BC Hydro's proposed Market Energy Costs as determined by the May 2019 Energy Study" (p. 24). BCOAPO comments about non-Heritage Energy Costs, specifically with respect to IPP costs are addressed later in this Reply Submission.

- Third, BC Hydro is addressing the Energy Process Internal Audit recommendations with a holistic plan.

- Fourth, BC Hydro will be looking at scenarios related to meeting long-term need, including planned reliance on Energy Purchase Agreement ("EPA") renewals and DSM, in the upcoming IRP.

- Fifth, contrary to CEC's suggestion, BC Hydro's planning accounts for the generation from Site C.

B. OVERSIGHT OF IPP COSTS ALREADY OCCURS AND WILL CONTINUE

67. BCOAPO references a number of the steps BC Hydro is taking to manage energy costs from IPPs within the parameters of its contractual obligations under EPAs,[137] including indefinitely suspending the Standing Offer Program and making use of market price as a conservative interim assumption for evaluating the cost-effectiveness of EPAs. However, BCOAPO also submits that "BC Hydro should provide a full accounting of its efforts to proactively manage IPP costs."[138] CEC similarly states that "it may be worthwhile for BC Hydro to annually report on its cost of energy".[139] BC Hydro submits that appropriate oversight is already occurring.

68. BC Hydro's revenue requirements applications provide a regular opportunity to examine BC Hydro's Cost of Energy. The steps that are available to BC Hydro, and that it is taking, to mitigate IPP costs were well canvassed during the hearing. They were the subject of information requests and testimony from BC Hydro's witnesses. The next revenue requirements application will follow within six to eight months of the BCUC's Decision in this proceeding, meaning that an annual report would occur right in the middle of the next proceeding. BC Hydro expects that its

[137] BCOAPO Submissions, pp. 20-22. See also, BC Hydro Final Submission, paras. 79-81. Exhibit B-5, BCUC IR 1.18.1 described other measures BC Hydro takes to reduce its cost of energy under its EPAs.

[138] BCOAPO Submissions, pp. 22 and 23.

[139] CEC Submissions, para. 94.

EPA renewal approach beyond the Test Period will be revisited as part of the process for the next IRP.[140] An accounting, as suggested by BCOAPO, is not required in these circumstances.

69. CEC maintains that BC Hydro should examine EPAs as a group each time it considers renewing an EPA.[141] Strategies for EPA renewals is also a topic for the IRP.[142]

70. MoveUp seeks a direction that BC Hydro examine the *force majeure* provisions in its EPAs and report back within two months.[143] BC Hydro submits that the BCUC should refrain from directions of this nature. BC Hydro's assessment of its legal rights under these agreements is both legally privileged and commercially sensitive. The actions BC Hydro has taken with regard to managing IPP contracts generally are best addressed in the context of future revenue requirements proceedings (as they were in the current proceeding), and in a manner that respects considerations of privilege and commercial sensitivity.

C. CEABC'S SUGGESTION THAT ENERGY MODELLING FOCUS ON DOMESTIC SALES IS MISPLACED

71. CEABC suggests that BC Hydro should "shift" its "strategy from an import/export focus to a domestic sales focus", submitting that BC Hydro's Energy Study modelling efforts would be "much more cost effective if it were applied to the optimization of domestic sales".[144] The BCUC should reject this submission for the following reasons.

(a) CEABC Makes Erroneous Assumptions About Energy Modelling

72. CEABC's argument is premised on an unduly narrow view of BC Hydro's energy modelling. CEABC states that "BC Hydro spends most of its modelling effort trying to optimize these trade revenues."[145] The Energy Studies do not optimize trading activities to the detriment of domestic needs. As described by Ms. Matthews, the Energy Studies optimize the consolidated (i.e.,

[140] Exhibit B-6, CEC IR 1.22.4.

[141] CEC Submissions, paras. 123 to 127.

[142] Exhibit B-5, BCUC IR 1.15.2.1; Exhibit B-6, CEC IR 1.22.4.

[143] MoveUP Submissions, p. 8.

[144] CEABC Submissions, pp. 22, 54 and 55.

[145] CEABC Submissions, p. 22. See also, CEABC Submissions, pp. 9, 54 and 55.

domestic and trade) net revenues.[146] Further, this statement overlooks the use of the Energy Studies for informing operational dispatch decisions,[147] monitoring risks, and forecasting BC Hydro's Cost of Energy for financial reporting.

73. As an aside, CEABC also incorrectly describes the substance of Powerex's Net Income. CEABC states "Powerex's Net Income is solely generated from trading energy between B.C. and other jurisdictions."[148] [Emphasis added.] That is incorrect. Powerex's activities include imports and exports from the BC Hydro system, but also include extensive trading and marketing activity and associated deliveries that do not interact with the BC Hydro system.[149]

(b) CEABC's Suggestion that Energy Modelling Focus on Domestic Sales Is Misplaced

74. It is unclear how CEABC proposes that BC Hydro's Energy Study modelling effort should shift to focus on optimizing domestic sales. The Energy Study is not used to set targets for domestic load, but rather is used to determine *how* to meet domestic load (and maximize the financial benefit to ratepayers while doing so). If there was an increase in domestic load (as a result of electrification initiatives, or for any other reason), BC Hydro, through the use of the Energy Study, would adjust its operational dispatch decisions to meet this new domestic load.

75. In fact, the shift that appears to be suggested by CEABC would be circular. The Energy Study informs dispatch decisions in the operational timeframe. If, for example, due to higher inflows, BC Hydro decided to increase domestic load (assuming it could even do so), it would then

[146] Ms. Matthews explained the phrase this way: "Yeah, so our objective that we operate the system to is to maximize the consolidated operation net revenue, and I know that's sort of our mantra that we say all the time, and what it means when I say "consolidated" is that it's the BC Hydro domestic buying and selling – or selling our surplus and buying for our deficit and the Powerex trade." (Tr. 9, p. 1426, l. 22 to p. 1427, l. 2.) Exhibit B-5, BCUC IR 1.29.2: Consolidated net revenue from operations is calculated as the discounted sum of revenue from sales to domestic customers, Columbia River Treaty related agreements, and consolidated market electricity sales, minus the sum of the cost of water rentals, gas for thermal generation, Electricity Purchase Agreements and consolidated market electricity purchases. Exhibit B-13, BCOAPO IR 2.108.1: In general, the optimal operation depends on the relationship between system storage levels, forecast loads, inflows, and current and future market prices.

[147] Exhibit B-1, Application, p. 4-13.

[148] CEABC Submissions, p. 22.

[149] Exhibit B-5, BCUC IR 1.143.1.

need to try to decrease that incremental domestic load when lower inflows were experienced in the future.

76. The appropriate place to consider the benefit of electrification initiatives is in the planning timeframe, which BC Hydro is doing, as discussed further in Part Eleven. A strategy that limited BC Hydro's current use of imports or exports to/from the BC Hydro system in the operational timeframe would inhibit the economic operation of the BC Hydro system and result in higher rates for BC Hydro's ratepayers.

D. BC HYDRO IS ALREADY ADDRESSING THE ENERGY PROCESS AUDIT RECOMMENDATIONS

77. CEC recommends that BC Hydro complete and deliver a plan for back-testing and benchmarking.[150] CEC also recommends that BC Hydro complete a review of model improvements required and prepare a plan for full updating of the models.[151] As described in the course of the hearing, BC Hydro is addressing the Energy Process Internal Audit recommendations with a holistic plan.

(a) BC Hydro Undertakes Back-Testing and Benchmarking and Audit Recommendations Are Minor

78. Back-testing involves running a model with known historic inputs and comparing the results to historic observations.[152] Benchmarking is the comparison of the results between two models.[153] As described in BC Hydro's response to Panel IR 2.7.2,[154] BC Hydro can have confidence in the models currently because (a) they are back-tested and benchmarked when bringing models from development into production, and (b) there is regular verification of the models though operational use and comparison to other models.

[150] CEC Submissions, paras. 105 and 106.

[151] CEC Submissions, paras. 111 and 112.

[152] Exhibit B-5, BCUC IR 1.31.2; Exhibit B-31, BCUC Panel IR 2.7.2.

[153] Exhibit B-31, BCUC Panel IR 2.7.2.

[154] Exhibit B-31.

79. Formal back-testing and benchmarking, which is done prior to any model being brought into production, is a time consuming process. While models can always be improved and there may be benefit in regular formal back-testing and benchmarking, BC Hydro management has to prioritize staff time and resources on the highest risk areas. Since the key input drivers have the largest impact on the outcomes, BC Hydro prioritizes understanding changes in these variables and analyzing for bias.[155]

80. While the Energy Studies Process Internal Audit[156] included some recommendations on benchmarking and back-testing for BC Hydro to investigate or consider, it is important to note the Energy Studies Process was given a green ranking (i.e., only minor issues identified). The audit concluded that:

(a) Key models are appropriate; and

(b) The methodologies applied are in line with leading industry practices.

81. As noted in the audit, a "comprehensive process is in place to review the Energy Study results." In 2019, BC Hydro conducted a literature review on benchmarking techniques. BC Hydro is currently working on a longer-term plan to address the recommendation in the audit on back-testing and benchmarking.[157]

(b) Other Model Improvements Are a Higher Priority than Replacing BC Hydro's Short-Term Model

82. CEC's recommendation with respect to model improvements arose from BC Hydro's response to an Information Request that BC Hydro will explore the idea of replacing its Ultralight model with another model.[158]

83. The Ultralight model, one of BC Hydro's short-term models, , can be executed within one day to provide updated water values. However, it is not as sophisticated as the Energy Study

[155] Exhibit B-31, BCUC Panel IR 2.7.2.

[156] Exhibit B-1, Application, Appendix DD, Energy Studies Process Internal Audit.

[157] Exhibit B-31, BCUC Panel IR 2.7.2.

[158] CEC Submissions, paras. 111 and 112.

Models (which take three weeks to run) and relies on the Energy Studies results as a starting point. There will always be a trade-off between speed of calculations and sophistication. The recommendation in the Energy Process Internal Audit was for BC Hydro management to consider replacing the Ultralight model with a more robust model that is formally coupled with the Energy Studies models. BC Hydro is interested in exploring this idea further; however, it is a lower priority than other model improvements and tasks that currently occupy the Generation System Operations team.[159]

(c) BC Hydro Is Addressing the Energy Process Audit Recommendations With a Holistic Plan

84. Ms. Matthews provided an update on BC Hydro's work to address the Energy Process Audit recommendations, noting that BC Hydro was developing a long-term work plan that will prioritize finite resources:

> So our plan is to basically look at all the recommendations and decide which ones of them are the priorities for us that we want to advance and then try to put schedules behind that or seek, you know, capital projects if needed or resources to it. So we do want to look at them all as a group because to make sure that we're working on what the priorities are for us.
>
> …
>
> … when I'm referring to longer term plans here we're referring to a work plan to make model improvements. So there's a number of recommendations. For us to actually implement all those recommendations it's probably a minimum of five year program up to ten-year program and so within that we need to decide which ones are our priorities.
>
> And, I mean, we do take the audit recommendations seriously and want to respond to them but then I also have to balance what the other competing interests are. Like I've said, we've been working on the TPA and also against other competing needs because this is just the energy studies, we also have a whole lot of other models so we have to prioritize between that. I mean, my modeling team would love to do everything to make them as good as possible and -- but, like, for example, one of the recommendations on the benchmarking is to essentially to come up with another optimization model using a different technique, like SDP [Stochastic Dynamic Programming] versus SDDP [Stochastic Dual Dynamic

[159] Exhibit B-31, BCUC Panel IR 2.5.1.

> Programming], just to compare the two optimization parts. That's a fairly, I would call it almost, academic recommendation. We are interested in it because ultimately it might lead us to be able to -- currently we do the optimization of the Peace and the Columbia separately and then bring them together. If we can improve the techniques we might actually be able to do that together and as one and then that would save us time, but that's a really long-term goal to do.
>
> So while that might be a great thing to do, I don't think it's as high a priority as other things and that's what we need to do when we put that plan together is decide what are our priorities, where do we spend our time, because we really only have those four resources in terms of working on it.
>
> And from a general sense I'm much more concerned and interested about making sure that we're tracking and comparing the main drivers and understanding, like, the three main drivers and things behind those models as opposed to looking at the optimization technique. But we will look at it in that plan and what will come out of it is a work plan.[160]

85. BC Hydro submits that the approach it is taking to the audit recommendations is reasonable, and it should be afforded the time to implement it.

E. RELIANCE ON EPAS AND DSM WILL BE EXAMINED IN THE IRP

86. CEC submits that BC Hydro should undertake to analyse and integrate DSM into its supply-side options for near-term as well as long-term portfolio planning.[161] CEC recommends that the analysis optimize the "inputs of DSM as a supply-side option for delaying the timing of need to consider any new EPAs or EPA renewals, and for full evaluation of DSM options before committing to any new EPAs or EPA renewals."[162]

87. BC Hydro is in a period of continued energy surplus. There are very few new EPAs or EPA renewals expected in the Test Period. During the Test Period a total of eight EPAs are due to expire. Six are biomass EPAs for facilities which represent a total of 389 MW in capacity and are eligible for the Biomass Energy Program, which is mandated by Government policy. The remaining two are run of river hydro EPAs for facilities which represent a total of less than 4

[160] Tr. 10, p. 1793, l. 22 to p. 1795, l. 22 (Matthews).

[161] CEC Submissions, para. 142.

[162] CEC Submissions, para. 143.

MW in capacity.[163] Since fiscal 2016, BC Hydro has renewed five run-of-river hydro EPAs and one storage hydro EPA, which were accepted by the BCUC as being in the public interest.[164]

88. BC Hydro will be looking at scenarios related to meeting long-term need, including planned reliance on EPA renewals and DSM, in the upcoming IRP.[165]

F. SITE C COST OF ENERGY IS OUTSIDE THE TEST PERIOD, BUT ALREADY INCLUDED IN ENERGY STUDIES

89. CEC recommends in its summary that BC Hydro develop a plan "to manage the costs of energy related to planning for Site C in service".[166] However CEC's Cost of Energy argument does not address Site C. In any event, the first unit at Site C is scheduled to come online in fiscal 2024. While generation from Site C was not included in the June 2019 Energy Study that was the basis of the Evidentiary Update, BC Hydro is planning for it. The generation from Site C in fiscal 2024 was included in the October 2019 Energy Study.[167]

G. CONCLUSION AND REQUESTED FINDINGS

90. The BCUC should find that BC Hydro's forecast Cost of Energy for the Test Period is reasonable, being based on a sound methodology and appropriate assumptions. Intervener commentary with respect to particular Cost of Energy matters do not call this into question.

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[163] Exhibit B-5, BCUC IR 1.15.2; See also, Tr. 9, p. 1400, l. 23 to p. 1401, l. 11 (Chow).

[164] Exhibit B-1, Application, p. 4-11. On March 4, 2020, BCUC Order No. G-39-20 accepted the Sechelt Creek EPA Renewal and Brown Lake EPA Renewal. (BC Hydro issued a notice of termination for the Walden North EPA Renewal.)

[165] Exhibit B-13, CEC IR 2.99.2.

[166] CEC Submissions, p. 1 and para. 428.

[167] Exhibit B-31, BCUC Panel IR 2.7.1. Constraints for Site C construction have been included in the Energy Studies models since March 2014.

PART SIX: OPERATING COSTS

A. INTRODUCTION

91. In its Final Submission, BC Hydro emphasized its successful efforts to contain controllable operating costs throughout the company, reflecting a culture of cost-containment.[168] Among other things, BC Hydro highlighted its robust top-down and bottom-up budgeting process, relatively flat level of operating Full-Time Equivalents ("FTEs") over time, and favourable benchmarking results.[169] In general, intervener submissions on operating costs are limited and are either generally supportive of BC Hydro's forecast (e.g., Mr. Ince,[170] BCSEA,[171] MoveUP[172] and BCOAPO[173]), are silent (Mr. McCandless, Mr. Willis, Zone II RPG and AMPC[174]), or offer only limited critiques that BC Hydro answers below (CEC, Ms. Gjoshe and CEABC). Only two interveners, CEC and Ms. Gjoshe, have explicitly recommended that any of BC Hydro's forecast operating expenses be disallowed, and the costs in issue are relatively minor within the context of BC Hydro's overall operating cost requirement. BC Hydro submits, for the reasons outlined below, that the BCUC should reject the limited submissions of interveners and find that the forecast operating costs are reasonable.

92. This Part focuses on the following points:

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[168] BC Hydro Final Submission, para. 118.

[169] BC Hydro Final Submission, paras. 119 and 241.

[170] Ince Submissions, p. 1: "Subject to any other concerns identified by the Commission or other interveners, this intervenor submits that general, BC Hydro has taken reasonable and required to manage costs, maintain reliability and safety, and to set appropriate priorities during the Test Period."

[171] BCSEA Submissions, para. 115: BCSEA "supports BC Hydro's request that the Commission find that the forecast operating expenses in the Test Period are reasonable".

[172] MoveUP Submissions, p. 9. MoveUP focuses on labour costs and FTEs, concluding that "The Accenture Repatriation and Workforce Optimization Project… contributed to a meaningful improvement in BC Hydro's industrial relations that will continue to benefit the Authority and its customers".

[173] BCOAPO's submissions relating to the substance of operating costs touch on FTEs, advocating the use of a five-year average discount rate for forecasting pension costs and updating Storm Restoration Costs. Regarding FTEs, BCOAPO indicates: "As a result, BCOAPO does not consider BC Hydro's forecast increases in FTEs as being an issue in the current proceeding." (BCOAPO Submissions, p. 29) The discount rate is addressed in Part Twelve of this Reply Submission.

[174] AMPC does make submissions with regards to the discount rate used to forecast current service costs, which is addressed in Part Twelve of this Reply Submission.

- First, the forecast salary increases and holdback pay are an appropriate element of providing safe, reliable and cost-effective service to customers.

- Second, BC Hydro has already provided extensive evidence on its employee numbers and compensation over time, making more reporting on it unnecessary.

- Third, the Accenture repatriation and the Workforce Optimization program considered long-term impacts and benefit customers.

- Fourth, BC Hydro has rigorous performance metrics and conducts cost/benefit analysis.

- Fifth, the evidence demonstrates that BC Hydro is cognizant of the importance of funding necessary maintenance.

B. BC HYDRO'S FORECAST EMPLOYEE COMPENSATION COSTS ARE REASONABLE

(a) Rejecting Forecast Salary Increases Due to "Optics" During COVID-19 Would Be Short-Sighted

93. CEC suggests that BC Hydro's management and professional staff should not receive salary increases or holdback pay, because of the "optics" given that large segments of the population are losing employment and income as a result of the COVID-19 pandemic.[175]

94. BC Hydro acknowledges the significant economic harm caused by the COVID-19 pandemic and the resulting financial hardship for many individuals and businesses. While these impacts underscore the importance of keeping rates low for customers, BC Hydro submits that measures to provide direct financial relief to customers most in need, through the various COVID-19 Relief Funds, are more effective and appropriate than optics-based cost disallowances.

95. The BCUC's determination about whether forecast increases are reasonable should be based on consideration of the long-term interests of customers in attracting and maintaining

[175] CEC Submissions, para. 291.

qualified employees. In its Final Submission, BC Hydro noted that many of the skillsets required by BC Hydro are specialized, requiring experience and expertise that are difficult to find in the market and take significant time and costs to develop.[176] As it stands, BC Hydro employees earn 11% less than median market rates, on a total cash basis and 2% less than median market rates, after factoring-in the value of pension benefits and time-off programs.[177]

96. BC Hydro observes that CEC's opposition to salary increases and holdback pay is inconsistent with its stated objective that decisions be informed through a long-term cost-benefit lens.[178]

(b) Ms. Gjoshe's Argument to Disallow Holdback Pay Is Not Supported by Evidence

97. Ms. Gjoshe advocates that the corporate component of holdback pay for BC Hydro's Executive Team and Board of Directors should not be recoverable. In support of this argument, she maintains that provincial policy has limited the leadership role of BC Hydro's Executive Team, that BC Hydro's overall efficiency has declined and that rate competitiveness has decreased, with the results mitigated by the write-off of the balance in the Rate Smoothing Regulatory Account.[179] BC Hydro submits that Ms. Gjoshe's arguments are without merit.

98. First, as an initial point, members of BC Hydro's Board of Directors do not receive holdback pay.[180]

99. Second, the evidence shows that BC Hydro's Executive Team has overseen significant advancements. BC Hydro's Service Plan targets, for instance, reflect continuous improvement.[181] BC Hydro has also provided clear and compelling evidence of effective efforts by BC Hydro's

[176] BC Hydro Final Submission, para. 154.
[177] BC Hydro Final Submission, para. 151.
[178] CEC Submissions, para. 14.
[179] Gjoshe Submissions, pp. 21 to 26.
[180] Exhibit B-12, BCUC IR 2.220.4.1.1.
[181] Exhibit B-1, Application, Appendix E.

Executive Team and employees to contain costs in light of the pressures associated with an increasingly complex operating environment.[182]

100. Ms. Gjoshe's claim[183] that the amount of assets, debt and regulatory account balances compared to domestic load provides an indication of overall efficiency, is incorrect. Using this measure to support such a conclusion would mean that BC Hydro could demonstrate improved efficiency simply by recovering regulatory account balances more quickly, through higher rates.

101. Third, BC Hydro demonstrated that the potential impact of the use of the Rate Smoothing Regulatory Account on the results of the Hydro Québec survey, and the resulting impact on employee holdback pay was approximately $7,000 in total in fiscal 2015 and non-existent in all other years since then. The minimal-to-non-existent impact is attributable to the limited number of employees with holdback pay and the limited impact the Hydro Québec survey and the Rate Smoothing Regulatory Account had on the holdback pay of an individual employee. Only 1% of BC Hydro's employees are eligible to receive holdback pay. A portion of an employee's holdback pay is attributable to individual performance, which is not impacted by corporate results. The corporate component of an employee's holdback pay is determined by the multiple performance measures in BC Hydro's Service Plan. BC Hydro elaborated:

> • In all years, except fiscal 2015, there would have been no impact to BC Hydro's Competitive Rates performance measure;
>
> • In fiscal 2015, the Competitive Rates performance measure in BC Hydro's Service Plan would have been impacted. BC Hydro would have been in the first quartile in two of the three of the rate classes that were included in the measure at the time instead of being in the first quartile in all three of the rate classes; and
>
> • Had this result been used to calculate holdback pay awards in fiscal 2015, the score used to determine the corporate component would have been 0.78 instead of 0.79. If this lower score had been used, BC Hydro estimates that the total holdback award expenditure in that year would have been approximately $7,000 less in total or approximately $100 to $200 per employee that received a holdback award.[184]

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[182] See, for instance, BC Hydro Final Submission, Part Three and Part Three of this Reply Submission.

[183] Gjoshe Submissions, p. 23.

[184] Exhibit B-44, BC Hydro Undertaking No. 23, p. 5.

102. BC Hydro submits that forecast holdback pay for the Test Period is an appropriate element of providing safe, reliable and cost-effective service to customers and should be reflected in rates.

C. A REPORT ON EMPLOYEE LEVELS AND COMPENSATION IS UNNECESSARY

103. CEABC asks the BCUC to direct BC Hydro to report on the growth of its employee levels and compensation levels over time, as part of its next revenue requirements application.[185] BC Hydro submits that it has already provided in this proceeding extensive information on this topic, which CEABC has not acknowledged.

- BC Hydro demonstrated that operating FTEs have remained relatively flat since 2012.[186]

- BC Hydro also provided information regarding historical increases in employee compensation, which have been limited. Annual union salary percentage increases from fiscal 2012 through to fiscal 2019 averaged 1.43% per year and management and professional salary increases over the same time period averaged 1.0% per year.[187]

104. CEABC, like other interveners, has had ample opportunity in this proceeding to assess the evidence and make submissions. Reporting on this history again would be unnecessary and inefficient.

D. ACCENTURE REPATRIATION AND WORKFORCE OPTIMIZATION PROGRAM CONSIDERED LONG-TERM IMPACTS AND BENEFIT CUSTOMERS

105. CEC maintains that the addition of the FTEs from the Workforce Optimization Program and Accenture Repatriation could have a "deleterious effect" on long-term operating costs[188] and results in "diminished flexibility".[189] It claims that "a change in economic conditions may make

[185] CEABC Submissions, pp. 15 and 16.

[186] BC Hydro Final Submission, para. 207.

[187] BC Hydro Final Submission, paras. 149 and 150.

[188] CEC Submissions, para. 262.

[189] CEC Submissions, para. 249.

BC Hydro vulnerable to increased costs that may exceed anticipated savings from the Accenture repatriation"[190] and that it is "uncertain of the extent to which BC Hydro was able to consider…the softer implications of adding employees" such as increased human resources requirements, unproductive time, and management time[191]. BC Hydro submits that CEC's claims are not supported by the evidence.

106. Each workforce adjustment request assessed the duration of BC Hydro's needs. FTEs were only added for ongoing and sustainable resourcing needs, where the flexibility associated with contractors was unnecessary.[192]

107. BC Hydro's evidence is that a change in economic conditions could give rise to cost impacts irrespective of whether or not BC Hydro had repatriated its contract with Accenture. As Mr. Layton explained:

> I think that it's true that the employees who have repatriated will see salary increases through higher standard labour rates in the future, but I think generally when we have contractors, we see the same thing, which is to say that most costs tend to increase with inflation over time and therefore whether insourced or outsourced, that's a pressure probably either way. How it actually gets experienced, the deltas and so on can differ, but it's not something that we avoid by outsourcing. It's an issue in either situation.[193]

108. With regards to the "softer" implications of adding employees, there are "softer" implications with contracts as well (e.g., procurement processes, contract management, etc.). Ultimately, it is the budgeted amount that impacts ratepayers. On that measure, the results are clear: the Workforce Optimization Program and the Accenture Repatriation have resulted in significant annual savings of $18.5 million and $8.2 million, respectively.[194]

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[190] CEC Submissions, para. 347.

[191] CEC Submissions, para. 253.

[192] BC Hydro Final Submission, para. 167.

[193] Tr. 8A, p. 1227, ll. 9-19 (Layton).

[194] Exhibit B-1, Application, p. 5-28.

109. Lastly, the CEC submits that it "is not confident that it is in the long-term interest of ratepayers to be offsetting the large increases in staff from the Accenture and Workforce Optimization programs with reductions in Apprentices and Trainees."[195] The cause and effect relationship inferred by the CEC is incorrect. The reduction in Apprentices and Trainees reflects declining attrition in journey people positions, and was not prompted by FTE increases resulting from the Workforce Optimization Program or the Accenture Repatriation.[196]

E. BC HYDRO HAS RIGOROUS PERFORMANCE METRICS AND CONDUCTS COST/BENEFIT ANALYSIS

110. CEC submits that aiming to come within 97% to 100% of budget does not adequately identify improvement opportunities.[197] Since BC Hydro is absorbing controllable cost pressures and increased work complexity, meeting BC Hydro's operating budget performance targets requires significant and ongoing savings and improvements. As Mr. Wong explained:

> Well, first of all, when we put together this application we pushed hard to recreate [sic] budgets that I would say are hard to deliver on what we need to deliver on. And we are actually finding that this year. I mean, [there] are pockets of groups within our company [that] are finding it really challenging. Just the technology as an example, in our area. And so a lot of effort went in [to the] development of this application to find those savings, and now what we need to do is actually realize on them, which I think we are doing a really good job of. We are working hard every day to rationalize and manage our costs.[198]

111. CEC also maintains that BC Hydro should be reporting on additional metrics that address cost/benefit analysis, cost-effectiveness and continuous improvement. It advocates an annual report to the BCUC on process improvement with regards to evaluating cost-effectiveness.[199] BC Hydro has answered this argument in Part Three above, noting the conceptual challenges with such a framework, CEC's lack of clarity about what metrics or information would be required, and that BC Hydro already performs cost/benefit analysis in specific instances.

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[195] CEC Submissions, para. 243.

[196] Exhibit B-13, CEC IR 2.100.1.

[197] CEC Submissions, paras. 180, 181, 186, 203 and 217.

[198] Tr. 5, p. 373, ll. 12-26 (Wong).

[199] CEC Submissions, paras. 180, 181, 186, 203 and 217.

112. CEC's submissions regarding the Work Smart program is a good illustration of the ambiguity in its proposals. CEC states that it "appreciates that capacity hours have been gained, and supports the Work Smart program"[200] but that "for greatest impact, continuous improvement and the elimination of non-value-added activities should be coupled with cost/benefit analysis to create optimum cost effectiveness".[201] The cost/benefit analysis for Work Smart is summarized in the table included in paragraph 193 of BC Hydro's Final Submission.

113. BC Hydro also provided detailed supporting information on both the costs and benefits of the Work Smart program.[202] The costs of Work Smart are primarily the investment in specialized staff who help to guide the exercise.[203] Mr. Layton provided the following testimony with regards to how benefits are measured under the program:

> Sure. I'll maybe reference two Work Smart projects as examples here. And the first one I'll mention can actually be seen in BCUC IR response which Mr. Miller has actually got in his package and witness aid, page 14. So that one is probably easy to see.
>
> And in that case we are working with a team that does a number of inventory cycle counts in various locations across the province, and that's a team that was struggling with workload issues and they came to us and said, "Can you help us with this? We're having to travel all over the province a lot of the time, including in the winter, and we need help to manage our workload." And so we worked with them. And what we were able to do was free up a bunch of their time, again in a form of what we call capacity hours saved.
>
> So we worked with them to figure out a way to still complete their obligations and objectives with their inventory cycle counts, but just in a more efficient way so maybe you wouldn't have to travel as much, maybe have a more efficient way to do each count. And that creates what we call capacity hours gained. In other words, the amount of time it took to BC do an inventory cycle count before the Work Smart project and after we'd improved that process creates hours and when you multiply that by the number of times a process is carried out, you have an annual number of savings that you have available to you.

[200] CEC Submissions, para. 273.

[201] CEC Submissions, para. 282.

[202] For example, Exhibit B-12, BCUC IR 2.223.9.

[203] BC Hydro Final Submission, para. 195.

> In the case of this team particularly, one of the workload challenges that they were facing was new WorkSafe regulations and so essentially again they came to us and said, "We need your help. We obviously have to comply with WorkSafe regulations, we just don't have the resources to do both, to carry on with the inventory cycle counts as we're doing them." So by enabling them to do more efficient work over here on the cycle counts, we enable them to deal with a workload issue they had over here, which was a new WorkSafe regulation.
>
> I'll maybe give another example which is more of a project situation, which is with Site C. And so in the case of Site C, as you can imagine they work with many, many stakeholders and branches of government and so on. And they do something that's called a "leave to commence" and "leaves to construct". And essentially it involves working with folks like the Ministry of Forests, Lands and Natural Resource Operations, the Comptroller of Water Rights, their external contractors. So in other words, a whole bunch of different people. And what they came to us and said was that, "This is a very onerous process. It is taking us away from the work we need to do because it's taking far too long."
>
> So what we did in Work Smart is we brought together all of those stakeholders and said, "Let's find a more efficient way. Let's find a better way." And the outcome of that project was to reduce that whole process on average by 12 days per leave to commence, from 33 days to 21 days. And so again, that creates what we call capacity hours gained. And so instead of having to spend 33 days, they only had to spend 21. So that employee or those employees now had 12 extra days each time they had one of these to do, to focus on something else.
>
> And in the case of Site C, as I think we've heard testimony, there's lots of challenges in constructing a big project like Site C and so anytime they can identify ways to save time, they will do so. And that again freed them up to do more important parts of the project.[204]

114. The CEC has not clearly defined “optimum cost effectiveness” or the various other cost/benefit metrics it is seeking. The BCUC should refrain from issuing a directive in this regard.

F. BC HYDRO IS INCREASING MAINTENANCE EXPENDITURES TO ENABLE MORE PROACTIVE WORK AND WILL INCREASE SPENDING IN FUTURE TEST PERIODS

115. CEC expresses concern that funding only uncontrollable organization-wide cost pressures may not be in the long-term interest of ratepayers, noting in particular the deferral of necessary

[204] Tr. 8A, p. 1134, l. 4 to p. 1136, l. 22 (Layton).

maintenance procedures.[205] The evidence demonstrates that BC Hydro is cognizant of the importance of funding necessary maintenance.

116. In the Test Period, BC Hydro has re-purposed unallocated funds to support an increase in the Power System maintenance budget that will allow additional maintenance work to be proactively planned and prioritized.[206]

117. In addition, BC Hydro indicated that spending on vegetation management will likely need to increase in future test periods to address regulatory standards and growing public aversion to wildfire risk.[207] Mr. Kumar explained why these emerging pressures did not result in an even higher maintenance budget for this Test Period:

> So I think if you look at the [storm] data that we had prepared, that was the five years [storm] data, and when the application was actually put together I think we only had the first two years of that data at our disposal because we were still putting that application a couple of years ago in terms of this RRA application.
>
> So at that time we did not feel that they was a need for us to actually look into what has a tree program [sic- hazard tree program]. And also at the same time I think we've got a better understanding of the requirements of the mandatory reliability standards that we have to abide by and the requirements that are there.
>
> Generally what's happened over the last several years, because the MRS came into play in I think 2009/2010 period, we've been actually focusing on the right of way management of vegetation, which is making sure that there's no growing on the transmission system in terms of the violations, because that can be quite a difficult thing for the utility to manage. And if you remember the blackout we had in Eastern Canada in 2003, that was a tree growing into the transmission system. So our focus has been managing the right of way for our transmission and at the same time some of the money from the hazard tree program had been diverted towards the right of way management.
>
> And now that we've some experience with the storms and our experience with the MRS, we need to continue with our focus on the mandatory reliability standards and managing the right of ways. And we do feel that we have reached

[205] CEC Submissions, para. 224.

[206] Exhibit B-1, Application, p. 5-65.

[207] BC Hydro Final Submission, para. 229.

> a point where we cannot manage the system given the current budget that we have.[208]

G. CONCLUSION AND REQUESTED FINDINGS

118. BC Hydro's forecast operating expenses are reasonable and should be approved. The BCUC should refrain from ordering the cost disallowances sought by CEC and Ms. Gjoshe. The directives sought by the CEABC and the CEC with regards to performance metrics and reporting, are unnecessary.

[208] Tr. 13, p. 2497, l. 19 to p. 2499, l. 1 (Kumar).

PART SEVEN: CAPITAL EXPENDITURES AND ADDITIONS

A. INTRODUCTION

119. In this Part, BC Hydro makes the following point in response to intervener submissions:

- First, in response to the BCUC's specific questions:
  - There is broad agreement that the PRES Project is a prescribed undertaking and that the MIN to LNG Canada Interconnection Project is exempt from Part III of the *UCA*; a public interest determination by the BCUC is not required for these projects.
  - The costs related to electric vehicle charging infrastructure should be recovered in rates to maintain the *status quo* until Government clarifies this matter through legislation.
- Second, BC Hydro's capital planning processes are robust, and the requests from some interveners to change those processes are not warranted. BC Hydro has demonstrated its commitment to continuous improvement and this should be left within the purview of company management.
- Third, BC Hydro has put in place reasonable capital delivery metrics and is performing well.
- Fourth, BC Hydro's past and present practices with respect to the timing of geotechnical investigations have been reasonable, and its past costs on projects should be recovered in rates.
- Fifth, the decision to purchase properties in support of projects to replace the Murrin and Dal Grauer substations was, and remains, sound.
- Sixth, BC Hydro's Technology capital adds value by managing compliance and security, managing risk and sustaining productivity, or enhancing business capability, as documented in business cases for each Technology capital project.

- Seventh, BC Hydro's forecast of project write-off costs is reasonable and represents a cost to serve customers for which recovery in rates is just and reasonable.

- Eighth, BC Hydro has improved, and will continue to improve, its interconnection processes.

B. BC HYDRO'S RESPONSES TO INTERVENERS ON QUESTIONS POSED BY THE BCUC

120. The BCUC requested that parties address three questions in their submissions, related to whether the PRES Project is a prescribed undertaking, whether the MIN to LNG Canada Interconnection Project is exempt, and whether electric vehicle charging infrastructure should be included in rate base. The subsections below respond to interveners submissions on these questions including Ms. Gjoshe's and Mr. Ince's request that the BCUC review the need for and alternatives to the PRES Project and the MIN to LNG Canada Interconnection Project.

(a) The PRES Project Is a Prescribed Undertaking

121. BC Hydro's Final Submission explains how the PRES Project qualifies as a prescribed undertaking pursuant to section 18 of the *Clean Energy Act*.[209] AMPC,[210] BCOAPO,[211] BCSEA,[212] CEABC,[213] and CEC[214] all agree.

122. Ms. Gjoshe's arguments to the contrary are without merit:

(a) Ms. Gjoshe states that "it is unclear on what basis BC Hydro ascertains that the PRES project presently meets the *cost-effectiveness* test of a prescribed

[209] BC Hydro Final Submission, paras. 317 to 322.
[210] AMPC Submissions, para. 25.
[211] BCOAPO Submissions, p. 35.
[212] BCSEA Submissions, para. 130.
[213] CEABC Submissions, p. 47.
[214] CEC Submissions, para. 576.

undertaking".[215] [Emphasis in original.] In fact, there is no applicable cost-effectiveness test for the PRES Project under section 4(2) of the GGRR.[216]

(b) Ms. Gjoshe comments that there would be little to no GHG reduction benefit from one of the two 230 kV circuits of the PRES Project that would increase reliability of service to existing customers.[217] BC Hydro explained that both circuits are required for the GHG reduction benefit: "The PRES project includes two new 230 kV circuits and both circuits are required to achieve GHG reduction by electrifying the new loads. As an additional benefit, one of the two new 230 kV circuits that are part of the PRES project also increases reliability for existing customers."[218] [Emphasis added.]

(c) Ms. Gjoshe's comment that it is "unlikely" that the PRES Project would be brought into service before December 31, 2022[219] is incorrect. BC Hydro's Board approved the project on June 7, 2018, at which time BC Hydro reasonably expected that the PRES project would have an in-service date no later than December 31, 2022. This continues to be BC Hydro's expectation.[220] Construction of the PRES Project commenced in fiscal 2019, and the planned in-service date is October 2021.[221]

(b) The MIN to LNG Canada Interconnection Project Is Exempt

123. BC Hydro's Final Submission explained how the MIN to LNG Canada Interconnection Project is exempt pursuant to the *Transmission Upgrade Exemption Regulation*.[222] AMPC,[223]

[215] Gjoshe Submissions, p. 6.

[216] See BC Hydro Final Submission, para. 318.

[217] Gjoshe Submissions, p. 6.

[218] Exhibit B-12, BCUC IR 2.250.7; Tr. 12, p. 2262, l. 19 to p. 2263, l. 2 (Kumar).

[219] Gjoshe Submissions, p. 8.

[220] Exhibit B-5, BCUC IR 1.119.2.

[221] Exhibit B-1, Application, Appendix J, Capital Expenditures > $20 million, p. 71; Exhibit B-23, CEABC IR 4.59.1.

[222] BC Hydro Final Submission, para. 313.

[223] AMPC Submissions, para. 25.

BCOAPO,[224] BCSEA,[225] CEABC,[226] and CEC[227] all expressly support for this conclusion. No intervener takes a contrary view.

(c) The Need for and Alternatives to Exempt Projects Are Not Subject to Review

Ms. Gjoshe and Mr. Ince's Requested BCUC Review Should be Rejected

124. Ms. Gjoshe and Mr. Ince request that the BCUC review the need for and alternatives to the PRES Project, the MIN to LNG Canada Interconnection Project, and other potentially exempt projects such as the North Montney - Transmission Development project.[228] BC Hydro submits that the BCUC has no jurisdiction to prevent prescribed undertakings or exempt projects from moving forward as planned. Pursuant to section 18 of the *Clean Energy Act,* the BCUC may not exercise any power that directly or indirectly would prevent a public utility from carrying out a prescribed undertaking. Under the *Transmission Upgrade Exemption Regulation,* projects such as the MIN to LNG Canada Interconnection Project are exempt from Part III of the *UCA* entirely. Therefore, the BCUC should not engage in a review of the need for and alternatives to these projects as requested by Ms. Gjoshe and Mr. Ince.[229]

Response to AMPC: Parties Have Had Ample Opportunity to Ask About These Projects

125. AMPC suggests that the BCUC should comment in its decision, regarding costs on exempt projects such as the PRES Project, that "despite Commission efforts, those costs should not be assumed to be prudent given the limitations on parties' ability to test and understand them".[230] There are two problems with AMPC's suggestion.

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[224] BCOAPO Submissions, p. 37.

[225] BCSEA Submissions, para. 128.

[226] CEABC Submissions, p. 48.

[227] CEC Submissions, para. 596.

[228] Gjoshe Submissions, pp. 5, 10 and 12; Ince Submissions, p. 8.

[229] Gjoshe Submissions, pp. 5 to 12; Ince Submissions, pp. 4 to 8.

[230] AMPC Submissions, para. 27.

126. First, the BCUC and parties have had wide latitude to explore these projects. BC Hydro filed evidence about these projects in its Application.[231] The content of that evidence was consistent with its 2018 Capital Filing Guidelines, which the BCUC has affirmed is the appropriate level of detail:

> The Panel finds the information BC Hydro proposes to or is amenable to including in an RRA, as set out in Table 3 above, to be comprehensive and appropriate. The Panel finds that BC Hydro's reply to issues raised by BCOAPO and CEC to be sufficient and further notes that additional information can always be requested through the information request process in the RRA proceeding.[232]

Prescribed undertakings or exempt projects such as the PRES Project and MIN to LNG Canada Interconnection Project have been the subject of multiple rounds of Information Requests,[233] and cross-examination.[234] BC Hydro has answered all questions posed on these projects.

127. Second, there is no need for the BCUC to make a public interest determination on prescribed undertakings or exempt projects due to the effect of the *Clean Energy Act* and GGRR, and *Transmission Upgrade Exemption Regulation*, respectively.

128. In the event that the BCUC concludes some commentary is required regarding the inclusion of the costs of a prescribed undertaking or exempt projects in rates, BC Hydro submits that the BCUC might consider the language it has employed in approving other such projects. For example, in that context, the BCUC has noted that it has not reviewed the project from a public interest perspective as it is a prescribed undertaking.[235]

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[231] For example, the PRES Project was described in the Exhibit B-1, Application, Appendix J, Capital Expenditures >$20 million, p. 72.

[232] Capital Expenditures, Decision, p. 29.

[233] E.g., Exhibit B-5, BCUC IRs 1.1 and 1.119; Exhibit B-12, BCUC IRs 2.247, 2.250.1 and 2.250.1; Exhibit B-23, CEABC IR 4.59.1; Exhibit B-23, Gjoshe IR 4.1.8.

[234] E.g., Tr. 7, p. 1064, ll. 2-12 (Fraser); Tr. 12, p. 2312, l. 23 to p. 2313, l. 18 (Kumar).

[235] E.g., *FortisBC Energy Inc. Application for Acceptance of the Biogas Purchase Agreement Between FortisBC Energy Inc. and the City of Vancouve*r, BCUC Order No. G-235-19, September 27, 2019.

Online: https://www.bcuc.com/Documents/Proceedings/2019/DOC_55717_2019-09-27-G-235-19-FEI-COV-BPA-Final-Order.pdf.

(d) Electric Vehicle Charging Infrastructure Should Be Included in Rate Base

129. Some interveners maintain that BC Hydro's electric vehicle charging assets should be excluded from rate base.[236] BC Hydro reiterates that the assets should remain in rate base as a continuation of the *status quo* until the matter is resolved by Government. However, BC Hydro clarifies its position as follows:

- Direction No. 8 dictates what is included in rate base, but it excludes expenditures incurred by BC Hydro that the BCUC determines should not be recovered in rates, where it states:

> In determining rate base for a fiscal year, the amounts A, B and F must have subtracted from them any amount included in them that is an expenditure incurred by the authority, on or after April 1, 2011, that the BCUC determines under the Act must not be recovered by the authority in rates.

  Therefore, if the BCUC determines that electric vehicle charging infrastructure costs should not be recovered in rates, then they are also excluded from rate base by operation of Direction No. 8. Whether the amounts are included or excluded from rate base has no practical effect during the Test Period. BC Hydro's net income is prescribed by section 3 of Direction No. 8, independent of any specific rate base amount.

- BC Hydro submits that the costs of electric vehicle charging investments should be recovered in rates. They are an important aspect of BC Hydro's plans to increase electricity load and reduce GHG emissions in the province, in line with Government policy. However, in response to intervener submissions,[237] BC Hydro submits that it is inefficient to repeat all of the arguments made in the BCUC's EV Inquiry. The participants in that proceeding made their submissions, the BCUC has made its recommendations, and the next step is for Government to respond.

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[236] AMPC Submissions, paras. 28 to 30; BCOAPO Submissions, pp. 37 to 39; CEC Submissions, paras. 609 to 631; CEABC Submissions, p. 48; Ince Submissions, pp. 8 and 9; Gjoshe Submissions, pp. 12 and 13.

[237] E.g. BCOAPO Submissions, pp. 37 to 39; CEC Submissions, paras. 609 to 631.

- BC Hydro will bring forward to the BCUC an application for the treatment of electric vehicle charging infrastructure costs once Government has taken legislative action to clarify the matter.

C. BC HYDRO'S CAPITAL PLANNING PROCESSES ARE APPROPRIATE

130. In this section, BC Hydro responds to the submissions of Mr. Ince, AMPC, Mr. Willis, BCOAPO and CEC related to BC Hydro's capital management processes.

(a) The Design of BC Hydro's Capital Planning Processes Is a Management Responsibility

131. A number of interveners have made recommendations for changes to BC Hydro's capital planning processes. While BC Hydro is open to intervener feedback and commentary, BC Hydro submits that the BCUC should avoid issuing specific directions on BC Hydro's planning processes for both pragmatic and jurisdictional reasons.

132. First, BC Hydro has demonstrated that it is committed to continually improving its processes, and respectfully requests that it be left to manage those processes as an integral part of its management of the utility. BC Hydro recognizes that it will be back before the BCUC again in the next revenue requirements and will have to speak to the outcome of those processes.

133. Second, at law, BC Hydro's capital planning processes, such as the weighting of factors in a complex prioritization framework, falls within the exclusive purview of utility management, not the BCUC. In *British Columbia Hydro and Power Authority v. British Columbia (Utilities Commission)*,[238] the B.C. Court of Appeal interpreted the BCUC's mandate under the *UCA* in the context of resource planning. The Court held that the management of the public utility rests with the company and the BCUC may not interfere with that role:

> [56] It is only under s.112 of the *Utilities Act* that the Commission is authorized to assume the management of a public utility. Otherwise the management of a public utility remains the responsibility of those who by statute or the incorporating instruments are charged with that responsibility.
>
> …

[238] 20 B.C.L.R. (3d) 106 (C.A.). Online: http://canlii.ca/t/1f0n7.

> [58] Taken as a whole the *Utilities Act*, viewed in the purposive sense required, does not reflect any intention on the part of the legislature to confer upon the Commission a jurisdiction so to determine, punishable on default by sanctions, the manner in which the directors of a public utility manage its affairs.

134. The above case was applied in 2004 by the B.C. Supreme Court in *Office and Professional Employees' Int'l Union et al v. B.C. Hydro et al*.[239] The Court held that the BCUC did not have jurisdiction over BC Hydro's outsourcing of certain services to Accenture. The Court concluded: "The choice to out-source these services to Accenture was a management decision. As such, it fell within the purview of B.C. Hydro's directors, and did not attract the jurisdiction of the Utilities Commission: *British Columbia Hydro and Power Authority v. British Columbia Utilities Commission*, *supra* at paras. 55-58."[240]

135. In BC Hydro's submission, utility management's exclusive purview includes how it conducts capital planning.

(b) BC Hydro's Existing Prioritization Framework Quantifies the Risks Associated with Reliability and Safety

136. Mr. Ince comments that "there did not seem to be a clear line of sight between BC Hydro's risk identification, prioritization and mitigation that includes a common basis for the balancing the risks being mitigated. There seemed to be no quantification of the value of reliability or safety…".[241] BC Hydro's submits that Mr. Ince's impression of BC Hydro's processes is incorrect. BC Hydro's enterprise-wide framework for capital prioritization, as described in section 6.3.4 of the Application, does result in quantified risk or value scores for non-mandatory investments. These risk and value scores consider the financial, reliability, safety, environmental and reputational impacts associated with delaying the investment. BC Hydro considers an investment's risk or value score when making prioritization decisions.[242] As stated by Ms. Pinksen,

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[239] 2004 BCSC 422 ("*OPEIU v. BC Hydro*"). Online: http://canlii.ca/t/1gtgn.

[240] *OPEIU v. BC Hydro* at para. 63.

[241] Ince Submissions, p. 17.

[242] Exhibit B-13, BCOAPO IR 2.134.1.

BC Hydro's existing prioritization process is rigorous and allows BC Hydro to make trade-offs between different values and investments.[243]

137. The Auditor General reviewed BC Hydro's existing prioritization process as part of an audit of capital asset management at BC Hydro. The Auditor General made no recommendations on BC Hydro's capital planning process.[244]

(c) BC Hydro's Prioritization of Capital Should Not Artificially Favour Energy Sales

138. There are several reasons why the BCUC should not accept CEABC's recommendation that "BC Hydro revamp its capital prioritization systems to give more weight to capital expenditures that have the potential to increase revenues by increasing energy sales…".[245]

139. First, there is no evidence that BC Hydro has declined to pursue a load-building project due to a weakness in its capital prioritization process. BC Hydro has pursued and is pursuing numerous capital investments that will increase energy sales. For example:

- BC Hydro is developing charging stations to remove barriers to electric vehicle adoption.[246]
- The PRES Project is being implemented to reduce GHG emissions by realizing the significant potential for electrification in the oil and gas sector in the Peace region.[247]
- BC Hydro is also investing in other projects to encourage new load growth and revenue through electrification such as: (1) the Bear Mountain Terminal to Dawson Creek Transmission Voltage Conversion,[248] (2) the North Montney

[243] Tr. 12, p. 2305, ll. 8-23 (Pinksen).

[244] Exhibit B-1, Application, Appendix F, Independent Audit of Capital Asset Management in BC Hydro, pp. 15, 16 and 21; Tr. 11, p. 1852, l. 17 to p. 1853, l. 2 (Kumar).

[245] CEABC Submissions, p. 21.

[246] Tr. 5, p. 488, l. 9 to p. 489, l. 6 (O'Riley); Tr. 5, p. 515, l. 1 to p. 516, l. 6 (O'Riley).

[247] Tr. 12, p. 2312, l. 23 to p. 2313, l. 18 (Kumar).

[248] Exhibit B-12, BCUC IR 2.254.2.

Transmission Development;[249] and (3) the Prince George to Terrace Capacitors Project.[250]

- BC Hydro is currently constructing the MIN to LNG Canada Interconnection Project to connect phase 1 of LNG Canada's facility.[251]

140. Second, BC Hydro's capital planning processes are robust and appropriately prioritize both risk and value projects. BC Hydro's enterprise-wide capital prioritization process[252] has been endorsed by others,[253] and is designed to reflect project benefits in its risk-based approach.[254]

141. Third, CEABC's proposal that projects that increase revenue should be artificially given increased weight would distort BC Hydro's prioritization process and could lead to imprudent decisions or under-utilized assets. For example, Mr. O'Riley spoke to the importance of proceeding cautiously when considering new transmission projects:

> …it's very easy to end up with a stranded line in transmission. It's very location specific. So you might think it is obvious that we need a new line to a certain location. And I can point to places around the province. There is a pretty good line that was built to Gold River at a time when there was a pulp and paper mill in Gold River, and there was a mine in Port Hardy, and there was pulp mills in Port Alice, there was a lot of industry on the North Island. And that line was built, and it wasn't that long after that all of those loads were gone, right? So you do have to watch the risk of stranded assets on transmission system.[255]

(d) BC Hydro Is Actively Engaged in Considering Load Factor in Its Planning

142. Mr. Willis suggests that increasing load factor may be a planning approach that reduces costs.[256] He also suggests rate design options to increase load factor (time of use rates,

[249] Exhibit B-12, BCUC IR 2.254.2.

[250] Exhibit B-12, BCUC IRs 2.247.6 and 2.247.6.1.

[251] Exhibit B-5, BCUC IR 1.1.1.

[252] Exhibit B-1, Application, pp. 6-29 and 6-30.

[253] Exhibit B-1, Application, pp. 6-9 and 6-10.

[254] Tr. 11, p. 1854, l. 16 to p. 1856, l. 13. (Kumar).

[255] Tr. 5, p. 546, l. 26 to p. 547, l. 13 (O'Riley).

[256] Willis Submissions, p. 3.

interruptible rates, electric vehicle charging rates).[257] BC Hydro is actively engaged in consideration of load factor as a planning approach, including by way of BC Hydro's pilot and trial initiatives related capacity-focused DSM.[258] While rate design is not the subject of this proceeding, the evidence shows that BC Hydro understands the potential benefits associated with shifting energy demand.[259]

(e) BC Hydro's Capital Plan Is Continually Monitored and Updated Annually

143. BCOAPO requests that the BCUC direct BC Hydro to ensure that the peak demand forecast used to develop the capital plan should be as up to date as its energy load forecast.[260] Such a direction is not required, given the features of BC Hydro's annual capital planning process:

(a) The Fiscal 2020 to Fiscal 2024 Capital Plan was approved by BC Hydro's Board in January 2019.[261] Although an updated peak demand forecast was not available at the time the Fiscal 2020 to Fiscal 2024 Capital Plan was being finalized, trends in the load forecast and reliability information were considered.[262]

(b) The capital plan is monitored on an ongoing basis by the Capital Delivery Management Committee.[263] BC Hydro monitors system performance and forecast demand for electricity at both a system and regional level.[264]

(c) BC Hydro updates its capital plan each year, considering recent trends in forecast load and system performance.[265]

[257] Willis Submissions, p. 3.
[258] Tr. 6, p. 673, l. 6 to p. 674, l. 14 (O'Riley).
[259] Exhibit B-5, BCUC IR 1.183.1, Attachment 1.
[260] BCOAPO Submissions, p. 16.
[261] Exhibit B-1, Application, Appendix H, Fiscal 2020 to Fiscal 2024 Capital Plan.
[262] Exhibit B-1, Application, pp. 6-20 to 6-26; Exhibit B-13, AMPC IR 2.23.3.
[263] Exhibit B-1, Application, p. 6-30.
[264] Exhibit B-1, Application, p. 6-27.
[265] Exhibit B-1, Application, p. 6-19.

(d) BC Hydro filed an Evidentiary Update,[266] and no capital additions in fiscal 2020 and fiscal 2021 were adjusted as a result of the June 2019 Load Forecast. Preliminary load forecast information did inform BC Hydro's decision to defer $0.8 million in capital expenditures (not capital additions) in the Test Period related to the Interior to Lower Mainland Remedial Action Schemes Installation project. However, deferral of these expenditures has no effect on the Test Period revenue requirements.[267]

(e) BC Hydro adjusts plans with updated information, including on the load forecast, asset health information, and cost estimates. As part of the project life-cycle progression, project drivers, scope and leading alternative are generally revisited and re-confirmed prior to advancing into the next phase.[268] BC Hydro informed the BCUC of material changes to its capital plan during the proceeding, including, for example, the cancellation of the Metro North Transmission project based on the June 2019 Load Forecast.[269]

(f) BC Hydro Will Consider Options to Improve Project Completion Reporting

144. CEC submits that a cost/benefit analysis for major projects one or two years after completion might provide for better evaluation of BC Hydro's capital planning, and submits that all projects over $5 million should have a significant review that evaluates the long-term outcome to identify areas of planning improvement.[270] BC Hydro has addressed the topic of evaluation of completed projects in its Final Submission.[271] BC Hydro's project evaluation practices were recently reviewed by the BCUC and embedded in BC Hydro's 2018 Capital Filing Guidelines.[272] BC Hydro also questions whether a "significant review" of all projects over $5 million would be a cost-effective exercise. Nevertheless, BC Hydro will consider options to improve its evaluation

[266] Exhibit B-11, Evidentiary Update, p. 14.

[267] Exhibit B-22, BCUC IR 4.317.1.

[268] Exhibit B-1, Application, p. 8-21.

[269] Exhibit B-29, Updated Information on Technology Capital Projects and the Metro North Transmission Project.

[270] CEC Submissions, paras. 403 and 405.

[271] BC Hydro Final Submission, pp. 127 and 128.

[272] Capital Expenditures Decision, pp. 35 and 36.

of completed projects as part of its ongoing commitment to continuous improvement. As per the BCUC's direction arising from its review of its oversight over BC Hydro's capital expenditures and projects, BC Hydro will report in its next revenue requirements application on any significant changes with respect to its capital management processes as well as on any significant deficiencies in its capital management processes found by internal and external audits and reviews.[273]

(g) The BCUC Has Previously Rejected CEC's Cost-Effectiveness Assessment Proposal

145. CEC recommends that the BCUC adjust its oversight process to assess the cost-effectiveness of BC Hydro capital expenditures over time.[274] As set out in Part Two, Section D of these Reply Submissions, the BCUC has recently rejected CEC's proposal to adjust its capital oversight process.[275] CEC does not explain why the BCUC should reach a different conclusion in this proceeding. CEC has not offered any evidence or reasoning in this proceeding to explain how such a scheme would work or be consistent with the BCUC's jurisdiction under the *UCA*. BC Hydro submits that the BCUC should reject CEC's recommendation.

D. BC Hydro's Capital Infrastructure Project Delivery KBU Is Performing Well

146. The CEC notes that BC Hydro's Capital Infrastructure Project Delivery KBU delivered between 63% and 84% of projects at or below budget between 2016 and 2019, and is targeting to deliver at least 50% of projects at or below budget over the Test Period.[276] The CEC submits "that a threshold of 50% does not encourage especially strong performance" and states that "a significant portion of capital projects do not achieve the basic performance measure of meeting the budget."[277] First, targeting delivery of at least 50% of projects at or below budget is reasonable because the project budgets are based on P50 estimates, which means that there is

[273] Capital Expenditures Decision, p. 22.

[274] CEC Submissions, paras. 377 and 378.

[275] Capital Expenditures Decision, pp. 46 and 47.

[276] CEC Submission, para. 316, citing Exhibit B-12, BCUC IR 2.228.3.2.

[277] CEC Submissions, paras. 316 and 317.

an expectation that the estimates would be exceeded 50 per cent of the time.[278] Second, as project budgets are based on P50 estimates, delivering between 63% and 84% of projects at or below budget is indicative of strong cost to budget performance.[279] BC Hydro has also performed well in delivering its capital projects on budget on a five-year aggregated basis.[280]

E. BC HYDRO'S APPROACH TO GEOTECHNICAL INVESTIGATIONS HAS BEEN REASONABLE

147. AMPC's recommendations that the BCUC disallow costs related to the timing of when BC Hydro conducted geotechnical investigations[281] should be rejected. As detailed below, BC Hydro's project management has been appropriate.

(a) BC Hydro Changed Its Practice to Improve Estimates, Not Avoid Costs

148. AMPC finds it "difficult to reconcile" the change in practice with BC Hydro's evidence that its prior practices did not result in "any adverse consequences".[282] BC Hydro submits that AMPC is only having this difficulty because it has not accounted for BC Hydro's evidence about the significance of the change and why it was made.

149. First, BC Hydro's previous practice was not as black and white as AMPC implies. Ms. Holland was clear in cross-examination that BC Hydro's prior practice varied: BC Hydro sometimes completed all geotechnical work in the Definition phase, while other times BC Hydro completed preliminary work in the Definition phase and more detailed investigations in Implementation. Ms. Holland's testimony was:

> MR. KEEN: Q And your practice previously was to do it in the implementation phase?
>
> MS. HOLLAND: A I believe I said that we were inconsistent with when we did it. There were projects where we did it in the definition phase and sometimes geotech is a two part. You may do a preliminary geotech investigation in the

[278] Exhibit B-12, BCUC IR 2.228.3.2.

[279] Exhibit B-12, BCUC IR 2.228.3.2. Please also see BC Hydro's Final Submission, paras. 288 to 301.

[280] BC Hydro's Final Submission, paras. 288 to 301.

[281] AMPC Submissions, para. 257.

[282] AMPC Submissions, para. 268.

> definition phase followed, with some projects, by more detailed in the investigation phase and we have some of those. What we are endeavoring to do now is to do all the detailed geotech work in the definition phase.[283]

For example, for the Big Bend Substation project, BC Hydro conducted what preliminary geotechnical investigations it was able to do prior to acquisition of the property.[284]

150. Second, Ms. Holland was also clear that BC Hydro adopted a uniform practice of conducting all geotechnical investigations in the Definition phase so as to have a better cost and schedule estimate at end of the Definition phase, not for the purpose of avoiding costs.[285] Therefore, BC Hydro's variance explanations that indicate that there was "additional cost and delay" due to geotechnical work do not mean that BC Hydro could have *avoided those costs* by doing all geotechnical work earlier, but that BC Hydro's *estimate was inaccurate* because it did not undertake all of the geotechnical work earlier. As Ms. Holland emphasized: "whether you find [geotechnical issues] later or you find them earlier they're going to result in cost and schedule."[286] This is consistent with BC Hydro's evidence that waiting until Implementation to conduct some geotechnical work did not result in any material redundant costs on the Campbell River Substation Capacity Upgrade Project[287] or the Big Bend Substation Project.[288]

(b) Prudence Should Be Assessed Without the Benefit of Hindsight

151. While the above submissions are a full answer to AMPC's argument regarding geotechnical work, BC Hydro will also respond to AMPC's heavy reliance on hindsight. As a point of principle, management decisions should be judged based on what BC Hydro knew or ought to have known at the time. This accords with the prudence test as set out in *Enbridge Gas*

[283] Tr. 12, p. 2197, l. 19 to p. 2198, l. 3 (Holland).

[284] Tr. 12, p. 2213, ll. 13-21 (Holland).

[285] Tr. 12, p. 2196, ll. 19-26. (Holland); BC Hydro Final Submission, para. 374.

[286] Tr. 12, p. 2210, ll. 14-20 (Holland).

[287] Exhibit B-56, BC Hydro Undertaking No. 41.

[288] Exhibit B-56, BC Hydro Undertaking No. 41.

Distribution Inc. v. Ontario (Energy Board)[289] which has been previously applied by the BCUC.[290] The continued relevance of the *Enbridge* test, in light of subsequent court decisions, is discussed further in Section H below.

152. BC Hydro's submits that the BCUC should not, as AMPC does, use hindsight when evaluating BC Hydro's past management decisions in this case. The rationale for the "no hindsight" rule when considering past capital expenditures is clear: judging past decisions based on what is known in the present is manifestly unfair. Industry knowledge and expertise is constantly changing and improving with new technologies, experience and methods. With the benefit of experience and knowledge learned over time, it is easy to find fault with past decisions in hindsight. In a regulatory environment where BC Hydro is encouraged to and is continually improving its capital planning processes, it would be capricious to judge BC Hydro's past practices with the benefit of the knowledge it has gained over many years and many projects.

153. In this case, AMPC offers no evidence that BC Hydro knew or should have known at the time it planned past projects that it would have been better to conduct all geotechnical investigations on all projects prior to the Implementation phase. To the contrary, the evidence is that BC Hydro learned through experience that, where feasible to do so, it is better to do all geotechnical investigations prior to Implementation and adjusted its project management practices accordingly.[291] Making improvements to practices based on experience is the prudent thing to do.

154. Finally, the prudence standard is one of reasonableness, not perfection.[292] When applying a standard of reasonableness, there is range of options that may be considered

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[289] *Enbridge Gas Distribution Inc. v. Ontario (Energy Board),* 2006 CanLII 10734 (ON CA) ("*Enbridge*") at paras. 8-12. Online: http://canlii.ca/t/1n06l.

[290] In its Reasons for Decision, *BC Hydro F2009 and F2010 Revenue Requirements*, dated March 13, 2009, p. 38, the BCUC determined that two-part test articulated in *Enbridge* should apply when conducting prudence reviews. Online: https://www.bcuc.com/Documents/Proceedings/2009/DOC_21286_BCH-2009RR_WEB.pdf.

[291] Tr. 12, p. 2209, ll. 12-17 (Holland).

[292] *ATCO Gas and Pipelines Ltd. v. Alberta (Utilities Commission)*, 2015 SCC 45 ("*ATCO*") at para. 35. Online: http://canlii.ca/t/glb0g.

reasonable in the circumstances.[293] For example, in some cases it may be impractical to do all geotechnical work in the Definition phase of the project due to the timing of the property acquisition.[294] In BC Hydro's submission, its past and current practices have been reasonable based on its knowledge and the circumstances at the time.

F. VANCOUVER SUBSTATION PROPERTY ACQUISITIONS

155. In this section, BC Hydro responds to AMPC and BCOAPO regarding BC Hydro's acquisition of properties in the West End and East Vancouver for planned substation projects to replace the Dal Grauer and Murrin substations.

(a) The Acquisition of Vancouver Substation Properties Was Timely

156. AMPC expresses concern with the timing of BC Hydro's acquisition of properties for its West End and East Vancouver substation construction projects, saying that they may risk "biasing the alternatives presented in CPCNs and increasing carrying costs."[295] These concerns are unfounded:

- As set out in detail in BC Hydro's Final Submission, acquiring property to accommodate the new substations is an important step to mitigate risk, and confirms the viability of the preferred long-term solution for the substation projects.[296]

- Purchasing the properties is, in these instances, necessary for the preparation of the CPCN applications in accordance with the BCUC's CPCN Guidelines, which require a Level 3 cost estimate and consultation, for example.[297] As stated by Ms.

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[293] For example, when applying the standard of reasonableness on judicial review, courts are concerned with "whether the decision falls within a range of possible, acceptable outcomes which are defensible in respect of the facts and law": *FortisAlberta Inc. v Alberta (Utilities Commission)*, 2015 ABCA 295 at para. 90. Online: http://canlii.ca/t/gl6rn.

[294] Tr. 12, p. 2213, ll. 13-21 (Holland).

[295] AMPC Submissions, para. 287.

[296] BC Hydro Final Submission, pp. 356 to 368.

[297] Tr. 12, p. 2247, ll. 11-22 (Holland).

Holland, without knowing where the project is to be located, "we really have no hope of preparing any reasonable estimate, nor addressing some of the other issues that the BCUC would review in a CPCN, including stakeholder consultation and other items."[298]

- Any concerns regarding "bias" should be left to the BCUC Panel reviewing the CPCN applications, which would include a review of alternatives to the proposed substation projects.

(b) Concerns About Inclusion in Rate Base are Premature

157. AMPC contends that including properties in rate base before the substations are developed is "inconsistent with current regulation principles".[299] AMPC's concerns about BC Hydro's accounting treatment in this regard have no bearing on matters before the BCUC in this proceeding.[300] Amounts included or excluded from rate base have no practical effect during the Test Period because BC Hydro's net income is not dependent on a specific rate base amount. Rather, BC Hydro's net income is currently prescribed by section 3 of Direction No. 8 to be $712 million per fiscal year in each of fiscal 2020 and fiscal 2021.[301]

158. AMPC does say that it is just "flagging its concern now" in anticipation of the cost of capital proceeding.[302] The BCUC Panel hearing the cost of capital proceeding, unlike this Panel, will have the benefit of full submissions from parties on issues like this. BC Hydro addresses further in Part Thirteen, Section C, below why this Panel should not opine on matters related to the upcoming cost of capital proceeding.[303]

[298] Tr. 12, p. 2247, ll. 11-22 (Holland).

[299] AMPC Submissions, para. 287.

[300] AMPC Submissions, paras. 287 and 288; BCOAPO Submissions, p. 33.

[301] Direction No. 8 to the BCUC, B.C. Reg. 24/2019.

[302] AMPC Submissions, para. 296.

[303] Tr. 5, p. 426 ll. 1-17 (O'Riley and Wong).

(c) It is Reasonable and Efficient to Continue Expensing Carrying Costs on Properties

159. BCOAPO argues that the BCUC should direct BC Hydro to establish a regulatory account to defer carrying costs on the Vancouver substation properties until such time as they are eligible for capitalization, and then either (a) record the costs as part of the overall cost of the relevant project or (b) amortize the costs over the life of the project.[304] BC Hydro submits that the carrying costs are not material enough to warrant the establishment of a deferral account for each property. The East Vancouver property for the new Murrin substation is currently leased to a tenant, which further minimizes BC Hydro's carrying costs.[305] In BC Hydro's submission, its current practice of expensing the carrying costs is preferable. It has minimal impact on rates or intergenerational equity, is easier to administer, and avoids the need to establish more deferral accounts.

G. TECHNOLOGY CAPITAL

160. In this section, BC Hydro responds to intervener submission on Technology Capital, including the value of Technology capital generally, the Asset Investment Planning Tool, and the Supply Chain Applications Project.

(a) Technology Capital Delivers Value

161. CEC's states that the evidence is insufficient to determine whether BC Hydro's Technology expenditures will deliver value.[306] The CEC's submissions appear to be based on a cursory view of BC Hydro's evidence and general observations that do not substantiate its conclusion.[307]

162. BC Hydro has in fact provided significant evidence on its Technology capital expenditures that demonstrates value. Sections 6.5.3 and 6.5.4 of the Application detail BC Hydro's Technology capital planning and delivery processes, and section 6.5 describes BC Hydro's

[304] BCOAPO Submissions, p. 34.

[305] Exhibit B-13, BCOAPO IR 2.133.2.

[306] CEC Submissions, para. 414.

[307] CEC Submissions, paras. 406 to 414.

forecast capital expenditures and additions over the Test Period. As explained in the Application, BC Hydro's Technology capital is incurred to manage compliance and security, manage risk and sustain productivity, or enhance business capability.[308] These types of investments do add value, and the value of each investment is articulated in a business case.[309] As stated in the Application: "Each technology project has a business case which articulates the need, desired outcomes, and expected incremental benefits and costs."[310] BC Hydro is also piloting a benefits realization process that tracks the benefits claimed in business cases.[311]

163. CEC had ample opportunity through IRs or cross-examination to pursue any specific concerns it has regarding BC Hydro's Technology capital investments. CEC has neither articulated any particular concerns in argument, nor pursued them through this proceeding. BC Hydro submits that the BCUC should not give any weight to CEC's general assertions.

(b) The BCUC Has Accepted the Supply Chain Applications Project

164. CEC expresses concern regarding the cost-effectiveness of the Supply Chain Applications Project, reiterating the position it took in the two-part section 44.2 application process for the project.[312] BC Hydro's cost benefit analysis underpinning the business case for the Supply Chain Applications Project was reviewed in significant detail in the section 44.2 proceedings. The BCUC accepted the expenditure on the Supply Chain Applications Project, rejecting the CEC's concerns.[313] In its Order accepting the Implementation phase funding for the project, the BCUC imposed reporting obligations on BC Hydro, including benefits tracking, which

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[308] Exhibit B-1, Application, p. 6-139. For example, BC Hydro's Final Submission, paras. 332 to 342, review BC Hydro's cybersecurity investments in detail.

[309] Exhibit B-1, Application, pp. 6-78 to 6-80 and pp. 6-143 to 6-146.

[310] Exhibit B-1, Application, p. 6-149.

[311] Exhibit B-1, Application, p. 6-149.

[312] CEC Submissions, paras. 419-423.

[313] *BC Hydro Supply Chain Applications Project Application*, BCUC Decision and Order No. G-158-17, October 19, 2017. Online: https://www.bcuc.com/Documents/Proceedings/2017/DOC_50196_10-19-2017_BCH-Supply-Chain-Decision-Final-WEB-PUB-Redacted.pdf.

BC Hydro Supply Chain Applications Project Phase Two Verification Report, BCUC Order and Decision No. G-78-19, April 9, 2019 ("Supply Chain Phase Two Decision"). Online: https://www.bcuc.com/Documents/Proceedings/2019/DOC_53785_2019-04-09-G-78-19-BCH-SupplyChainII-Reasons.pdf.

will ensure that BC Hydro keeps the BCUC informed of the progress of the project and the realization of the project benefits.[314]

(c) Asset Investment Planning Tool

BC Hydro is Evaluating the Asset Investment Planning Tool Project

165. BC Hydro appreciates the interest of CEC and Mr. Ince in its Asset Planning Tool.[315] In reply to CEC's concern with the project being deferred, Ms. Pinksen explained that the project is on hold to ensure that the right subject matter experts were available to assist with the project and also to re-evaluate the project in light of rising costs.[316] The BCUC should not accept CEC's recommendation to require a full report on the project in the next six months.[317] BC Hydro will update its capital plan and also update project information generally in its next revenue requirements application, along with a general update on the broader picture of BC Hydro's capital planning.

Development of the Asset Investment Planning Tool is a Task for BC Hydro, Not the BCUC

166. BC Hydro has demonstrated its commitment to continuous improvement of its capital planning processes,[318] as recommended by Mr. Ince.[319] BC Hydro will also consider Mr. Ince's encouragement to resume the Asset Investment Planning Tool.[320] However, while BC Hydro will report on the development of the tool if the project proceeds, it would not be appropriate for the BCUC to be involved with the development of the tool as Mr. Ince recommends. It is generally not the mandate of the regulator to be involved in the development of utility projects. Rather, development of projects is a BC Hydro management function, and the BCUC's function is to provide regulatory oversight pursuant to the provision of the *UCA.*[321] As discussed in Subsection

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[314] Supply Chain Phase Two Decision, Reasons for Decision, Section 4.0.

[315] CEC Submissions, paras. 379-396; Ince Submissions, pp. 12-17.

[316] Tr. 11, p. 1844, l. 15 to p. 1845, l. 11 (Pinksen).

[317] CEC Submissions, para. 396.

[318] Exhibit B-6, CEC IR 1.4.2.

[319] Ince Submissions, p. 17.

[320] Ince Submissions, p. 17.

[321] This principle is discussed earlier in this Part in paras. 131 to 135.

C(f) above, BC Hydro will report in its next revenue requirements application on any significant changes with respect to its capital management processes, whether due to the Asset Investment Planning Tool or other activities.

H. PROJECT WRITE OFFS ARE A COST OF SERVICE, RECOVERABLE IN RATES ON A FORECAST BASIS

(a) Regulatory Principles Support Recovery of Project Write-offs

167. AMPC urges the BCUC to reject BC Hydro's forecast of project write-offs, stating "AMPC accepts that some write-offs in some cases may reflect prudent practices, but rejects relief that would require the Commission to assume that fact broadly."[322] AMPC cites "standard utility practices and the foundational regulatory principle that, as applicant, BC Hydro bears the onus of showing that its costs are prudent."[323] As set out below, AMPC is applying regulatory principles incorrectly in this context. Regardless, BC Hydro has demonstrated on the evidence that its forecast of project write-off expenses is a legitimate cost of serving customers, such that it should be recovered in rates.

BC Hydro's Proposal is Consistent with Forward Test Year Approach

168. First, the recovery of forecast write-off costs accords with the forward test year, cost of service approach to setting rates as employed by the BCUC. BC Hydro's proposal is that its forecast of costs of project write-offs over the Test Period be recovered in rates, just like other costs incurred in the course of providing utility service to customers.

BC Hydro's Forecast is Reasonable

169. Second, AMPC misinterprets BC Hydro's reliance on Mr. Layton's testimony that project write-off costs are prudent and that customers should pay for a reasonable amount for those costs. AMPC argues that because "reasonable" and "prudent" are the same, BC Hydro is "begging the question", i.e., is making a circular argument.[324] BC Hydro's reference to a "reasonable

[322] AMPC Submissions, para. 276.

[323] AMPC Submissions, para. 270.

[324] AMPC Submissions, para. 275.

amount" does not "beg the question" as AMPC suggests. Mr. Layton's evidence, as quoted in BC Hydro's Final Submission,[325] was that because BC Hydro's write-offs are prudently incurred, customers should pay a "reasonable amount" for those write-offs. Mr. Layton's reference to "reasonable amount" is not to the prudence of the expenditures, but the reasonableness of BC Hydro's forecast of write-offs over the Test Period.[326]

AMPC is Misinterpreting Supreme Court of Canada Decisions Regarding the Presumption of Prudence

170. Third, although the presumption of prudence is a moot point in this case (see point four below), AMPC misinterprets the effect of the Supreme Court of Canada's latest decisions commenting on the presumption of prudence.[327] AMPC argues: "The Supreme Court of Canada has rejected the notion that utilities benefit from a "presumption of prudence" absent specific statutory language, and further cautioned that regulators crafting such a presumption could run afoul of common statutory provisions that require just and reasonable rates."[328] This is an inaccurate description of the impact of the decisions AMPC references.

171. For reference, the Supreme Court of Canada cases involved the application of the long-standing retrospective prudence test, which was articulated in the *Enbridge* case as follows:

> [10] The approach of the OEB to the "prudence" inquiry is captured in the following extract from its reasons:
>
> > While the parties described it in somewhat varying terms, in the Board's view they were in substantial agreement on the general approach the Board should take to reviewing the prudence of a utility's decision.
> >
> > The Board agrees that a review of prudence involves the following:
> >
> > - Decisions made by the utility's management should generally be presumed to be prudent unless challenged on reasonable grounds.

[325] BC Hydro Final Submission, para. 370.

[326] Tr. 7, p. 1003, l. 13 to p. 1004, l. 5 (Layton).

[327] *ATCO*; *Ontario (Energy Board) v. Ontario Power Generation Inc.,* 2015 SCC 44 ("*OPG*"). Online: http://canlii.ca/t/glb07.

[328] AMPC Submissions, para. 276.

- ♦ To be prudent, a decision must have been reasonable under the circumstances that were known or ought to have been known to the utility at the time the decision was made.

- ♦ Hindsight should not be used in determining prudence, although consideration of the outcome of the decision may legitimately be used to overcome the presumption of prudence.

- ♦ Prudence must be determined in a retrospective factual inquiry, in that the evidence must be concerned with the time the decision was made and must be based on facts about the elements that could or did enter into the decision at the time.

[11] Neither the Divisional Court nor either party to this appeal takes issue with the correctness of the above quoted passage from the OEB's reasons. The "prudence" inquiry described by the Board has two stages. At the first stage, the decision of Enbridge is presumed to have been made prudently unless those challenging the decision demonstrate reasonable grounds to question the prudence of that decision. At the second stage of the inquiry, reached only if the presumption of prudence is overcome, Enbridge must show that its business decision was reasonable under the circumstances that were known to, or ought to have been known to, Enbridge at the time it made the decision.

[12] In the above quoted extract from its reasons, the OEB expressly alluded to the limited role played by hindsight. Hindsight, that is knowledge of facts relevant to the prudence of the business decision gained after the decision was made, could not be used at the second stage of the "prudence" inquiry to determine the ultimate question of whether the decision was prudent. Those facts could, however, be taken into consideration at the first stage in determining whether the presumption of prudence had been rebutted.

172. Three points are in order with respect to the Supreme Court of Canada decisions:

- First, the Supreme Court of Canada's decisions mean that the BCUC is not *required as a matter of law* to apply a no-hindsight prudence test as outlined in the *Enbridge* case.[329] Nonetheless, it is a useful test that the BCUC has repeatedly used in the context of looking at past expenditures. In the words of the Supreme Court of Canada, "the prudent investment test, or prudence review, is a valid and widely

[329] *OPG* at para. 103.

accepted tool that regulators may use when assessing whether payments to a utility would be just and reasonable."[330]

- Second, the Supreme Court of Canada found that the presumption of prudence was inconsistent with the statutory schemes of the Alberta Utilities Commission and Ontario Energy Board, which placed the burden of proof on the applicant.[331] Unlike statutes from Alberta and Ontario that were analyzed by the Court, the *UCA* is silent with respect to the burden of proof. The BCUC thus has full discretion to adopt all aspects of the *Enbridge* test.

- Third, the Court's explanation of the implications of there being no presumption of prudence in those jurisdictions makes it clear that AMPC is placing excessive significance on the burden of proof:

> Of course, this does not imply that the applicant must systematically prove that every single cost is just and reasonable. The Board has broad discretion to determine the methods it may use to examine costs — it just cannot shift the burden of proof contrary to the statutory scheme.[332] [Emphasis added.]

The debate around the existence of a presumption of prudence is generally a moot point. The reality is that BC Hydro has always filed evidence to justify its costs, and that any presumption of prudence in utility rate cases has generally been easily rebutted whenever the BCUC or an intervener has had a reasonable basis to challenge a cost, e.g., if a capital project cost more than forecast. Given the breadth of costs included in a utility's revenue requirements, BC Hydro submits that the long-standing approach remains just and reasonable.

[330] *OPG* at para. 102.

[331] *OPG* at paras. 79 to 80. *ATCO* at para. 42.

[332] *OPG* at para. 80.

BC Hydro is Relying on Evidence to Demonstrate that Project Write-Offs Can Be a Prudent Cost of Serving Customers

173. Fourth, the existence of a presumption of prudence is a moot point here. BC Hydro has demonstrated that project write-offs can be the result of effective capital planning processes. BC Hydro's mature capital planning and delivery processes ensure that projects are periodically re-evaluated based on the latest information and cancelled where reasonable to do so. Given BC Hydro's large capital program, such practices should be encouraged and the consequent costs should be recoverable from customers.

174. For example, as part of the Ruskin Dam Safety and Powerhouse Upgrade, a study was necessary to determine whether seismic upgrading of the upper dam crest block was needed. As the study concluded that seismic capacity of the upper dam crest block was sufficient, no further investment in the asset was required and the $4.6 million of expenditures on the study were written off.[333] Incurring the cost of the study was the prudent course of action. In the absence of a study BC Hydro faced the dilemma of undertaking the seismic upgrading without knowing whether it was necessary at all, or (b) taking the chance that the facilities did not require seismic upgrading, without knowing for sure. Discouraging sound decision-making is, in BC Hydro's respectful submission, bad policy.

175. Given the size and complexity of BC Hydro's system, and continually changing circumstances, project write offs are an inevitable part of providing safe, reliable and cost-effective service to customers. Therefore, it is just and reasonable for BC Hydro to recover its forecast of project write-off costs over the Test Period.

The Mere Potential for Imprudence Does Not Bar Recovery of Forecast Costs

176. Fifth, the following statement is problematic: "AMPC accepts that some write-offs in some cases may reflect prudent practices, but rejects relief that would require the Commission to assume that fact broadly."[334] While couched in the language of burden of proof ("assume"),

[333] Exhibit B-5, BCUC IR 1.132.1; Exhibit B-11, Evidentiary Update, Appendix G, p. 6; Exhibit B-17, AMPC IRs 3.15.1 to 3.15.3.

[334] AMPC Submissions, para. 276.

the effect of AMPC's argument is that, despite the absence of evidence as to particular instances of imprudent write-offs in the past, the BCUC should not allow recovery of forecast costs because BC Hydro *might* act imprudently during the Test Period. That is not the legal standard. Applying that standard would lead to a result that is not just and reasonable, as BC Hydro would be precluded from recovering prudently incurred costs.

177. Further, contrary to AMPC's argument,[335] disallowing prudent project write-offs costs would impact BC Hydro's ability to earn a fair return. BC Hydro's allowed ROE for regulatory purposes has been set by Direction No. 8 at a specific dollar amount, which means that rates must on a forecast basis provide for recovery of that cost. However, the effect of not accounting for reasonable / prudently incurred costs in rates, by definition, affects the actual rate of return. In effect, by denying reasonable / prudently incurred costs the BCUC would be setting rates that in reality did not meet its obligation under Direction No. 8 specifically, or the requirements of just and reasonable rates more generally.

178. The fair outcome if the BCUC is concerned about approving project write-offs on a forecast basis due to the potential for imprudent expenditures is not to disallow all cost recovery. Rather, it would be to include in rates an amount reflecting what it determines to be reasonable. Although BC Hydro expects it will be exceeded,[336] BC Hydro filed a reasonable forecast of project write off costs based on historical experience.[337] BC Hydro submits that the just and reasonable result would be to approve the forecast project write-off costs as filed.

Recognizing Project Write-Offs in Rates Sends the Right Message

179. Finally, acceding to AMPC's request not to allow BC Hydro to recover its forecast cost of project write-offs would send the wrong message. It is in the best interests of customers to encourage BC Hydro to make decisions based on the underlying risks and business drivers of projects, without concern that doing the right thing will result in prudently incurred costs being unrecoverable.

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[335] AMPC Submissions, para. 280.

[336] Tr. 7, p. 1004, ll. 6-18 (Layton).

[337] Exhibit B-1, Application, pp. 8-21 and 8-22.

(b) Direction No. 8 Does Not Preclude Recovery of Forecast Project Write-Offs

180. BCOAPO argues that, if Government had intended there to be a change in the recovery of costs such as project write-offs, then the change would have been referenced in Direction No. 8. It adds that the legislated return is based on the current level of shareholder risk, which should not be disturbed.[338] BC Hydro submits that the BCUC's jurisdiction to set rates to recover project write-offs is uninhibited by Direction No. 8.

181. BCOAPO's argument requires Direction No. 8 to be viewed as an exhaustive code, which it is not. The legal effect of a direction like Direction No. 8 is to circumscribe, or place constraints on, the jurisdiction that is otherwise conferred upon the BCUC under the *UCA*.[339] That is, unless precluded by a provision of a direction, the BCUC retains its discretion to fix just and reasonable rates under sections 59 to 62 of the *UCA* and the associated principles of regulatory law. The subject matter of write-offs is not addressed, either directly or indirectly, in Direction No. 8.

182. Nothing in Direction No. 8 supports BCOAPO's view that the $712 million return is based on the current level of shareholder risk. Contrary to BCOAPO's view, if the Lieutenant Governor in Council ("LGIC") had meant to require the BCUC to maintain a certain level of shareholder risk, then the LGIC would have had to spell that out in the direction. As Direction No. 8 does not indicate any restriction or direction on the recovery of project write-offs, the subject remains within the BCUC's ratemaking jurisdiction under the *UCA*.

I. BC HYDRO IS CONTINUALLY IMPROVING ITS INTERCONNECTION PROCESSES

183. BC Hydro's Final Submission[340] outlined BC Hydro's effective management of industrial load interconnection requests, with study times comparing well against BC Hydro's own business practice timelines and the practices at other utilities. At the same time, BC Hydro is continuing to look for opportunities to improve its interconnection processes.

[338] BCOAPO Submissions, p. 48.

[339] Section 3 of the *UCA*.

[340] BC Hydro Final Submission, paras. 375 to 392.

184. Only a few interveners comment on BC Hydro's interconnection process. Among those interveners, BCSEA concludes that "BC Hydro's specific arguments are well supported by the evidence",[341] while also noting that it expects that there is room for improvement in BC Hydro's industrial load interconnection regime, particularly for the purpose of fostering low-carbon electrification.[342] AMPC is the most critical of BC Hydro's practices, and its submissions are the primary focus of our reply on this topic. As described below, AMPC has misconstrued and overlooked evidence, and placed undue weight on dated statistics or reports which provide little insight into the true state of affairs. BC Hydro also explains why the surveys advocated by CEABC and Mr. Willis are unnecessary, given BC Hydro's existing steps to obtain feedback.

(a) BC Hydro Has Augmented Interconnection Staffing as Required and Will Continue to Do So

185. AMPC conflates the number of interconnections project managers with the number of projects supported by a different department within the Project Delivery KBU. AMPC states that there are eight dedicated project managers for Facility Studies (subject to augmentation by contract staff) who are responsible for supporting approximately 400 projects, referencing Ms. Holland's testimony.[343] Ms. Holland's evidence regarding the eight project managers was with respect to the number of project managers within the Lines and Interconnections Projects Department that are dedicated to interconnections.[344] (These project managers work on interconnection projects in concert with, among others, the Interconnections and Shared Assets KBU, which has 29 people focussed on interconnections.[345]) The "approximately 400 projects" referenced in AMPC's submission does not relate to the Lines and Interconnections Projects Department, but rather, the Project Services Department. As Ms. Holland explained, project services involves cost analysts, schedulers and document control,[346] which differ from project

[341] BCSEA Submissions, para. 149.

[342] BCSEA Submissions, para. 150.

[343] AMPC Submissions, para. 238.

[344] Tr. 12, p. 2140, ll. 8-22 (Holland). See also, Exhibit B-1, Application, p. 5B-10, Table 5B-4.

[345] Tr. 12 p. 2139, ll. 3-9 (Daschuk). See also, Exhibit B-1, Application, p. 5A-33, Table 5A-12.

[346] Tr. 12, p. 2182, ll. 1-3 (Holland). See also, Exhibit B-1, Application, pp. 5B-13 and 5B-14.

managers (and are assigned to Project Delivery projects as needed, including interconnections projects).

186. At a higher level, AMPC appears to take issue with the number of staff supporting interconnections requests and projects, such as project managers for Facility Studies.[347] It states that BC Hydro should, if necessary, prioritize further staffing to support interconnections.[348] BC Hydro's evidence was that it does just that:

- As Ms. Holland testified: "The staff employee number [of dedicated project managers for Facility Studies] is around eight, subject to check, with augmentation with some contract staff as needed and I believe we have at least one or two contract staff working on interconnection projects right now."[349] [Emphasis added.] Ms. Holland explained that the team is augmented as necessary with additional project managers under contract as the portfolio fluctuates, and

  > …there have been times where we have identified an interconnections project that is really best suited to a project manager within the broader portfolio. And if that's a really good fit, we have allocated that project to that project manager as well. So we are able to draw on the larger group of project managers as needed.[350]

  Ms. Holland also explained that the inference drawn by AMPC's counsel that there was a scarcity of resources was not correct: "I am not aware that we have had to prioritize work for one project over another. Project services involves cost analyst, schedulers, document control. And those resources have been assigned to projects as needed, and that work is happening. I am not aware of any conflicts that have arisen."[351]

[347] AMPC Submissions, para. 238.

[348] AMPC Submissions, para. 239.

[349] Tr. 12, p. 2140, l. 26 to p. 2141, l. 4 (Holland). See also, Tr. 12, 2181, ll. 7-9 (Holland).

[350] Tr. 12, p. 2140, ll. 13-20 (Holland).

[351] Tr. 12, p. 2181, l. 23 to p. 2182, l. 5 (Holland).

- Ms. Daschuk echoed that BC Hydro was comfortable with current staffing levels, but would augment them as needed:

> I think we're comfortable with the staffing levels that we have within the test period. As Mr. Kumar said, if something were to happen and we had a surge of demand we would be able to handle that. As we look forward, and we look into the outcomes of the integrated resource plan for the developments in the CleanBC plan, we will get early indications of changes in the demand that we have for different types of interconnections. And at that time we would, as a first priority, try to optimize the staff that we do have. If that turned out to not be sufficient, then we would go to the rest of the organization with a justification for increased staffing, or decreased staffing, quite frankly, if the load did not materialize, if the new connections didn't materialize. That would be beyond the test period because we are quite comfortable, we have the staff that we need for now.[352] [Emphasis added.]

187. The BCUC should find, based on this evidence, that BC Hydro is prepared to prioritize staffing to support interconnections.

(b) Limited Metrics and Materials AMPC Cites Regarding BC Hydro's Performance Obscure the Real Story

188. AMPC has cited metrics and dated materials that do not reflect BC Hydro's true performance and improvements.

189. AMPC took issue with some of the interconnection metrics from prior years, as well as those that appeared in a more recent BC Hydro dashboard.[353] AMPC made note of some occasions where the "Average Duration" metrics exceeded BC Hydro's target. In the case of the dashboard, AMPC noted the number of elapsed days for Planning Studies and Facility Studies for distribution interconnections (AMPC acknowledged that the metrics for Systems Impact Studies and Facilities Studies for transmission interconnections were within the targeted range).

[352] Tr. 13, p. 2354, l. 11 to p. 2355, l. 2 (Daschuk).

[353] AMPC Submissions, paras. 242 and 243.

190. As Ms. Daschuk explained, there are challenges with looking at interconnection duration metrics in isolation from context, including that the customer may be the cause of the delay:

> …so the duration of the customer in the queue is -- it's a challenging metric because many times the reason a customer is still in the queue is they have not made a final investment decision, and that's a factor that's outside of BC Hydro's control.
>
> So what we do look at, is there anything that BC Hydro is doing that might prevent that customer from moving forward, as opposed to a customer may be looking for investors, they may be deciding on locations, for example.[354]

191. BC Hydro's focus on customer requirements rather than just elapsed days makes sense, particularly in light of the diversity of BC Hydro's interconnection customers.

192. Mr. Kumar explained how the size, complexity, location and other customer characteristics can mean some studies will take longer than others:

> We actually have very strict metric in terms of a system impact study requirements for load customers and for IPP customers. And we try our best to meet those needs in terms of those timelines.
>
> The recognition of the issue is the fact that some things will take longer, some things will take shorter period of time. To give you an example, if an LNG study happens in the Kitimat area, it's a 500 kV system that's about 400 kilometres radial line. After that there is a radial line at 287 and there's an LNG plant at the end of that. And you have basically expanding the capacity of that area from 400 megawatts to probably double of that by a single LNG plant connecting to that area.
>
> So you can imagine the complexity that we have to deal with in terms of doubling the load on a radial line that could be 600 kilometres long and the challenges that we face for that. So that kind of a study would take, inherently, much longer.
>
> You contrast that with a study that's done in the Lower Mainland area where we are say connecting a cannabis grower, it's a strong system, we have lots of capacity, in that case we can actually do an expedited study, which takes less than two months to do in terms of the fact that we have capacity on the system. It's a strong system, any form that happens as a result of the new customer we are able

[354] Tr. 11, p. 1935, ll. 9-18 (Daschuk).

> to withstand that as a result of the strength of the system. So there's a different spectrum of the study that we have to do. So I think in all depends on the location of the study, the type of complexity that we are dealing with and how quickly can the load customers actually give us the input data? Because for us to start the study we need to get the right data from the customers. And a lot of times what we find is that they have not gone through the design phase of their own facilities to give us the level of data that we require for us to actually undertake the study. So, you work very closely with that customers in terms of presumptions that we can build in terms of the load models because we have more aware of what that load could look like than sometimes the customers can be.[355]

193. Complex and more remote interconnections would naturally be expected to take longer than more standardized interconnections near existing load centres.

194. Mathematics also dictates that a small number of studies that take a long time to complete, for reasons such as these (or customer delays), can lead to skewed averages, particularly when the average is based on a relatively small number of studies.

195. AMPC's submissions also place undue weight on two dated documents: a 2013 IEPR report[356] and a 2016 Black & Veatch report.[357] BC Hydro explained that, given the improvements to the interconnection process made since 2016, even the benchmarking conducted by Black & Veatch is out of date.[358] Since the Black & Veatch report was prepared, BC Hydro has undertaken further internal changes to address the organizational structure issues, matured the delivery process for interconnection work, and implemented several process improvements.[359] BC Hydro's Final Submission highlighted the various actions it has taken to improve interconnection timelines for new industrial load interconnection requests.[360]

196. Ms. Daschuk provided more recent figures that reflect BC Hydro's improvements:

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[355] Tr. 11, p. 1923, l. 4 to p. 1924, l. 23 (Kumar).

[356] AMPC Submissions, paras. 228 and 249.

[357] AMPC Submissions, para. 250.

[358] Exhibit B-47, BC Hydro Undertaking No. 32, Attachment 1.

[359] Exhibit B-47, BC Hydro Undertaking No. 32.

[360] BC Hydro Final Submission, para. 380, referencing Exhibit B-47, BC Hydro Undertaking No. 32, Exhibit B-13, AMPC IR 2.35.8, and Tr. 11, p. 1921, l. 14 to p. 1923, l. 10 (Kumar).

> A couple of things I wanted to mention in terms of performance. Last year, in our Fiscal 2019, we completed 79 percent of the studies on time. That's not a number that we were happy with. This year, year to date [i.e., with three quarters of fiscal 2020 having been completed], 97 percent of all of the studies have been completed on time. I think that's a real reflection of some of the significant effort that we've been putting in as an organization to improve the interconnection process to make it easier for our customers to connect.[361]

197. AMPC overlooks these figures in favour of a newspaper article about a single municipal project in Fort St. John,[362] which a BC Hydro witness confirmed related to "entirely different types of customer connections".[363]

198. In short, the evidence does not support AMPC's claims about BC Hydro's interconnection process, particularly in light of BC Hydro's stated goals and recent performance. As BC Hydro's witnesses told the BCUC, the company will continue to expand upon the significant efforts BC Hydro has already made to improve its interconnections process.[364] Accordingly, there is no basis for a direction with respect to BC Hydro's interconnection process.

(c) BC Hydro Has Mechanisms in Place for Interconnection Customer Feedback

199. CEABC and Mr. Willis recommend that follow-up interviews or surveys be conducted with customers who have had recent interconnection work performed (CEABC also proposes to include potential customers).[365] As described below, further surveys are unnecessary. BC Hydro already receives robust interconnection feedback, including through a recently released survey tool.

200. BC Hydro surveyed customers in 2017 and solicited feedback as part of its continuous improvement process.[366] BC Hydro explained in its Final Submission[367] that, since then, it has

[361] Tr. 11, p. 1920, ll. 6-15 with errata noted in Tr. 15 (Daschuk).

[362] AMPC Submissions, para. 251.

[363] Tr. 12, p. 2191, ll. 5-8 (Daschuk).

[364] BC Hydro Final Submission, para. 392.

[365] Willis Submissions, pp. 5 and 6; CEABC Submissions, Appendix A, pp. 55 and 56.

[366] Exhibit B-47, BC Hydro Undertaking No. 34 (PDF pp. 141-149).

[367] BC Hydro Final Submission, para. 385.

had ongoing discussions with new interconnection customers on its interconnection process and tariff.[368] BC Hydro has also conducted a number of workshops and engagement sessions with industrial stakeholders on its interconnection processes and associated interconnection tariffs.[369]

201. BC Hydro's witnesses described the positive feedback BC Hydro has received with respect to its interconnections work. Ms. Daschuk stated:

> We made significant improvements since 2013. We have feedback from our customers that they're pleased with the process, they're pleased with the responsiveness. Our performance has improved. We're showing more of work being completed on time, more of our studies are being completed on time and customers are being connected when they want to be connected. So that's how I would best describe what we do now.[370]

202. Mr. Kumar also described compliments that BC Hydro had received:

> The third thing I would like to mention is that if you look at the feedback that we received in the last five years, I would say it's very complimentary. Recently, I think it was last year, that the Deputy Minister from B.C. of our ministry went to Calgary to meet with oil and gas clients. And the complimentary feedback he got in terms of BC Hydro's ability to meet with the client, to recognize their needs and be able to deliver on their timeline was actually quite exceptional. And we got an email back from him too, Mr. O'Riley, saying that BC Hydro has come a long way over the last five years in terms of our ability to move forward with those requirements.[371]

203. Interconnection customers tend to be sophisticated. Mr. Kumar explained that unsatisfied interconnection customers are not reluctant to express their views to BC Hydro:

> In June 2019, BC Hydro initiated the development of a new online survey tool I think based on the interactions we've had with the customers, and it's a fair open interaction we have, I think they are willing to speak their mind if there are any concerns with our system, and it gets raised either to Maureen's level or to Chris's level as Ms. Daschuk was mentioning.

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[368] Tr. 11, p. 1922, l. 17 to p. 1923, l. 10 (Kumar); Tr. 11, p. 1925 ll. 12-14 (Kumar).

[369] Exhibit B-47, BC Hydro Undertaking No. 33 (PDF pp. 139-140).

[370] Tr. 11, p. 1944, l. 21 to p. 1945, l. 6 (Daschuk).

[371] Tr. 11, p. 1922, l. 17 to p. 1923, l. 10 (Kumar).

> So I would say that based on our open relationship we had with our customers, it doesn't matter whether we are a monopoly or not, they do give us their feedback in terms of what is going well and what is not going well, and we do take that into account in improving our process. Because if we don't take that feedback, how are we going to improve our process?
>
> So I think it's a very open relationship we have with our customers and they are more than willing to share any information they have in terms of things that didn't go well and things that did go well. And we have seen that many times in the last ten years, in my experience.[372]

204. The online survey tool was implemented in 2020, and will provide more standard and consistent information to look at trends and service delivery satisfaction. The new survey includes an option for the customer to have a follow-up discussion with a senior manager in the Interconnections and Shared Assets KBU to provide further feedback.[373]

205. The evidence demonstrates that BC Hydro continues to look for interconnection process improvement opportunities and is open to feedback and ideas from industry that will improve the process for both new load customers and BC Hydro.[374] BC Hydro submits that the interconnection customer feedback mechanisms already in place are sufficient.

J. CONCLUSION AND REQUESTED FINDINGS

206. The evidence shows that BC Hydro has well-developed planning and delivery processes and that BC Hydro is delivering its projects effectively and efficiently. The BCUC should find, despite the intervener arguments addressed above, that the resulting planned capital additions and expenditures for the Test Period are reasonable.

[372] Tr. 11, p. 1946, l. 23 to p. 1947, l. 17 (Kumar).

[373] Exhibit B-47, BC Hydro Undertaking No. 34.

[374] Exhibit B-13, AMPC IR 2.35.8.

PART EIGHT: REGULATORY ACCOUNTS

A. INTRODUCTION

207. In its Final Submission, BC Hydro explained that it was seeking very few orders regarding regulatory accounts. All but one of the accounts are approved by the BCUC for ongoing use and BC Hydro is proposing to close four regulatory accounts, with a limited number of changes to others. BC Hydro is not requesting approval of any new regulatory accounts.[375] The majority of interveners (BCSEA, BCOAPO, CEC, Zone II RPG, MoveUP, Mr. Ince, Mr. Willis and Ms. Gjoshe[376]) raise no concerns about BC Hydro's proposals or existing regulatory accounts. In fact, Zone II RPG,[377] BCSEA,[378] BCOAPO[379] and CEC[380] express support for BC Hydro's proposal with regards to the amortization of the Cost of Energy variance accounts.[381] BCSEA,[382] BCOAPO[383] and CEC[384] express support for BC Hydro's regulatory account proposals more generally.

208. In this Part, BC Hydro focusses on the following points:

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[375] BC Hydro Submissions, para. 394. The one regulatory account that is currently not approved for ongoing use is the Dismantling Costs Regulatory Account. BC Hydro has requested BCUC approval for ongoing use of this account in the Application.

[376] Ms. Gjoshe makes no submissions with regards to BC Hydro's existing regulatory accounts or regulatory account proposals but does suggest it is highly unlikely that BC Hydro's regulatory accounts were intended to absorb variances as a result of events of the magnitude of the COVID-19 pandemic. BC Hydro's addresses this issue, as part of its submissions on the COVID-19 pandemic, in Part Two above.

[377] Zone II RPG Submissions, para. 23.

[378] BCSEA Submissions, paras. 186 and 293.

[379] BCOAPO Submissions, pp. 40 and 41.

[380] CEC Submissions, paras. 441 and 442.

[381] Zone II RPG Submissions, para. 4. Zone II RPG indicated that it takes no position with respect to BC Hydro's other regulatory account proposals.

[382] BCSEA Submissions, para. 165: "BCSEA agrees that BC Hydro's regulatory accounts benefit customers." See also para 162: "BCSEA is not persuaded that BC Hydro's regulatory accounts should be reduced in number and narrowed in scope, for the following reasons…".

[383] BCOAPO Submissions, pp. 39-44. E.g., at p. 43: "BCOAPO supports BC Hydro's proposal to continue the over the Dismantling Cost Regulatory Account. Continued use of the account recognizes the uncertainty associated with the forecast values and means that ratepayers pay the actual costs of dismantling." BCOAPO also takes "comfort" in the context of COVID-19 from the fact that the variances that may occur between the forecast and actual Domestic revenues are eligible for deferral. (BCOAPO Submissions, p. 15.) BCOAPO also makes similar reference to the regulatory account in the context of Market Energy Costs. (BCOAPO Submissions, p. 24.)

[384] CEC Submissions, paras. 443 and 444. CEC notes that its support is conditional on BC Hydro advancing a depreciation study, which BC Hydro has committed to doing (refer to Exhibit B-43).

- First, the general opposition to regulatory accounts expressed by Mr. McCandless, CEABC and AMPC is inconsistent with long-standing regulatory practice in British Columbia and elsewhere and gives insufficient weight to the benefits of regulatory accounts.

- Second, BC Hydro has also addressed BCSEA's commentary regarding the DSM Regulatory Account and its role in promoting intergenerational equity.

- Third, section 52 of the *UCA* is inapplicable to BC Hydro and thus has no application in the context of the Real Property Sales Regulatory Account.

B. BC HYDRO'S USE OF REGULATORY ACCOUNTS IS STANDARD AND BENEFICIAL

209. The submissions of the remaining three interveners (Mr. McCandless, CEABC and AMPC) reflect a more general opposition to regulatory accounts. As described below, their view is inconsistent with long-standing regulatory practice in British Columbia and elsewhere and gives insufficient weight to the benefits of regulatory accounts.

(a) Deferring Revenue Variances Is Common Utility Practice

210. Mr. McCandless urges the BCUC to seek the opinion of the Auditor General of B.C. with regards to whether deferring variances between forecast and actual domestic revenue conforms to accepted accounting practice.[385] In BC Hydro' submission, this matter is already resolved and a directive is unnecessary.

211. BC Hydro has provided clear evidence that deferring variances between forecast and actual domestic revenue is a common regulatory practice. It is often referred to as "revenue decoupling" or a "decoupling mechanism". Decoupling is employed, for example, at other BCUC-regulated utilities including FortisBC Inc. (electric) and FortisBC Energy (gas).

[385] McCandless Submissions, p. 6.

- The BCUC endorsed FortisBC Inc.'s account as "a reasonable attempt to manage the uncertainty and unpredictability associated with accounts which are largely uncontrollable in nature." [386]

- The BCUC, in its 2012 Decision for FortisBC Energy, explicitly relied on the existence of the natural gas utility's decoupling mechanism (RSAM)[387] as a reason to approve an uncertain load forecast.[388] It stated:

> The Commission Panel finds that the modifications to margin related deferral accounts are appropriate and in the interest of ratepayers and approves them as filed. The Commission Panel approves the continuation of existing margin related deferral accounts as applied for as they continue to reduce rate volatility.[389]

212. In a report by S&P Global, filed by BC Hydro in this proceeding, approximately half of the North American utilities surveyed utilized some type of decoupling mechanism.[390]

213. The Auditor General of B.C. is now BC Hydro's external auditor, and will audit this practice as part of the audit of BC Hydro's fiscal 2020 financial statements.[391]

(b) Variance Accounts Promote Fairness and Stability in the Face of Uncontrollable Factors

214. CEABC opposes continued use of regulatory accounts that capture variances between forecasts and actual results, maintaining that "the alternative is to encourage BC Hydro to forecast accurately in the first place, and have the consequences of any errors fall upon the

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[386] BC Hydro Final Submission, para. 409.

[387] *FortisBC Energy Utilities 2012 Revenue Requirements and Rates Decision*, BCUC Decision and Order No. G-44-12 ("2012 FortisBC Energy Revenue Requirements Decision"), p. 24.
Online: https://www.ordersdecisions.bcuc.com/bcuc/decisions/en/111644/1/document.do.

[388] 2012 FortisBC Energy Revenue Requirements Decision, p. 26: "In addition, the Panel notes that any UPC variances are managed through the RSAM, which protects the interest of ratepayers." See also pp. 26 and 27.

[389] 2012 FortisBC Energy Revenue Requirements Decision, p. 107.

[390] Exhibit B-28-2, BC Hydro Revised Rebuttal Evidence.

[391] Exhibit B-6, McCandless IR 1.4.2.

shareholder".[392] CEABC goes further, suggesting that Powerex Net Income just be set "at a reasonable and sustainable level, and let the 'chips fall where they may,' on the shareholder."[393] AMPC makes a similar argument, citing the need for "utility discipline".[394]

215. These arguments misunderstand the nature of BC Hydro's forecast variance regulatory accounts. These accounts have been established in accordance with the principle that BC Hydro should generally assume financial responsibility for controllable risks and that it should not assume financial responsibility for non-controllable risks.[395] Variance accounts are the means by which this fair risk allocation is achieved. It is certainly the case that utilities should strive to provide reasonable forecasts based on the information available, and BC Hydro does that. However, no amount of rigour will ensure that a forecast of an uncontrollable and volatile cost or revenue item exactly matches actual results.

216. The Energy Study forecast provides a good illustration of this: any number of factors that are unpredictable and outside of BC Hydro's control (e.g., weather, water inflows, etc.) will affect the cost of energy. For example, fiscal 2019 actual gross Cost of Energy was $244.2 million or 14% lower than the fiscal 2019 RRA Plan. The largest component of this variance was related to lower costs from IPPs and Long Term Commitments, primarily resulting from lower deliveries from hydro projects due to low water inflows, delayed Commercial Operation Date for several projects, suspension of the Standing Offer Program, lower deliveries from wind projects, and the termination of several Electricity Purchase Agreements.[396] The effect of CEABC's proposal, in this instance, would be that ratepayers would pay for energy that BC Hydro never received or paid for, and that BC Hydro would have realized higher net income as a result. In BC Hydro's submission, gains or losses of this nature, are appropriately captured by forecast variance accounts.

[392] CEABC Submissions, p. 11.

[393] CEABC Submissions, p. 12.

[394] AMPC Submissions, para. 68.

[395] Exhibit B-1, Application, p. 7-14.

[396] Exhibit B-19, Application, Appendix G, Fiscal 2017 and Fiscal 2018 Variance Explanations, p. 4.

217. The BCUC's previous recognition of the benefit of regulatory accounts to manage uncertain and volatile revenue requirements inputs extends beyond the passages noted in the previous section. It has, for example, also approved regulatory accounts for FortisBC Energy for costs that are difficult to forecast, observing "The Commission Panel notes that deferral account treatment is appropriate where certain costs are significant and beyond the control of the FEU and could result in windfall benefits or costs to ratepayers."[397]

218. AMPC's argument about "utility discipline" (and, for that matter, "transparency" and "effective ratemaking" more generally[398]) is based on a very narrow view of the purpose of regulatory accounts. It states: "As InterGroup noted, the primary purpose of regulatory/deferral accounts is to match costs to benefits, which current practices undermine. And as explained in response to BCSEA IR 6.1, the accounts dampen shareholder risk and cloud utility transparency and discipline:..".[399] It is impossible to reconcile AMPC's characterization of the primary purpose of regulatory accounts with either the BCUC Deferral Account Checklist or the passages from previous BCUC decisions. Regulatory accounts serve various purposes. A utility's ability to exercise "discipline" is inherently limited when costs are influenced by matters beyond the utility's control, making variance accounts more about stability and fairness than accountability or cost matching. Just as it would be unfair for the utility to be penalized for circumstances beyond its control, the reverse is also true — it would be unfair to customers for the shareholder to earn profits from uncontrollable variances, without having done anything to merit that windfall.

219. The proper recourse for customers and the BCUC in the event there were to be justified concern about the rigour of a particular forecast is for the BCUC to direct that a different forecast be used in determining rates. It would be the height of "cutting off one's nose to spite the face" to remedy that concern by eliminating a regulatory account, thereby exposing both shareholder

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[397] 2012 FortisBC Energy Revenue Requirements Decision, p. 115. See also, p. 111: "The Commission Panel finds that establishment of an Emission Regulations Deferral Account is appropriate given the uncertainties surrounding the costs and revenues that could accrue to the FEU."

[398] AMPC Submissions, para. 68.

[399] AMPC Submissions, para. 69.

and customers alike to unfair windfalls that might arise due to uncontrollable factors. This type of dynamic, if anything, drives conservatism in forecasting, not accuracy. The higher stakes also inevitably polarizes the regulatory discourse.

(c) The BCUC Should Reject the Broad Directives Sought by AMPC and CEABC

220. CEABC and AMPC seek broad directions. CEABC wants the BCUC to direct (a) BC Hydro to hold consultation sessions, including workshops, to examine the merits of continuing the use of existing regulatory accounts and (b) that the scope of BC Hydro's upcoming depreciation study be expanded to include the amortization periods of regulatory accounts.[400] AMPC suggests that BC Hydro should be directed to reduce the scale and scope of regulatory accounts where feasible, and over time.[401] BC Hydro submits that the BCUC should refrain from issuing directives of this nature.

221. This proceeding was the appropriate venue for parties to make submissions regarding the scope and amortization periods of BC Hydro's existing regulatory accounts. As Mr. Wong explained, "I think what we should be looking at, is what is going into the deferral accounts, why we are deferring those balances, how we are recovering those costs. And that should be the debate of what we discuss here."[402] Yet, AMPC and CEABC's submissions remained largely high level.

222. It is worthy of note that AMPC's commitment to InterGroup's philosophical views on regulatory accounts (e.g., that the primary purpose of regulatory accounts is benefits matching and that the number of accounts should be reduced) does waver in circumstances where customers can only benefit from the existence of the account. The cautionary note AMPC sounds about discontinuing the Real Property Sales Regulatory Account is telling:

> 289. Likewise, BC Hydro plans to apply to change how shareholders and ratepayers benefit from windfall property sales by closing the Real Property Sales Regulatory Account. According to the record this may happen in 2024 or 2025. The

[400] CEABC Submissions, p. 11.

[401] AMPC Submissions, para. 65a.

[402] Tr. 6, p. 707, ll. 9-14 (Wong).

> Commission should consider any such request carefully and ensure it receives the benefit of customer submissions.
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> …
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> 297. Mr. Leonard indicated that BC Hydro may also potentially sell one or both of the Dal Grauer and Murrin substation properties. Such a sale would be at least 10 or 15 years in the future, after BC Hydro expects to apply to close the Real Property Sales Regulatory Account (approximately 2024 or 2025). Again, AMPC signals its concern that the Commission will need to consider such an application carefully in the future.[403]

The Real Property Sales Regulatory Account, like a number of other BC Hydro regulatory accounts, is about promoting fairness, not benefit matching. The type of case-by-case assessment that AMPC wants for the Real Property Sales Regulatory Account, rather than sweeping policy pronouncements it otherwise advocates, is most appropriate.

223. The evidence does not support the broad directives sought by AMPC and CEABC with regards to BC Hydro's existing regulatory accounts. BC Hydro has shown that it assesses the need for its accounts, proposing to close four accounts and anticipating closing four more thereafter. BC Hydro has otherwise demonstrated that its approved regulatory accounts are in accordance with International Financial Reporting Standards, consistent with the BCUC's Regulatory Account Filing Checklist, and beneficial to customers.[404]

C. DSM REGULATORY ACCOUNT ENSURES INTERGENERATIONAL EQUITY BY MATCHING COSTS AND BENEFITS

224. BCSEA submits that it is unsure if BC Hydro needs approval for traditional DSM expenditures to be recorded in the DSM Regulatory Account, given that Direction No. 7 has been repealed.[405] BC Hydro does not need additional approval, as Order No. G-48-14 authorized BC Hydro to continue to defer these costs to the DSM Regulatory Account and to amortize the

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[403] AMPC Submissions, para. 289. As discussed in BC Hydro's Final Submission at paras. 412 to 416, absent BC Hydro's support for this regulatory account the proceeds of the real property sales captured in the account would, at law, accrue to the shareholder.

[404] BC Hydro Final Submission, Part Eight.

[405] BCSEA Submissions, para. 209.

balance of the account into rates over 15 years, on an ongoing basis. While Direction No. 7 has been repealed, Order No. G-48-14 remains as a valid BCUC Order.

225. BCSEA also supports BC Hydro's amortization period for the DSM Regulatory Account.[406] However, BCSEA takes issue with BC Hydro's nomenclature, suggesting that "intergenerational equity" is not a synonym for benefits matching. BCSEA states: "Future generations do not owe us anything. We owe previous generations for making the benefits from which we are now benefiting."[407] BCSEA similarly states: "The present generation enjoys the benefit of investments made by earlier generations. It is incumbent on the current generation to pay this forward to future generations."[408] While perhaps a matter of semantics, BC Hydro does not agree that generational equity is a matter of the current generation "paying it forward" to future generations.

226. Intergenerational equity and benefits matching are related concepts. Where benefits and costs are matched, there is intergenerational equity. Where there is a substantial mismatch, there is some inequity because one "generation" of customers is paying for the benefits received by another. The BCUC has previously commented on the principle of intergenerational inequity, consistent with BC Hydro's interpretation:

> One principle of utility rate design and cost allocation is to ensure intergenerational equity to the extent practicable. The goal is to have the appropriate share of costs that are incurred to provide services to ratepayers in a particular time period recovered from the ratepayers benefiting from the services in that same time period ....
>
> ....Adherence to the principle of intergenerational equity provides challenges with respect to accurately determining appropriate periods over which to amortize costs. However, the Commission Panel believes that putting in place measures to ensure costs are borne by those who benefit is far more appropriate than ignoring such costs and passing them on to a future generation of customers well after any benefits have been realized. While there may be a temptation to defer costs to a future time period as a means of achieving lower rates, the view of the Panel is

[406] BCSEA Submissions, para. 178.

[407] BCSEA Submissions, para. 181.

[408] BCSEA Submissions, para. 176. [Emphasis removed.]

> that where practical, both the cost and the benefits of a particular undertaking should be balanced over the same period.[409]

227. A 15-year amortization period balances the costs and benefits of DSM expenditures over the same period. It therefore is supported by the principle of intergenerational equity.

D. BC HYDRO IS NOT SUBJECT TO SECTION 52 OF THE *UCA*

228. No interveners have taken issue with BC Hydro's proposals related to the Real Property Sales Regulatory Account.[410] However, during the oral hearing, BCUC counsel asked that BC Hydro address in argument whether it was seeking approval to dispose of its properties pursuant to section 52 of the *UCA* or whether it believes the dispositions are outside the ordinary course of business.[411] Pursuant to section 32(7)(x) of the *Hydro Power and Authority Act*, BC Hydro is not subject to section 52 of the *UCA*. Therefore, BC Hydro is not seeking approvals pursuant to that section to dispose of any properties outside the ordinary course of business.

E. CONCLUSION AND REQUESTED FINDINGS

229. The directives sought by AMPC, CEABC and Mr. McCandless are unsupported and unwarranted. The BCUC should find that BC Hydro's current use of regulatory accounts, its proposals to close and modify some of them, and its forecasted additions and amortization are just and reasonable.

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[409] 2012 FortisBC Energy Revenue Requirements Decision at s. 4.3, pp. 22 and 23.

[410] See BC Hydro Final Submission, para. 412 and following.

[411] T. 13, p. 2532, ll. 12-20 (Miller).

PART NINE: OTHER REVENUE REQUIREMENTS ITEMS

A. INTRODUCTION

230. All but three interveners are silent on Other Revenue Requirements. BCSEA[412] and CEC[413] express general support for BC Hydro's position on finance charges and depreciation expense. All other interveners, apart from AMPC, are silent. Although AMPC's submissions address finance charges and depreciation expense at length, they track InterGroup's evidence closely. BC Hydro answered InterGroup's evidence in Rebuttal Evidence and in Part Nine of its Final Submission, reducing the need for extensive reply.

231. This Part focusses on the following points:

- First, BC Hydro's evidence has been sufficiently tested, contrary to AMPC's apparent suggestion.
- Second, BC Hydro's forecast finance charges are a reasonable basis for setting rates, contrary to AMPC's argument.
- Third, reducing interest rate exposure remains the appropriate objective for BC Hydro's hedging strategy.
- Fourth, the Test Period revenue requirements reflect appropriate depreciation rates, contrary to AMPC's argument.

[412] BCSEA Submissions, para. 198: "In BCSEA's view, the Commission should find that BC Hydro's depreciation rates and forecast finance charges are reasonable for the Test Period."

[413] CEC Submissions, paras. 446 and 447: "BC Hydro discusses three main issues in its Final Argument at page 203. These relate to BC Hydro's depreciation rates, BC Hydro's forecast finance charges and BC Hydro's Return on Equity. The CEC generally agrees with BC Hydro's positions on these matters." CEC does elsewhere indicate a concern about finance charges in the context of Covid-19, although there is no evidence on the record regarding the impact of Covid-19 on borrowing costs: see CEC Submissions, p. 3.

B. AMPC'S ARGUMENT THAT BC HYDRO'S EVIDENCE HAS BEEN INSUFFICIENTLY TESTED IS WITHOUT MERIT

232. AMPC's argument that the BCUC should adopt InterGroup's evidence rests on the following proposition: "The Commission must exercise caution against overreliance on BC Hydro perspectives that have not been tested or challenged to the degree warranted for such a major regulatory process."[414] BC Hydro responded to thousands of information requests on its Application, spread over five rounds. There was an 11 day oral hearing, which included extensive cross-examination of BC Hydro witnesses by counsel for AMPC. BC Hydro submits that its evidence has been thoroughly tested and provides a sound basis upon which the BCUC can make its decision.

233. BC Hydro has already addressed the shortcomings in InterGroup's evidence, including that (a) one of its recommendations contradicted accounting standards and BCUC orders,[415] (b) its focus was on factors that tend to drive the Test Period rates in one direction: down,[416] and (c) much of its evidence was, in essence, a critique of Government policy that merited no response.[417]

C. BC HYDRO'S FORECAST FINANCE CHARGES ARE A REASONABLE BASIS FOR SETTING RATES

234. AMPC indicates that, while it does not take issue with the underlying interest rate forecasts that BC Hydro uses, the Evidentiary Update should have reflected more recent long-term and short-term forecasts.[418]

[414] AMPC Submissions, para. 17.

[415] BC Hydro Final Submission, para. 446.

[416] BC Hydro Final Submission, para. 579.

[417] BC Hydro Final Submission, para. 7.

[418] AMPC Submissions, para. 22b.

235. The fact that AMPC is trying to reduce the proposed rates is obvious on the face of its submissions.[419] AMPC concludes its synopsis of why inputs in the Evidentiary Update, including finance charges, should be changed or updated by saying:

> The above matters should be included in rates at the earliest possible opportunity, and not simply adjusted through deferral accounts or any new form of balancing. The BCUC has a clear opportunity to improve industrial rate competitiveness and help accelerate rate relief at a crucial time for the economy.[420]

236. BC Hydro explained in the Final Submission that the Evidentiary Update used the most recent interest rates forecast publicly available from the Government of B.C. at the time the forecast was prepared (as of January 4, 2019).[421] AMPC argues that BC Hydro ought to have used information made available to BC Hydro informally in advance of publication by Government.[422] BC Hydro submits that there was value in being able to disclose the information upon which the Evidentiary Update as based, given that it was to be the subject of information requests in short order.

237. There will always be more up to date information coming available during the regulatory process, particularly during a protracted process like this one. Whether the new information becomes available daily, quarterly[423] or otherwise, a line has to be drawn somewhere. The transparent approach taken by BC Hydro was fair and reasonable.

D. REDUCING INTEREST RATE EXPOSURE REMAINS THE APPROPRIATE OBJECTIVE FOR BC HYDRO'S HEDGING STRATEGY

238. BC Hydro explained in its Final Submission that the objective of BC Hydro's hedging strategy is to manage interest rate risk by locking in interest rates on expected future debt

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[419] MoveUP shares this view stating at p. 11: "Intergroup did not assert that the rate that Hydro applied was invalid, but was transparently searching for devices to squeeze out small, short-term downward rate adjustments, whether or not they are rationally sound."

[420] AMPC Submissions, para. 22. [Emphasis removed.]

[421] BC Hydro Final Submission, para. 488.

[422] AMPC Submissions, para. 136.

[423] AMPC suggests that quarterly updates would solve the issue that market conditions change daily. See AMPC Submissions, para. 137.

issuances.[424] Among the interveners, only BCSEA and AMPC addressed hedging. BCSEA "accepts that the purpose of the hedging strategy is to lock in a rate, rather than to make a profit."[425] AMPC concedes that forecast certainty for BC Hydro's cash flow requirements is important,[426] yet wants BC Hydro to prepare a report "to demonstrate how its debt management strategy has successfully minimized its cost of debt."[427]

239. The evidence demonstrates the importance for ratepayers of BC Hydro's focus on mitigating interest rate exposure over the next five years. As Mr. Wong explained, BC Hydro must issue billions of dollars of debt while Site C is under construction:

> Inclusive of Site C we're going to have about 3 billion a year for the period of time until after Site C, about a billion and a half a year of capital expenditures. So in order to fund those capital expenditures, we need to usually issue longterm debt. Our portfolio is usually made up of long-term debt. We don't know what the interest are, what locked-in interest rates will be until you actually get to issuing that debt. So, because we know we have this large portfolio of capital expenditures we budget against that based on the finance charges that we expect today. What we want to do is create some certainty around what those finance charges are going to be.[428]

The interest rate exposure on billions of dollars of long-term debt, absent hedging, is very significant. Moreover, the fact that BC Hydro has been able to enter into hedges in a period of low interest rates amplifies the benefits associated with the risk mitigation.

240. AMPC appears to suggest that the objective of the hedging program has changed: "BC Hydro's current approach to hedging is focused on attaining cost certainty for BC Hydro, rather than protecting ratepayers from the risk of higher interest rates."[429] The evidence demonstrates that the purpose of the hedging strategy is the same today as it was when the BCUC originally

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[424] BC Hydro Final Submission, paras. 484 to 486.

[425] BCSEA Submissions, para. 196. BCSEA also noted that "In the 2016 proceeding leading to Decision and Order G-42-16, BCSEA supported the proposed Debt Management Regulatory Account and BC Hydro's Debt Management Strategy to use Future Debt Hedges."

[426] AMPC Submissions, para. 215.

[427] AMPC Submissions, para. 227.

[428] Tr. 7, p. 952, ll. 9-24 (Wong).

[429] AMPC Submission, para. 227.

approved the regulatory account. AMPC's reference to "certainty" appears to be based on a parsing of Mr. Wong's testimony. Here is an example of what Mr. Wong said: "What we want to do is create some certainty around what those finance charges are going to be."[430] He did not say that BC Hydro was setting out to *eliminate* interest rate risk, which would involve hedging 100% of debt issuances over the next five years. BC Hydro submits that "some certainty around what those finance charges are going to be" is the result when you "mitigate exposure to risk of higher interest rates". They are two sides of the same coin.

241. AMPC has also noted the change in the extent of hedging from 50% to 75% of long-term debt issuances, suggesting it has not been justified.[431] The BCUC decision approving the Debt Management Regulatory Account shows that it had always been contemplated that BC Hydro would adjust its strategy to account for changing conditions.[432] The amount of hedging has been determined with reference to the current degree of predictability around the cash flows associated with the capital plan.[433] Mr. Wong stated: "What we're doing is being very methodical and thoughtful about how we want to create these fixed interest charges because we want to lock in the low rates for ratepayers."[434]

242. The type of hindsight assessment that AMPC seeks — a report "to demonstrate how its debt management strategy has successfully minimized its cost of debt"[435] — is at odds with the purpose of the hedging program. The evidence that the program has been successful is the fact

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[430] Tr. 7, p. 952, ll. 22-24 (Wong).

[431] AMPC Submissions, para. 23a.

[432] *BC Hydro Application for Approval of Debt Management Regulatory Account*, BCUC Decision and Order No. G-42-16, March 30, 2016, Decision p. 6: "Although BC Hydro's proposal is to hedge 50 percent (or $5 billion) of its future long-term debt to be issued during the period of F2017 to F2024, a number of factors might modify that strategy. Factors that might cause BC Hydro to modify its strategy include the timing of FDHs and future debt, market liquidity and volatility, a significant increase in interest rates, changes in forecasted borrowing requirements, and/or significant deterioration in the credit worthiness of a trade counterparty." And at p. 7: "BC Hydro has also confirmed that the Debt Management Strategy is potentially subject to change in at least some of its particulars depending on how events unfold."

Online: https://www.bcuc.com/Documents/Proceedings/2016/DOC_46024_G-42-16_Reasons.pdf.

[433] Tr. 7, p. 954 l. 23 to p. 955, l. 5 (Wong).

[434] Tr. 7, p. 962 l. 25 to p. 963, l. 2 (Wong).

[435] AMPC Submissions, para. 227.

that it has mitigated interest rate risk, irrespective of whether BC Hydro has recorded a profit. Mr. Layton explained:

> MR. LAYTON: A And I'd like to add, just a little bit to Mr. Wong's answer there, by referencing another Commission Panel IR, which shows this quite nicely I think, which is our response to panel IR 2.17.4. And in that response we I think answer the question of what happens if there is a loss on a given hedge, and we show that what actually happens is, there might be a loss on the hedge, but ratepayers get the offset through lower finance charges, and in that IR we walk fairly methodically through both sides of that equation.
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> So that whether there is a gain or a loss on a particular hedge is not the main factors. As Mr. Wong says, the success for the program was locking in that low interest rate. And in the case of that example, we locked an interest rate of 3.36 percent, and I think when we think about over time, over the recent decades, we think that's a very good rate for ratepayers to have. Our assets are long term, so we take a long-term view.
>
> And so we have to be careful to not overestimate the impacts of whether we had gains or losses. We have had hedges with both, and at the end of the day the ratepayers are going to get the benefit of the locked-in interest rate, both through lower finance charges on one side, and through the debt management regulatory account. And that's hopefully what that IR explains for us.[436]

243. AMPC's maintains that "in an environment of lingering low interest rates, ratepayers would benefit more from avoiding short-term hedging than they would from interest rate certainty."[437] There are three shortcomings with this argument. First, whereas hindsight is 20/20, BC Hydro makes decisions based on forecasts prepared by credible sources. Second, AMPC is citing BC Hydro's experience with hedges entered in fiscal 2018, instead of the portfolio; BC Hydro could just as easily point to fiscal 2017, when the gains dwarfed the losses in fiscal 2018 three-to-one.[438] Third, AMPC also assumes that low interest rates will continue for the foreseeable future, which is not a given. The interest rate exposure can be significant even on relatively short-term borrowing.

[436] Tr. 7, p. 957 l. 11 to p. 958, l. 12 (Layton).

[437] AMPC Submissions, para. 219.

[438] Tr. 7, p. 960, ll. 9-21 (Layton).

244. AMPC's position, to borrow from Mr. Wong's useful analogy, is the equivalent of opining on the best choice between a fixed rate mortgage, a variable rate or combination, at the conclusion of the mortgage term. Any of those choices may have been appropriate at the outset of the mortgage term based on the objectives and circumstances of the borrower. In BC Hydro's case, the size of the capital portfolio and magnitude of debt issuances have suggested the importance of reducing interest rate exposure, and the strategy has worked as intended.

245. Mr. Wong confirmed that BC Hydro reviews the strategy annually[439] and does so in conjunction with Government (which transacts the hedges).[440]

E. TEST PERIOD REVENUE REQUIREMENTS REFLECT APPROPRIATE DEPRECIATION RATES

246. With respect to the forecast depreciation expense for the Test Period, AMPC asks the BCUC to "[m]ake a clear finding that the rates that the Application seeks may be conservatively high due over-collection of this non-cash item".[441] CEABC also suggests depreciation rates are too high.[442] BC Hydro has explained in its Final Submission why the forecast depreciation expense for the Test Period is reasonable. BC Hydro submits that the finding AMPC is requesting would be incompatible with the extent of the vetting of BC Hydro's depreciation expense that occurs through the annual audit process. BCSEA[443] and CEC[444] agree with BC Hydro that the depreciation rates are appropriate for setting rates in the Test Period.[445]

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[439] Tr. 7, p. 954, ll. 1-14 (Wong).

[440] Tr. 7, p. 965, ll. 11-20 (Wong).

[441] AMPC Submissions, para. 202.

[442] CEABC Submissions, p. 19.

[443] BCSEA Submissions, para. 194: "BC Hydro's depreciation rates are appropriate for setting rates in the Test Period." BCSEA also stated "In BCSEA's view, BC Hydro should not be faulted for not prioritizing a new comprehensive depreciation study until now."

[444] CEC Submissions, para. 450: "The CEC submits that BC Hydro's explanations as to the validity of its depreciation are acceptable and the CEC accepts BC Hydro's planned approach."

[445] MoveUP opposes undertaking the depreciation study at this time, which would suggest it is comfortable with the depreciation rates. See MoveUP Submissions, p. 14.

(a) BC Hydro Still Intends to Undertake a Depreciation Study Despite COVID-19

247. BC Hydro committed during the proceeding to undertake a depreciation study. Although the evidence suggested the forecast depreciation expense is appropriate for the Test Period, BC Hydro acknowledged that significant time had passed since the last study and that a new study appears to be necessary for some stakeholders to have confidence in BC Hydro's depreciation rates going forward.[446] Although AMPC welcomed BC Hydro's commitment, MoveUP suggested that COVID-19 should cause other matters to take on a higher priority than a depreciation study.[447] It is certainly the case that recent developments could have a much larger impact than a depreciation study on rate-setting going forward; however, BC Hydro still sees value in settling an obvious topic of contention and will proceed.

248. The scope of the depreciation study should be informed by advice from a depreciation expert. However, BC Hydro expects that the work would include experienced retirement data and consideration of asset condition and technological advancements as AMPC suggests.[448] It is clear that, contrary to CEABC's suggestion,[449] the depreciation study should not extend to examining amortization periods for regulatory accounts. Most of BC Hydro's regulatory accounts have little, if anything, to do with physical assets and the principles applied by regulators when determining amortization periods are well understood. The amortization approach remains unchanged for these accounts from when the BCUC approved it.

(b) Depreciation Rates Can Be Efficiently Reviewed in a Revenue Requirements Process

249. BCOAPO suggests that BC Hydro should complete depreciation study for filing "during the next RRA and, if not practical, no later than the following RRA."[450] BC Hydro explained that the

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[446] Exhibit B-43, BC Hydro Response to Oral Hearing Feedback, p. 2. See also: BC Hydro Final Submission, paras. 476 to 482.

[447] MoveUP Submissions, p. 14: "In the context of what is going on at the moment, adjustments to depreciation rates have the look of rounding errors in the scheme of things. We trust that the Commission will be prepared to relieve BC Hydro of this task should the course of events demote its priority, as we suspect they will."

[448] AMPC Submissions, para. 199.

[449] CEABC Submissions, p. 11.

[450] BCOAPO Submissions, p. 46.

study cannot be completed in time to file it in the next application. It has every reason to expect that the results of the study would be reflected in the subsequent revenue requirements application.

250. AMPC raises the possibility of a separate process for addressing depreciation rates. BC Hydro submits that it is most efficient to address financial matters of this nature in the context of a revenue requirements proceeding.[451] BC Hydro's last depreciation study was reviewed in this manner**.** The same is true for FortisBC Energy.[452]

F. CONCLUSION AND REQUESTED FINDINGS

251. The BCUC should find that BC Hydro's depreciation rates and forecast finance charges are reasonable for the Test Period.

[451] AMPC Submissions, para. 198.

[452] 2012 FortisBC Energy Revenue Requirements Decision, p. 79.

PART TEN: TRANSMISSION REVENUE REQUIREMENTS

253. The three interveners (BCSEA, BCOAPO and CEC) who comment on BC Hydro's Transmission Revenue Requirements (the "TRR") support approval of, or take no issue with, BC Hydro's proposed transmission service rates under its Open Access Transmission Tariff ("OATT").[453] While CEC recommends approval of the TRR, it also recommends that the BCUC consider whether the cost allocation methodology and calculation of OATT rates could reflect BC Hydro's full cost of service, rather than only transmission capacity costs.[454] BC Hydro submits that CEC's recommendation should not be accepted. It would violate the principle of cost causation, contrary to multiple BCUC approvals of BC Hydro's OATT rate design.

254. Following the principle of cost causation, the TRR is correctly limited to BC Hydro's net transmission function costs, as this reflects the costs of providing transmission service to OATT customers.[455] Other BC Hydro costs functionalized as Generation and Distribution, for instance, are not caused by OATT customers; BC Hydro's Generation or Distribution assets are not used to provide transmission service under the OATT.[456] It would therefore be inconsistent with the principle of cost causation to recover the costs of these other functions from OATT customers as CEC suggests.

255. BC Hydro determined the TRR for the Test Period in accordance with long-established principles that have been reviewed and approved by the BCUC on multiple occasions.[457] CEC offers no rationale for overturning the BCUC's past determinations.

256. Contrary to CEC's recommendation, the evidence shows that BC Hydro's proposed OATT rates are purely cost-of-service based. They fully recover the forecast costs that are associated with the use of BC Hydro's transmission system by OATT customers.

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[453] BCSEA Submissions, para. 204; BCOAPO Submissions, p. 49; CEC Submissions, para. 464.

[454] CEC Submissions, para. 463.

[455] Exhibit B-1, Application, pp. 9-1 and 9-2; Exhibit B-5, BCUC IR 1.164.2.

[456] Exhibit B-31, BCUC Panel IRs 2.8.1 and 2.8.2.

[457] Exhibit B-31, BCUC Panel IR 2.8.5.2.

PART ELEVEN: DEMAND-SIDE MANAGEMENT

A. INTRODUCTION

257. While Interveners express widely varying views on specific areas of DSM, all except CEC support approval of the DSM expenditure schedule. This Part makes the following points in reply:

- First, in reply to interveners that would prefer a more aggressive approach to DSM (CEC and BCSEA[458]), and to those who express concern over the rate or financial impacts of BC Hydro's proposed level of traditional DSM (CEABC, MoveUP and Mr. Willis), BC Hydro's moderation approach to traditional DSM continues to balance the various trade-offs, and is reasonable given the continued energy surplus and need to manage upward pressure on rates.

- Second, BC Hydro's increase to its traditional DSM for residential customers, including low-income customers and customers in the NIA, is responsive to the BCUC directions on the Previous Application.

- Third, BC Hydro's revised traditional DSM spending in the commercial sector was primarily due to updated forecasts of participation and required incentive levels, not reducing opportunities in commercial programs. These update forecasts mean that spending for that sector is now more aligned with spending in other sectors.

- Fourth, BC Hydro is continuing to work on capacity-focussed DSM pilots and activities, which are costing less than previously planned, and the results will be incorporated into BC Hydro's integrated resource planning.

- Fifth, BC Hydro has the discretion to make inter-plan and inter-year transfers in response to challenges and opportunities during the Test Period.

[458] Nonetheless, BCSEA supports acceptance of the traditional DSM expenditure schedule: BCSEA Submissions, para. 208.

- Sixth, BC Hydro is pursuing low-carbon electrification ("LCE") initiatives as prescribed undertakings. BC Hydro's work on electrification generally is extensive and wide-ranging. BC Hydro is appropriately coordinating with Government in the development of its plans.

B. CONTINUATION OF MODERATION APPROACH IS REASONABLE

(a) Moderation Approach Makes Appropriate Trade-Offs, Weighing Multiple Factors

258. BC Hydro described in its Final Submission how its proposed traditional DSM expenditure schedule continues with a moderation approach to traditional DSM in the face of the continued energy surplus and need to limit rate increases.[459] Interveners that comment on the overall level of traditional DSM expenditures[460] focus on particular factors in favour of either less or more traditional DSM:

(a) BCSEA, although supportive of the BCUC accepting the proposed expenditure schedule,[461] emphasizes the potential for lost opportunities in the present and the need to be able to ramp up in the future when DSM will be needed more.[462]

(b) CEC emphasizes the potential for savings relative to other supply options, potential financial gain to ratepayers from DSM that is below market cost, and opportunities for customers to lower their bills.[463]

(c) CEABC,[464] Ms. Gjoshe[465] and Mr. Willis[466] emphasize the rate impacts associated with traditional DSM.

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[459] BC Hydro Final Submission, pp. 217 to 220.

[460] BC Hydro does not include here intervener arguments related to specific program areas, e.g. BCOAPO's desire for more low-income DSM or AMPC's for more industrial load curtailment.

[461] BCSEA Submissions, para. 208.

[462] BCSEA Submissions, para. 471.

[463] CEC Submissions, paras. 478, 480 and 481.

[464] CEABC Submissions, p. 6.

[465] Gjoshe Submissions, p. 20.

[466] Willis Submissions, p. 4.

259. BC Hydro must inevitably make trade-offs in arriving at a particular level of traditional DSM expenditures. In BC Hydro's submission, the moderation approach finds a balance that is in the public interest, given the continued energy surplus and need to manage upward pressure on rates.[467] BC Hydro will be examining the planned level of traditional DSM again in the upcoming IRP.[468]

260. The relevant factors and trade-offs, and BC Hydro's reply on each, are discussed below.

The DSM Plan Meets the Objectives and Requirements for DSM

261. First, BC Hydro outlined in its Final Submission how it is meeting the objectives and requirements for DSM in B.C., including British Columbia's energy objectives, the adequacy and cost-effectiveness requirements of the *Demand-Side Measures Regulation*, and the Government of B.C.'s priorities around affordability and the CleanBC Plan.[469] BCSEA makes two arguments on this point, which BC Hydro answers below:

- BCSEA argues that British Columbia's energy objective targeting a 66% reduction in expected demand does not support BC Hydro's approach because the target has been reached and it is not a ceiling.[470] BC Hydro has not treated the 66% target as a ceiling, as it has exceeded 66% by a considerable margin.[471] The fact that BC Hydro has exceeded the 66% goal demonstrates that BC Hydro's level of DSM spending is sufficient from the perspective of this energy objective.

- BCSEA says that the traditional DSM Expenditure Schedule for the Test Period is not consistent with the 2013 IRP because there has been a reduction in spending compared to the 2013 IRP forecast.[472] The moderation approach was originally

[467] Exhibit B-6, AMPC IR 1.5.6 and BCNPHA IR 1.2.0; Exhibit B-12, BCUC IR 2.270.1.

[468] Exhibit B-13, CEC IR 2.99.2.

[469] Exhibit B-12, BCUC IR 2.270.1.

[470] BCSEA Submission, paras. 216 and 257.

[471] Exhibit B-1, Application, Table 10-6.

[472] BCSEA Submissions, para. 258.

recommended in the 2013 IRP for fiscal 2014 to fiscal 2016 due to the energy surplus.[473] The energy surplus has continued longer than estimated; therefore, the continuation of the moderation approach in response to that surplus is consistent with the recommended actions in the 2013 IRP. The Government of B.C. continues to support the moderation approach.[474]

DSM Can Be Ramped Up

262. BCSEA expresses doubt that BC Hydro is retaining the ability to ramp up DSM in the future.[475] BC Hydro is still spending approximately $90 million per year.[476] The evidence is that this level of spending and activity enables BC Hydro to maintain relationships with trade allies and other stakeholders, which is key to being able to ramp up in the future if needed.[477]

BC Hydro Is Not Choosing Between DSM and Supply Side Options

263. CEC notes that DSM can be a cost-effective supply option.[478] While true, BC Hydro is in a period of energy surplus, it is not choosing between DSM and other supply side resource options.[479] Please also see Part Five, Section E, of this Reply Submission where BC Hydro's addresses CEC's submissions from a cost of energy perspective.

All Customers Continue to Have Opportunities to Reduce Their Bills

264. BCSEA emphasizes the potential for lost opportunities.[480] BC Hydro is still pursuing significant amounts of DSM in all sectors, giving residential, commercial and industrial customers

[473] Exhibit B-1, Application, p. 10-15.

[474] Exhibit B-1, Application, Appendix C, Comprehensive Review of BC Hydro Phase 1 Final Report, p. 40.

[475] BCSEA Submissions, para. 213.

[476] Exhibit B-11, p. 4.

[477] Exhibit B-6, BCSEA IR 1.35.4.

[478] CEC Submissions, para. 480.

[479] Exhibit B-1, Application, pp. 10-29 and 10-30.

[480] BCSEA Submissions, para. 213.

the opportunity to participate in programs that will reduce their bills.[481] While there may be some lost opportunities, this is one of the trade-offs that is made given other factors.

Moderation Approach Will Reduce Revenue Requirements

265. CEC states that DSM can be beneficial to ratepayers where the cost of the DSM is below market.[482] On the other end of the spectrum, CEABC states that BC Hydro's traditional DSM expenditures will lead to general rate increases for all customers, pointing to the results of the Ratepayer Impact Measure ("RIM") being below 1.0 due to billing revenues lost by the utility.[483] Mr. Willis also points to the loss of customer revenue.[484] Ms. Gjoshe similarly argues that there are negative financial impacts on BC Hydro from its traditional DSM undertakings.[485] Contrary to Ms. Gjoshe's submission, BC Hydro's proposed traditional DSM expenditures will only have *beneficial* financial impacts, as they will reduce BC Hydro's revenue requirements. This beneficial financial impact is traded off against the potential for upward pressure on rates due to recovering BC Hydro's reduced overall cost from a lower amount of electricity sold.

266. While the *Demand-Side Measures Regulation* does not permit the use of the RIM test when evaluating the cost-effectiveness of DSM, BC Hydro considered rate impacts as one of the trade-offs when choosing its moderation approach. BC Hydro's use of a market screening filter ensures that BC Hydro's revenue requirements will be reduced:

> The use of a market priced screening filter means that all non-specified programs within the DSM Plan contribute to a reduction in BC Hydro's overall revenue requirements while BC Hydro is in an energy surplus. This is because the energy savings from the DSM program are less than the price BC Hydro could receive on the market for any resulting surplus energy.[486]

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[481] Exhibit B-1, p. 10-26 and Appendix X, DSM Plan.

[482] CEC Submissions, para. 480.

[483] CEABC Submissions, p. 6.

[484] Willis Submissions, p. 4.

[485] Gjoshe Submissions, p. 20.

[486] Exhibit B-1, Application, pp. 10-20 and 10-21.

267. Thus, while there will potentially be upward pressure on rates due to recovering BC Hydro's reduced overall cost from a lower amount of electricity sold, BC Hydro's moderation approach ensures that its traditional DSM expenditures will reduce revenue requirements overall. BC Hydro submits that it has made the appropriate trade off of these impacts. The BCUC endorsed BC Hydro's use of the market priced screening filter in its Decision on the Previous Application, stating that "given the energy surplus situation, the use of a market priced screening filter to identify cost-effective DSM is reasonable."[487]

268. In summary, the moderation approach meets the relevant objectives and requirements for DSM and remains the appropriate approach given the continued energy surplus and need to manage upward pressure on rates.[488]

(b) Continuation of DSM Spending Is Consistent with Pursuit of Low Carbon Electrification

269. MoveUP argues that pursuing both traditional DSM and LCE initiatives is "paradoxical"[489] and submits that BC Hydro should develop an approach to DSM that is consistent with electrification initiatives.[490] Ms. Gjoshe similarly argues that that there is a divergence between conservation and electrification, and that in the face of declining load and energy surplus, the time for "broad" and "unbridled" DSM may be behind us.[491] BC Hydro makes three points in reply.

270. First, traditional DSM and LCE initiatives are complementary strategies that can be pursued simultaneously without conflict. Put simply, traditional DSM is about encouraging customers to be efficient in their current uses of electricity, while LCE is about encouraging new efficient uses of electricity by switching from fossil fuels. For example, BC Hydro can at the same

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[487] *BC Hydro F2017 to F2019 Revenue Requirements Application*, BCUC Decision and Order No. G-47-18, March 1, 2018 ("Prior Decision"), p. 78. Online: https://www.bcuc.com/Documents/Proceedings/2018/DOC_50971_03-01-2018_BCH_F17-19_RRA_Decision_WEB.pdf.

[488] Exhibit B-6, AMPC IR 1.5.6 and BCNPHA IR 1.2.0; Exhibit B-12, BCUC IR 2.270.1.

[489] MoveUp Submissions, p. 4.

[490] MoveUP Submissions, pp. 11 to 14.

[491] Gjoshe Submissions, p. 20.

time encourage residential customers to improve the insulation of their homes to reduce heating costs, while also encouraging others to switch to electricity to heat their homes.

271. Second, BC Hydro has responded to the surplus position with the continuation of a moderation approach. Even in a surplus, traditional DSM initiatives help customers become more efficient and lower their bills. Traditional DSM also provides system benefits in an energy surplus including: increasing electricity export opportunities; deferral of the need for generation capacity resources during times of system capacity constraints; and, deferral of transmission and distribution capital projects, where there are local constraints.[492]

272. Third, it is important to distinguish between traditional DSM programs and rate design. BC Hydro's traditional DSM programs do not discourage electric load growth, but rather encourage efficient use of electricity by targeting specific technologies or behaviours. Rate design, on the other hand, can be a barrier to load growth, if pricing makes adoption of electricity less attractive. MoveUP's submission is directed at rate design,[493] which is not the subject of the Application and will be addressed in future proceedings. As BC Hydro submits in Part Thirteen, Section C, below, the BCUC should not make determinations in this proceeding regarding rate design.

C. RESIDENTIAL SECTOR SPENDING HAS INCREASED

(a) BC Hydro Has Accurately Represented its Increase in Residential Spending

273. BCOAPO incorrectly states that the increase in Residential traditional DSM spending compared to the Previous Application is 46%, rather than 50% as stated in the Application.[494] Both 46% and 50% represent a significant increase. However, to clarify, BC Hydro's Application correctly states: "Compared to the plan presented in the Previous Application, expenditures targeted at the residential sector have increased by approximately 50 per cent."[495] [Emphasis

[492] Exhibit B-6, Gjoshe IR 1.15.2; Exhibit B-13, Gjoshe IR 2.12.

[493] MoveUP Submissions, pp. 11 to 14.

[494] BCOAPO Submissions, p. 51.

[495] Exhibit B-1, Application, p. 10-8.

added.] BCOAPO does not come to the same conclusion because it uses a year-end forecast for fiscal 2019, rather than the planned expenditures in the Previous Application.[496]

(b) BC Hydro Has Expanded the Low Income Program

274. As discussed in BC Hydro's Final Submission, a key focus of BC Hydro has been on continuing to increase participation in the low-income program.[497] BCOAPO acknowledges that planned expenditures on Low Income programs are materially higher than fiscal 2019, by 61% in fiscal 2020 and 92% in fiscal 2021; however, it still maintains that BC Hydro has not adequately responded to the BCUC's recommendation to consider more targeted DSM programs directed at residential customers, including low-income customers.[498] BC Hydro responds to BCOAPO's arguments below.

Participation, Savings and Expenditure Levels Have Increased

275. BC Hydro has, by any objective measure, successfully expanded its low income program. As shown in the table below, expenditures, savings and participation levels have all been increasing since fiscal 2016 and continue to increase over the Test Period.[499]

[496] BCOAPO Submissions, p. 51, footnote 207; Exhibit B-6, Gjoshe IR 1.14.2.

[497] Exhibit B-1, Application, Appendix X, Fiscal 2020 to Fiscal 2022 Demand-Side Management Business Plan, pp. 3 and 30; Exhibit B-6, Zone II RPG IRs 1.19.3 and 1.25.8; Exhibit B-6, Ince IR 1.12.5; Exhibit B-12, BCUC IR 2.276.1; Exhibit B-13, Zone II IR 2.43.1.

[498] BCOAPO Submissions, pp. 52 to 58.

[499] Exhibit B-6, BCSEA IR 1.44.1.

	F2016 Actual	F2017 Actual	F2018 Actual	F2019 Plan	F2020 Plan	F2021 Plan	F2022 Plan
Program Expenditures ($ millions)[1]							
Energy Savings Kits	n/a	n/a	n/a	$0.5	$0.8	$0.8	$0.8
Energy Conservation Savings Program	n/a	n/a	n/a	$2.2	$3.0	$3.9	$4.5
Indigenous Customers Offer – New	n/a	n/a	n/a	$0.0	$0.2	$0.4	$0.9
Fixed Program Expenditures[2]	n/a	n/a	n/a	$1.1	$1.9	$1.8	$1.6
Total	$2.4	$2.9	$3.5	$3.8	$5.8	$6.9	$7.8
Energy Savings (GWh/yr)							
Energy Savings Kits	3.0	2.5	3.2	3.7	5.4	5.0	5.0
Energy Conservation Savings Program	1.8	2.0	2.5	2.5	3.4	3.6	3.8
Indigenous Customers Offer – New	0.0	0.0	0.0	0.0	0.1	0.2	0.5
Total	4.8	4.5	5.7	6.2	8.9	8.8	9.3
Participation							
Energy Savings Kits	10,563	10,611	13,489	16,000	22,250	22,800	22,800
Energy Conservation Savings Program	2,764	2,836	3,600	3,040	3,905	4,360	4,495
Indigenous Customers Offer - New	0	0	0	0	70	150	315
Total	13,327	13,447	17,089	19,040	26,225	27,310	27,610

Notes:

1. Fiscal 2016 to fiscal 2018 Actual Expenditures are not available to be broken down by sub-category; only Program Total $ are available.
2. Fixed Program Expenditures are not allocated to individual Program components.

276. BC Hydro disagrees with BCOAPO's characterization of the participation rates and savings from its Low Income program offers. For example, BCOAPO criticizes BC Hydro's Energy Savings Kit ("ESK") program for reaching 10.6% of eligible customers from fiscal 2017-fiscal 2019 and "only" 17.3% of eligible customers from fiscal 2020 to fiscal 2022.[500] BC Hydro submits that 17.3% is a fairly high percentage of participation and that reaching over a quarter of eligible customers over a six year period is reasonable. BC Hydro has demonstrated its commitment to finding new ways to increase participation levels. Ultimately, it is up to customers to participate in BC Hydro's programs and gaining participation in the low-income sector has always been a challenge. As

[500]BCOAPO Submissions, pp. 54 to 56.

expressed by Mr. Hobson, BC Hydro is open to working with others on how to attract more participants.[501]

277. As shown in the table above, the evidence is that BC Hydro's low-income programs have been steadily expanding. BC Hydro is reaching more low income customers and delivering more benefits than in previous years. Together with BC Hydro's expansion of other areas of the residential program, BC Hydro has been responsive to the BCUC's direction to **"**consider more targeted DSM programs directed at residential customers in the next DSM application."[502]

BC Hydro Has Modified its Programs and Added New Programs

278. BCOAPO claims that BC Hydro has not modified its programs, added new measures or started any new programs "since 2019".[503] As an initial point, it appears that BCOAPO may be suggesting that changes that began in fiscal 2019 do not count because they are prior to the Test Period. However, the fact that BC Hydro began to respond to the BCUC's and government's direction prior to the Test Period is a good thing. It takes time for programs to be implemented and gain traction in the market. By starting in fiscal 2019, BC Hydro was able to have the new programs and measures up and running and available to customers for the Test Period.

279. The DSM Plan describes BC Hydro's improvements to the Low Income program, including:

- the expansion of the ESKs program to include window film and the addition of pre-qualified events;
- revisions to the Energy Conservation Assistance Program ("ECAP") eligibility criteria to enable more homes to receive weatherization upgrades and expand the refrigerator replacement offer to apartments run by non-profits and co-op housing providers; and

[501] Tr. 14, p. 2746, l. 24 to p. 2747, l. 18 (Hobson).

[502] Prior Decision, p. 81.

[503] BCOAPO Submissions, p. 54.

- BC Hydro's introduction of the Indigenous Customers offer.[504]

280. BC Hydro also made changes to the measures offered, as follows:[505]

Measure	Offer Prior to test period	Offer Starting in test period
Refrigerator Replacement	Only offered in ECAP Basic	Expanded offer to Apartments
Attic Insulation	Existing insulation must be very low	Existing insulation must be moderate
Insulation for Manufactured Homes	Not offered	Offered via ECAP Weatherization
Window Film	Offered once every 5 years via ESK	Offered annually
Programmable Thermostat	Not offered	Offered via ECAP Weatherization
Drying Racks/Clothesline	Not offered	Offered via ECAP Basic
LED Specialty Bulbs	Not offered	Offered via ECAP Basic

281. BC Hydro also launched the NIA program and allocated budget to support indigenous communities in the integrated area with the same offer and processes,[506] and launched the new Social Housing Retrofit Support Offer for Multi-Unit Residential.[507]

BC Hydro's Low-Income Program is Comprehensive and BC Hydro is Active in the "Whole Building" Approach

282. BCOAPO submits that BC Hydro should "modernize" its low income program "by incorporating new successful measures from other jurisdictions, such as California's multi-family whole-building program".[508] BC Hydro has three points in reply.

283. First, BC Hydro does monitor what is happening in other jurisdictions,[509] but there is no evidence of the success of programs in other jurisdictions such as California or whether they would be effective in BC. Mr. Hobson testified:

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[504] Exhibit B-1, Appendix X, Fiscal 2020 to Fiscal 2022 Demand-Side Management Business Plan, p. 30.

[505] Exhibit B-13, Zone II RPG IR 2.43.1.

[506] Exhibit B-13, Zone II RPG IR 2.43.1.

[507] Exhibit B-1, Appendix X, Fiscal 2020 to Fiscal 2022 Demand-Side Management Business Plan, p. 45; Exhibit B-6, BCNPHA IR 1.3.0.

[508] BCOAPO Submissions, p. 58.

[509] Tr. 14, p. 2750, ll. 19-25 (Hobson).

> MS. MIS: Q Is BC Hydro aware of the current trends in this direction in other jurisdictions? And I --
>
> MR. HOBSON: A For whole building?
>
> MS. MIS: Q Yes.
>
> MR. HOBSON: A Yeah, there's been a lot of discussion around whole building programs and deep retrofits. You'll hear a lot of terminology and the relative success of some of those things is probably something that also needs to be looked at, but I think everyone looks at potential opportunities and this isn't just low income around retrofit opportunities within homes. And, you know, wouldn't it be great if we could really get into a home and open up the building envelope and start over again. And those are the types of things that we're referring to in the industry when we're talking about deep retrofits, and they're difficult to attain and they can be costly and not always produce the results that I think some folks were hoping for.[510]

284. Second, while the names of the ESK and ECAP programs have remained the same, they have evolved and improved over time. For instance, BC Hydro has adjusted eligibility criteria and implemented different modes of distribution (e.g. insulation eligibility, manufactured homes, indigenous communities offer, pre-qualified events).[511] There are a finite number of end-uses, and the ESK and ECAP programs cover a great many of them for low-income customers.[512] As shown above, expenditures, savings and participation in these programs have been increasing and are forecast to continue to increase.

285. Third, BC Hydro has launched a new Social Housing Retrofit Support Offer for Multi-Unit Residential, providing an opportunity for qualifying social housing providers to minimize their operating costs and improve whole building performance.[513] BC Hydro is also piloting an approach that combines in-suite offers and common area offers for multifamily buildings.[514]

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[510] Tr. 14, p. 2752 l. 22 to p. 2752, l. 13 (Hobson).

[511] Exhibit B-6, Zone II RPG IR 1.19.3.

[512] Exhibit B-1, Application, Appendix X, Fiscal 2020 to Fiscal 2022 Demand-Side Management Business Plan, pp. 28 to 30; Exhibit B-5, BCUC IR 1.178.1, Attachment 1, p. 2 (PDF p. 1987); Exhibit B-13, Zone II RPG IR 2.50.1.1.

[513] Exhibit B-1, Appendix X, Fiscal 2020 to Fiscal 2022 Demand-Side Management Business Plan, p. 45; Exhibit B-6, BCNPHA IR 1.3.0.

[514] Tr. 14, p. 2751, ll. 5-9 (Hanlon).

BC Hydro Tracks Installation of ESKs

286. BCOAPO argues that BC Hydro should develop a method to track installation of ESKs to measure actual savings.[515] BC Hydro already tracks ESK installation rates through surveys[516] and evaluates savings.[517] Given that BC Hydro has a valid method for tracking ESK installation rates and evaluating the savings, the costs of adding a mandatory audit are greater than potential benefits. In addition, the intrusiveness of an audit could decrease participation to the detriment of low-income customers.[518]

Low Income Rates Require Legislation

287. BCOAPO comments that BC Hydro has not made progress on rates for low income customers.[519] The Government of B.C. decided not to proceed with lifeline rates and instead directed BC Hydro to focus on measures such as low-income DSM.[520] The jurisdiction of the BCUC to implement low income rates has not changed - it does not have jurisdiction.

(c) BC Hydro Has Increased Activity in the NIA

288. Zone II RPG supports the approval of BC Hydro's DSM expenditure schedule. It submits that the expenditure schedule is consistent with the BCUC's previous directions, including responding to the needs in the NIA.[521] BC Hydro responds to Zone II RPG's comments on DSM matters below. BC Hydro responds to Zone II RPG's non-DSM submissions in Part Thirteen, Sections F and G.

There Is Already Appropriate Reporting on the NIA Program

289. Zone II RPG comments that BC Hydro should review the effectiveness of the NIA program, and address in its Annual Report whether the program was effective in reducing barriers for NIA

[515] BCOAPO Submissions, p. 58.
[516] Exhibit B-58, Undertaking No. 62.
[517] Exhibit B-12, BCUC IR 2.276.1.1.
[518] Exhibit B-12, BCUC IR 2.276.1.
[519] BCOAPO Submissions, p. 52.
[520] Tr. 7, p. 986, l. 25 to p. 987, l. 1 (Fraser).
[521] Zone II RPG Submissions, para. 6.

customers.[522] BC Hydro submits that no direction from the BCUC is required in this area. BC Hydro already tracks and reports on NIA savings and costs in its Annual Report.[523] In its Annual Report, BC Hydro will also explain variances in participation levels against plan and comment on how activities during the year aimed to address barriers to participation in the Non-Integrated Areas program.

BC Hydro Is Exploring the Use of the Low-Income Adder and Non-Electricity Benefits in the NIA

290. Zone II RPG comments that BC Hydro should consider the application of the 40 percent low-income adder and other non-electricity benefits in the NIA in its reporting to the BCUC.[524] BC Hydro has indicated that it will do this.[525]

Comparison to Other Customers

291. Zone II RPG comments that the same customer classes should be used when comparing the cost effectiveness of DSM in the NIA to integrated areas.[526] While comparisons of the cost-effectiveness of NIA and integrated areas may be interesting to some stakeholders, such comparisons do not have any impact on DSM plans, as BC Hydro's DSM initiatives in the NIA are not currently constrained by cost effectiveness.[527]

Aligning with Community EMPs

292. Zone II RPG submits that BC Hydro ought to work closely with communities to align DSM initiatives with energy management plans ("EMPS").[528] BC Hydro recognizes the value in working with communities in the NIA.[529] The NIA Program is comprehensive[530] and has been tailored

[522] Zone II RPG Submissions, para. 65.
[523] Exhibit B-1, Application, Appendix Z.
[524] Zone II RPG Submissions, para. 8(d)
[525] Exhibit B-13, Zone II RPG IR 2.46.7.
[526] Zone II RPG Submissions, para. 56.
[527] Exhibit B-1, Application, p. 10-12, Table 10-5.
[528] Zone II RPG Submissions, para. 64(b).
[529] Tr. 15, p. 2870, l. 23 to p. 2871, l. 15 (Hobson).
[530] Exhibit B-6, Zone II RPG IR 1.26.1; Exhibit B-13, Zone II RPG IR 2.52.2.

specifically for the NIA based on its experience with pilot programs in the area.[531] In particular, BC Hydro has included a self-install delivery option[532] and a Community Support initiative to provide financial and technical resources to Indigenous communities to support energy efficiency upgrades,[533] which could be used by communities to implement their EMPs. BC Hydro also supports Indigenous Bands leading home renovation projects for their communities by enabling the combination of funding from other organizations.[534] BC Hydro has indicated that it will continue to engage and work with Indigenous communities on the specific issues and barriers they face with respect to conservation and energy management.[535]

D. COMMERCIAL SECTOR SPENDING IS ALIGNED WITH OTHER SECTORS

293. CEC argues at length to the effect that BC Hydro has discriminated against the commercial sector by reducing traditional DSM in this sector under the moderation approach.[536] BC Hydro submits that it has treated commercial customers fairly, and there is no evidence to the contrary. While the traditional DSM expenditures in the commercial sector have indeed been decreasing, this has resulted in a more equitable distribution of spending amongst the residential, commercial and industrial sectors.

Commercial Sector Spending is Based on Updated Participation and Incentives Levels

294. First, BC Hydro's revised traditional DSM spending in the commercial sector over the Test Period was primarily the result of updated forecasts of participation and required incentive levels, not a reduction in opportunities in commercial sector programs.[537] Further, BC Hydro continues to improve its offerings in the commercial sector. As part of the Leaders in Energy

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[531] Exhibit B-6, Zone II RPG IR 1.26.1; Exhibit B-13, Zone II RPG IR 2.52.2.

[532] Exhibit B-5, BCUC IR 1.185.2.1.

[533] Exhibit B-6, Zone II RPG IR 1.26.8. Note that the Community Support initiative is separate from the Indigenous Communities Support element of the Codes and Standards initiatives, which is described in Exhibit B-6, Zone II RPG IR 1.22.2.1 and Exhibit B-6, Zone II RPG IR 1.26.8.1.

[534] Exhibit B-6, Zone II IR 1.26.9.1.

[535] Exhibit B-1, Application, p. 10-12; Tr. 15, p. 2870, ll. 17-22 (Hanlon).

[536] CEC Submissions, pp. 97 to 104.

[537] Exhibit B-6, AMPC IR 1.5.6; Exhibit B-6, BCSEA IR 1.43.1; Exhibit B-12, BCUC IR 2.273.2; Tr. 14, p. 2647, l. 23 to p. 2648, l. 8 and p. 2668, l. 17 to 2669, l. 17 (Hobson).

Management – Commercial program, BC Hydro launched a new Social Housing Retrofit Support Offer for Multi-Unit Residential Buildings. The offering is designed to help housing providers identify and implement energy-efficient projects.[538]

Improved Equity of Allocation Amongst Sectors

295. Second, the reduction in commercial sector spending over the years has improved the allocation of spending amongst sectors. As shown on page 98 of CEC's submissions, in fiscal 2014 commercial sector spending was $42.6 million, compared to $17.6 million for residential and $36.1 million for industrial. From fiscal 2015 to fiscal 2018, commercial sector spending continued to be more than double residential sector spending. In fiscal 2019 and fiscal 2020, commercial spending was still planned at higher levels than residential spending. Fiscal 2021 is the first year in which commercial sector spending is lower than residential sector spending (by a marginal amount). Over this period, industrial spending has varied considerably, being sometimes lower and sometimes higher than commercial spending.

296. The end result is that over the Test Period the percentage split amongst the residential, commercial/light industrial and large industrial categories is now relatively even at 30%, 38% and 32%, respectively.[539] The reallocation of funding also better aligns the portfolio with the fully allocated cost of service allocation referenced in the BCUC's Decision on the Previous Application.[540] This is shown in Table 10-4 of the Application, as reproduced below.

[538] Exhibit B-1, Appendix X, Fiscal 2020 to Fiscal 2022 Demand-Side Management Business Plan, pp. 15 and 45.

[539] Exhibit B-1, Application, p. 10-8, Table 10-3.

[540] Exhibit B-1, Application, Table 10-4; Exhibit B-6, AMPC IR 1.5.6.

Table 10-4 DSM Program Spend by Sector

	Residential (including low income) (%)	Commercial and light industrial[352] (%)	Large Industrial (%)
BC Hydro percentage of DSM program spend by sector (excluding Thermo-Mechanical Pulp program)			
F2014 to F2016 Actual	17	51	32
F2017 to F2018 Actual and F2019 Forecast	19	57	24
F2020 to F2021 Forecast	30	38	32
BC Hydro Allocation of DSM costs for cost recovery purposes			
Allocation of DSM costs	40	35	25

BC Hydro Has Delivered on its DSM Portfolio for Less

297. Third, in reply to CEC's submission that BC Hydro's historical underspending on its traditional DSM programs has been inappropriate,[541] BC Hydro explained in detail the various factors contributing to its underspending, including factors beyond its control such as customer uptake of its programs.[542] For instance:

> BC Hydro budgets for the expenditures it believes are necessary to deliver its plan, and expects to spend the planned expenditures. However, we also try to achieve the anticipated energy and associated capacity savings targets within each sector at the least cost. This has the potential to result in underspending during the test period, improving the cost-effectiveness of the DSM portfolio. Examples of factors that can result in BC Hydro spending less than planned include: a different mix of projects being implemented during the test period compared to plan, customers requiring lower incentive levels to participate than anticipated and the timing or cancellation of customer projects.[543]

[541] CEC Submissions, paras. 517 to 525.

[542] Exhibit B-5, BCUC IR 1.179.1. BC Hydro also reports on actual vs. forecast DSM spending in its DSM Annual Reports.

[543] Exhibit B-5, BCUC IR 1.179.1.

298. While BC Hydro makes programs available, it is ultimately up to customers to sign up for the programs and participate. The timing of customer projects is a significant cause of variances from forecast.[544]

299. Further, BC Hydro has been able to meet or exceed its forecast new incremental energy savings for its traditional DSM portfolio, which means that, overall, customers have been receiving the benefits of energy savings, but at a cost lower than planned.[545]

Expenditure Schedule Should Be Accepted

300. CEC is the only intervener to argue that BC Hydro's expenditure schedule should not be accepted.[546] BC Hydro submits that the CEC has not established the "substantial discrimination" it alleges. Instead, the record shows that BC Hydro has brought the allocation of DSM spending amongst sectors into better alignment while adhering to the moderation approach.

E. CAPACITY-FOCUSED DSM WILL BE CONSIDERED IN RESOURCE PLANNING

(a) BC Hydro Is Actively Working on Opportunities Related to Load Factor

301. Mr. Willis suggests that increasing load factor may be a planning approach that reduces costs.[547] Mr. O'Riley testified that BC Hydro was aware of this opportunity and is working on a number of initiatives.[548] A notable example is BC Hydro's capacity-focused pilots and trial offers directed at shifting the timing of peak demand in areas where BC Hydro faces capacity constraints.[549] BC Hydro provided a detailed description of the results of the pilots and trial offers to date.[550]

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[544] Exhibit B-5, BCUC IR 1.179.1.

[545] Exhibit B-1, Application, p. 10-7 and Appendix Z, Annual DSM Reports to the BCUC.

[546] CEC Submissions, para. 525.

[547] Willis Submissions, p. 3.

[548] Tr. 6, p. 673, l. 6 to p. 674, l. 14 (O'Riley).

[549] Exhibit B-1, Application, pp. 10-21 and 10-22.

[550] Exhibit B-5, BCUC IR 1.183.1.

(b) BC Hydro Has Updated its Budget for Capacity-Focused DSM

302. AMPC expresses concern regarding BC Hydro's reduction to the budget for capacity-focussed pilots and trial offers.[551] However, BC Hydro explained that the reduction in budget was due to updated information which showed fewer expenditures were needed than previously planned to accomplish the work.[552] BC Hydro still plans to carry out the activities in time to be incorporated into the next IRP.[553]

(c) Conservation and Resource Planning Are Integrated Effectively

303. AMPC's submission that BC Hydro has not effectively integrated DSM planning into its resource planning[554] is at odds with the evidence. The only "evidence" to which AMPC refers is Mr. Hobson's comment that generation assets were outside of his area of responsibility,[555] which does not show any lack of integration. AMPC ignores the rest of the evidentiary record in this proceeding which demonstrates the integration between DSM and resource planning.

304. Mr. O'Riley testified that he has created a broader team approach at BC Hydro to break down "silos" within the organization.[556] Mr. O'Riley emphasized that there were no silos as between planning and conservation:

> You know, again, we're not relying on organization to get people to talk to one another, so I know the planning folks, and you can ask this of Mr. Clendinning later in the week, have a lot of engagement with the conservation group and there's a lot of discussion back and forth, and I think you'll see the results of that as we bring forward the IRP.
>
> And obviously, one of the big topics in the IRP is going to be, where do we go with conservation? You know, we've been on this track of, we call it the moderation strategy, for a number of years, we've got an outdated IRP, we need to recalibrate on that. I think you'll see in that that people are working together.[557]

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[551] AMPC Submissions, para. 306.

[552] Exhibit B-5, BCUC IR 1.183.2.

[553] Exhibit B-13, BCSEA IR 2.72.1.

[554] AMPC Submissions, paras. 307.

[555] AMPC Submissions, paras. 308 to 310.

[556] Tr. 6, p. 685, l. 5 to p. 687, l. 17 (O'Riley).

[557] Tr. 6, p. 691, ll. 3-17 (O'Riley).

305. Ms. Daschuk, Senior Vice President of the Integrated Resource Planning Group, explained the current organizational structure, and stated: "What's really incumbent of any organizational structure, however, is how do people work together and are they working together well and efficiently? And I believe that that is happening…".[558]

306. Mr. Clendinning, Director of Energy Planning and Analytics KBU, testified:

> So, I meet with my counterpart, Mr. Steve Hobson, who's going to part of panel 5, on a regular basis, every two weeks is the usual frequency to have those meetings, but we'll meet ad hoc as needed. And it's not just Mr. Rich's team that interact with Mr. Hobson's group on the DSM portion, it makes an important part of the IRP as well, and so the relationships that we have, I think Mr. O'Riley spoke to earlier, in that we're trying to have the organization adapt and not thinking in lines of business and organizational structures and it's about relationship development.
>
> And so what I can say is for those teams we're co-located with them in the same building and so that means we're always up and down at each other's desks to be able to do that. In addition to incorporating them into our project plans for the development of the load forecast, they're deeply embedded in our project plan for the IRP as well.[559]

307. Mr. Hobson, Director Conservation and Energy Management KBU, testified:

> I mean I think in terms of how our overall demand side management plan flows through the information that's being used within the organization, the load forecast is a key piece of information. In a similar sense, the load forecast without DSM would be a key input for them to be considering as they're making their plans. But we do have a lot of communication. Mr. Kumar and myself work closely together, we're working in partnership on things like the non-wires alternative framework. And I think there's a lot of connections between our group and other parts of the organization, whether it's with the energy planning group, the load forecast group, as such.[560]
>
> …
>
> I think we've got good relationships with different parts of the organization, and I think we are structured in a way that emphasizes some of the synergies that we

[558] Tr 8B, p. 1286 to p. 1287 (Daschuk).

[559] Tr. 8B, p. 1287, ll. 3-21 (Clendinning).

[560] Tr. 15, p. 2827, ll. 1-3 (Hobson).

> leverage in our regular operations, and in other places we have relationships and processes to deal with things.[561]

308. Ms. Hanlon, as Senior Manager in the Conservation and Energy Management KBU, testified:

> My group deals quite frequently with the integrated planning group, and I can say -- and I think what we're saying which is the opposite to suggest that there is long gaps and how we integrate with, or interact with the integrated planning group. There is all sorts of planning exercises that go on outside of the integrated resources plan. There is all sorts of ongoing discussions, and we interact with them on a very frequent basis. It's not just limited to the IRP periods.[562]

309. Both Mr. Hobson and Ms. Hanlon confirmed that the current organizational structure meets the needs of the Conservation and Energy Management KBU.[563]

F. BC HYDRO SHOULD RETAIN DISCRETION TO REALLOCATE EXPENDITURES

310. In its Final Submission, BC Hydro explained that it retains discretion to reallocate expenditures during the Test Period.[564] No intervener takes issue with BC Hydro's position. BCSEA agrees that it is important for BC Hydro to have flexibility to respond to challenges and opportunities and supports BC Hydro's legal position that it retains discretion to implement transfers.[565] In the alternative, BCSEA says that it supports flexible rules for transfers such as those implemented for FortisBC Inc., which includes transfers of up to 25% of budget from one program to another subject to reporting in the DSM annual report.[566] BC Hydro submits that even a 25% transfer limit is not warranted. Limits on BC Hydro's discretion to respond to opportunities and challenges during a test period can only be detrimental to customers. BC Hydro has continually demonstrated that it carries out its DSM initiatives prudently and effectively. BC Hydro should maintain its discretion to do so.

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[561] Tr. 15, p. 2829, ll. 20-25 (Hobson).

[562] Tr. 15, p. 2830, ll. 1-10 (Hanlon).

[563] Tr. 15, p. 2840, ll. 11-15 (Hobson and Hanlon).

[564] BC Hydro Final Submission, paras. 548 to 551.

[565] BCSEA Submissions, paras. 266 to 269

[566] BCSEA Submissions, para. 270.

G. BC HYDRO IS PURSUING LCE INITIATIVES AS PRESCRIBED UNDERTAKINGS

311. This section responds to the comments from interveners on BC Hydro's LCE initiatives. No intervener disputes that BC Hydro's LCE initiatives qualify as prescribed undertakings. The theme of CEABC's and BCSEA's submissions is that BC Hydro should be doing more. BC Hydro submits that the evidence shows that it is taking significant steps towards electrification and is correctly and necessarily coordinating with Government in developing its long-term plans for further work in this area.

(a) "GGRR Benefit" Is the Net Present Value, Which Will Benefit Customers

312. Mr. Willis misinterprets BC Hydro's evidence when he suggests that BC Hydro need not recover its LCE expenditures because of the "GGRR benefit of 134 million$" shown in Table 4-1 of Appendix Y.[567] The $134 million figure is the net present value of BC Hydro's LCE expenditures, which shows that they are cost effective in accordance with the GGRR and therefore must be recovered in rates. The benefits of the LCE expenditure will flow to customers.

(b) BC Hydro is Aware of and Actively Working on Electrification Opportunities

313. CEABC devotes a significant portion of its submission to opportunities for electrification in B.C.[568] BCSEA suggests that BC Hydro's LCE expenditure are too low.[569] The evidence in this proceeding shows that BC Hydro is aware of electrification opportunities and is taking action in this area. In summary:

- **Initial LCE Projects:** BC Hydro undertook 11 initial LCE projects to assess and support immediate low carbon electrification opportunities among customers. Amongst other things, these initial projects provided funding to customers related to using electricity to power natural gas production, and for research into new applications of technologies that have not been proven in or adopted in BC.[570]

[567] Willis Submissions, p. 4.

[568] CEABC Submissions, pp. 22 to 30.

[569] BCSEA Submissions, paras. 9 and 276.

[570] Exhibit B-31, BCUC Panel IR 2.18.2, Attachment 1, pp. 7 to 10.

- **Administering Government Programs:** BC Hydro is administering programs on behalf of Government. This includes the fuel-switching portion of the Government's CleanBC Better Homes program for residential programs and CleanBC Better Buildings programs for commercial buildings, which helps customers switch from fossil fuels to BC Hydro's clean electricity, increasing BC Hydro's load.[571]

- **BC Hydro's LCE Program:** BC Hydro is administering its own LCE program designed for customers not reached by the Government's CleanBC programs. BC Hydro's LCE program focusses on opportunities in large commercial and industrial process, and transportation. One component of the program is to provide financial support to customers to assist them with the acquisition, installation and use of equipment that uses or affects the use of electricity.[572] More specific examples of BC Hydro's initiatives include:

  - **Electric Vehicles:** BC Hydro has continued public awareness efforts with respect to owning and using electric vehicles. It has also, in co-ordination with Government, launched a rebate program for consumer electric vehicle chargers, in alignment with Government incentive programs.[573]

  - **Transportation:** BC Hydro is actively working with B.C. Ferries, the Port of Vancouver, YVR and BC Transit.[574] BC Hydro worked with TransLink on their initial rollout of battery-electric buses.[575]

[571] Exhibit B-31, BCUC Panel IR 2.18.2, Attachment 1, pp. 4 to 6.
[572] Exhibit B-31, BCUC Panel IR 2.18.2, Attachment 1, pp. 11 to 13.
[573] Exhibit B-31, BCUC Panel IR 2.18.2, Attachment 1, p. 4.
[574] Tr. 7, p. 1063, ll. 19-26 (Fraser).
[575] Tr. 6, p. 673, ll. 6-16 (O'Riley).

- **Rate Design:** BC Hydro is studying rate design options as part of the Phase 2 Government Review. Upon completion of the Government review, BC Hydro will be consulting with customers on rate design options.[576] BC Hydro recently received BCUC approval of two fleet charging rates to encourage customers to convert their fleet vehicles and vessels from fossil fuels to electricity.[577]

- **System Planning**: BC Hydro has been conducting and reviewing numerous scenarios of the infrastructure and system requirements to serve different configurations of load. An example of this is on the north coast to serve new mining load or different gas export sites.[578]

- **Electric Vehicle Charging Stations and Planning:** BC Hydro has installed 80 fast-charging stations at 70 locations across the province to remove barriers to electric vehicle adoption,[579] and is developing a company-wide EV strategy.[580]

- **Infrastructure Projects and Efforts in the Upstream Oil and Gas Industry:** Mr. O'Riley testified that BC Hydro has been working for years in the upstream oil and gas sector in the Peace/Montney region to get businesses to electrify.[581] The Dawson Creek/Chetwynd Area Transmission Project ("DCAT") line was built to relieve transmission constraints, and it has also been able to accommodate growth and has been fully subscribed.[582] The PRES Project is being implemented to realize the significant potential for electrification in the oil and gas sector.[583] BC Hydro is also investing in three other projects to encourage new load growth and revenue through electrification: (1) the Bear Mountain Terminal to Dawson Creek

[576] Tr. 6, p. 806, l. 25 to p. 807, l. 6 (O'Riley).

[577] Fleet Electrification Decision.

[578] Tr. 5, p. 534, ll. 12-21 (O'Riley).

[579] Tr. 5, p. 488, l. 9 to p. 489, l. 6; p. 515, l. 1 to p. 516, l. 6 (O'Riley); Tr. 7, p. 1063, ll. 10-18 (Fraser).

[580] Tr. 13, p. 2429, ll. 9-16 (Kumar).

[581] Tr. 5, p. 515, ll. 8-10 (O'Riley)

[582] Tr. 5, p. 515, ll. 10-12 (O'Riley); Tr. 8B, p. 1315, ll. 7-11 (Rich).

[583] Tr. 12, p. 2312, l. 23 to p. 2313, l. 18 (Kumar).

Transmission Voltage Conversion,[584] (2) the North Montney Transmission Development;[585] and (3) the Prince George to Terrace Capacitors Project.[586] BC Hydro is talking with oil and gas customers and is looking at creative solutions to meet their so needs so that they will electrify, such as the potential for an open season,[587] or potentially building a transmission line in an accelerated manner.[588]

- **LNG Canada:** BC Hydro has made extensive efforts to assist LNG Canada in its electrification efforts.[589] BC Hydro is constructing the MIN to LNG interconnection project to facilitate LNG Canada phase one and has initiated other projects to support LNG Canada phase 2.[590]

314. BC Hydro submits that its electrification efforts are wide-ranging and extensive. As discussed in the next section, BC Hydro is working on further plans and is appropriately coordinating with Government in those efforts.

(c) BC Hydro is Appropriately Coordinating with Government in Development of a Plan for Low Carbon Electrification

315. BCSEA encourages BC Hydro to develop a comprehensive long-term plan for LCE measures to achieve B.C.'s legislated GHG reduction targets.[591] BC Hydro is developing a plan.

316. BC Hydro's role in achieving electrification and GHG targets in the CleanBC Plan will be clarified by Phase Two of the Comprehensive Review.[592] The involvement of Government in electrification programs, as noted above, underscores the importance of BC Hydro's efforts to wait for the outcome of the Comprehensive Review and continue working in coordination with

[584] Exhibit B-12, BCUC IR 2.254.2.

[585] Exhibit B-12, BCUC IR 2.254.2.

[586] Exhibit B-12, BCUC IRs 2.247.6 and 2.247.6.1.

[587] Tr. 11, p. 2091, l. 24 to p. 2092, l. 2 (Kumar).

[588] Tr. 11, p. 2094, l. 21, to p. 2096 l. 1 (Daschuk).

[589] Tr. 7, p. 1065, ll. 1-4 (Fraser).

[590] Exhibit B-5, BCUC IR 1.1.1; Exhibit B-12, BCUC IR 2.247.2; Tr. 12, p. 2291, ll. 6-14 (Holland).

[591] BCSEA Submissions, para. 278

[592] Tr. 15, p. 2608, l. 11 to p. 2609, l. 9 (Hobson).

Government. For instance, this coordination is essential for ensuring that BC Hydro does not launch customer-funded initiatives that would duplicate or overlap with Government funded initiatives.

317. Based on the outcome of the Comprehensive Review, BC Hydro expects to develop a plan for low carbon electrification that is informed by the learning gained through the Initial LCE Projects, the BC Hydro LCE Program and Government's CleanBC Plan.[593] BC Hydro will also be looking at electrification scenarios as part of its integrated resource planning, and considering how it would build its system to respond to those scenarios.[594]

(d) BC Hydro's Organizational and Compensation Structure Is Appropriate for Current Electrification Plans

318. CEABC makes a number of recommendations relating to corporate organization and compensation in the context of electrification. Specifically, CEABC recommends that BC Hydro's key account managers should develop sales objectives and that BC Hydro's load forecast team should play a reporting role,[595] that BC Hydro should develop sales-based incentives,[596] and that electrification should be given a "major identity" in BC Hydro's organizational structure.[597] Leaving aside the issue of the BCUC's jurisdiction to issue directions on these matters,[598] BC Hydro submits that its sales resources and approaches are adequate based on the current electrification plans. The evidence of BC Hydro's progress supports this. As the plans evolve, BC Hydro will review those resources and approaches.

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[593] Exhibit B-31, BCUC Panel IR 2.18.2 Attachment 1, p. 7.

[594] Tr. 9, p. 1523, ll. 1-4 (Rich); Tr. 13, p. 2430, l. 18 to p. 2431, l. 8 (Daschuk).

[595] CEABC Submissions, p. 33.

[596] CEABC Submissions, p. 33.

[597] CEABC Submissions, p. 43.

[598] As discussed in Part Seven, Subsection C(a) above, while BC Hydro is open to feedback, the BCUC's jurisdiction does not extend to management of the utility and would thus preclude specific directions in this regard.

H. CONCLUSION AND REQUESTED FINDINGS

319. The evidence supports the acceptance of BC Hydro's proposed DSM expenditure schedule and the approval of the deferral of the traditional DSM and (per the applicable direction) LCE Projects/Programs expenditures to the Demand Side Management Regulatory Account.

PART TWELVE: IMPLEMENTATION OF RATES AND CONSIDERATION OF NEW INFORMATION

A. INTRODUCTION

320. This Part addresses intervener arguments regarding implementation of rates and how new information is considered during the regulatory process. It is organized around the following points:

- First, BC Hydro's rate implementation proposal, outlined in Part Twelve of the Final Submission, was supported by most interveners.
- Second, the Evidentiary Update remains a reasonable basis for setting rates in the Test Period, and regulatory accounts are a pragmatic and fair means of accounting for new information emerging during this protracted process.
- Third, BC Hydro submits that the current approach to the content of Evidentiary Updates and to addressing post-Update developments is both fair and efficient.

B. BC HYDRO'S RATE IMPLEMENTATION PROPOSAL REPRESENTS A MIDDLE GROUND AMONG INTERVENERS

321. Part Twelve of BC Hydro's Final Submission outlined BC Hydro's rate implementation proposal, which involves making the fiscal 2020 interim rates permanent and reducing overall bill impacts in fiscal 2020. It explained why BC Hydro's rate proposals as set out in the Evidentiary Update (as corrected by Exhibit B-11-2) was the most appropriate way to implement fiscal 2020 and fiscal 2021 rates.

322. Interveners express a variety of views on this topic. On one end of the spectrum, AMPC advocates adjustments that would maximize any rate decrease during the Test Period, dismissing the likely adverse impact on customers after the Test Period.[599] On the other end of the spectrum, Mr. McCandless raises the option of maintaining some portion of the DARR to pay down regulatory account balances, with the result of higher bill impacts today.[600] Most

[599] AMPC Submissions, paras. 114 and 115.

[600] McCandless Submissions, p. 3.

interveners (Zone II RPG, BCSEA, CEC and BCOAPO) expressed support for BC Hydro's proposal, which represents a middle ground:

- **Zone II RPG:** "In Zone II RPG's submission, these proposed rate impacts meet the key criteria of "affordability", which is particularly important to Zone II RPG communities and their members with low income." And "Zone II RPG agrees that BC Hydro's approach will avoid a one-time true-up bill adjustment between fiscal 2020 interim rates and final rates, which might create unnecessary hardship and confusion for customers."[601]

- **BCSEA:** "BCSEA supports BC Hydro's proposal to refund most of the approximately $630.8 million in F2021. This avoids retroactively adjusting the interim F2020 rates, and hence avoids a potential source of customer confusion."[602]

- **CEC:** "BC Hydro is proposing to amortize this balance [of the Cost of Energy variance accounts] over the test period. BC Hydro's refund will permit ratepayers to realize the benefit more immediately than if the credit were refunded through the DARR. The CEC submits that this approach is appropriate and provides some welcome relief to ratepayers that would otherwise experience a more significant rate increase."[603]

- **BCOAPO:** "BCOAPO supports BC Hydro's proposal to refund the current net balance in the Cost of Energy Variance Accounts to ratepayers over the two year test period covered by the current Application."[604]

[601] Zone II RPG Submissions, para. 23.

[602] BCSEA Submissions, para. 186. See also, para. 293.

[603] CEC Submissions, paras. 441 and 442.

[604] BCOAPO Submissions, pp. 40 and 41.

323. BCOAPO, although supportive of BC Hydro's rate proposal,[605] regards BC Hydro's presentation of the rate increases resulting from the Evidentiary Update to be "misleading".[606] Specifically, it states that in previous applications "recoveries" currently accounted for as part of the determination of the base rate change were reflected in the DARR. The presentation reflects the proper presentation of the requested rates. The result is the same from the perspective of what customers pay on the bill. With respect to BCOAPO's suggestion to include additional information on this point as part of its customer communications around the BCUC Decision,[607] BC Hydro submits that communications would be clearer and more easily understood by focussing on the bottom-line impact the Decision has on customer bills.

C. THE EVIDENTIARY UPDATE IS A REASONABLE BASIS UPON WHICH TO SET RATES

324. BC Hydro's Final Submission anticipated most of the intervener arguments about the content of BC Hydro's Evidentiary Update in this proceeding. The submissions below, in response to AMPC and BCOAPO, confirm that the Evidentiary Update is a reasonable basis for setting rates in the Test Period.

(a) The Evidentiary Update Reflected a Consistent Principle: Update the Forecasts that Were No Longer Reasonable

325. AMPC characterizes BC Hydro's approach to the Evidentiary Update as "results oriented", and contrasts that with its own "principled" approach.[608] These characterizations are without merit.

326. The evidence is that, in preparing the Evidentiary Update, BC Hydro applied a consistent overarching principle. BC Hydro considered the inputs available at a point in time to determine whether they remained reasonable, and updated the inputs that no longer met that standard.

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[605] BCOAPO Submissions, p. 40 and 41: "BCOAPO supports BC Hydro's proposal to refund the current net balance in the Cost of Energy Variance Accounts to ratepayers over the two year test period covered by the current Application."

[606] BCOAPO Submissions, p. 9.

[607] BCOAPO Submissions, p. 41.

[608] AMPC Submissions, paras. 13 and 14.

BC Hydro updated finance costs and the pension discount rate, and retained the Application forecasts for Trade Income and Storm Restoration Costs, by virtue of this principle.[609] In the case of recognizing MSP premiums (a particular concern of AMPC[610]), the principle BC Hydro followed was to adhere to (a) accounting rules, and (b) the applicable BCUC order.

327. AMPC's attempt to cast its own approach as more "principled" should be taken with a proverbial grain of salt. The fact that AMPC is trying to reduce the proposed rates is obvious on the face of its submissions.[611] As noted earlier in this Reply Submission, AMPC concludes its synopsis of why inputs in the Evidentiary Update should be changed or updated by saying:

> The above matters should be included in rates at the earliest possible opportunity, and not simply adjusted through deferral accounts or any new form of balancing. The BCUC has a clear opportunity to improve industrial rate competitiveness and help accelerate rate relief at a crucial time for the economy.[612]

328. AMPC also proves quite flexible in its willingness to depart from accounting principles and BCUC orders to achieve this objective. With respect to pension costs, the BCUC's order from the Previous Application was that BC Hydro should use "the discount rate in effect at the time the forecast was prepared."[613] With respect to MSP costs, AMPC suggests that the BCUC "vary slightly the BCUC-controlled deferral account rule to mitigate the unintended effect of a six-week

[609] BC Hydro addressed AMPC's arguments regarding the five year average in Trade Income in the BC Hydro Final Submission, Part Twelve, Section C.

[610] AMPC Submissions, para. 22d.

[611] MoveUP shares BC Hydro's view stating: "Intergroup did not assert that the rate that Hydro applied was invalid, but was transparently searching for devices to squeeze out small, short-term downward rate adjustments, whether or not they are rationally sound." (MoveUP Submissions, p. 11.)

[612] AMPC Submissions, para. 22.

[613] Prior Decision, pp. 71 and 72.

delay in legislation, to properly match costs with benefits."[614] AMPC's stance reflects Mr. Bowman's view that he didn't "see any reason" to adhere to that order.[615]

329. It is telling that AMPC, while on one hand critical of BC Hydro for using what it calls "certain stale figures" in the Evidentiary Update and "ignore[ing] actuals or undertak[ing] incomplete updates",[616] nonetheless dismisses BC Hydro's suggestion that if the BCUC requires any updating at this late stage then it should be done in a holistic manner.[617] AMPC's position is internally inconsistent; one would expect that a holistic update would be AMPC's ideal outcome if stale data and incomplete updates are truly the issue.

330. In short, the "result" that BC Hydro sought in updating the Evidentiary Update was to have Test Period rates reflect what, at a particular point in time, BC Hydro reasonably expects to occur. Nine months into the year, "it appears that roughly offsetting amounts will be deferred to the Cost of Energy Variance Accounts in fiscal 2020 when taking into account Trade Income, revenue and cost of energy."[618] The "result" that AMPC is seeking is to lower rates in the Test Period. The benefit that AMPC would see from its approach would be short-lived, since the result would be to increase the likelihood of a significant rate increase in fiscal 2022.[619]

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[614] AMPC Submissions, para. 189. AMPC's critique of BC Hydro (AMPC Submissions, para. 120) would seem quite apt to its own approach to MSP costs "Updating the Powerex Net Income forecast to rely on actuals available at the time of the Evidentiary Update is consistent with these other steps. A failure to update it is an exercise of discretion to upset a methodology that, ironically, was specifically designed to avoid discretion."

[615] Tr. 11, p. 2062, l. 4 to p. 2063, l. 15 (Bowman): "If they [MSP costs] are affecting the test years, if it's rules under control of this board [the BCUC] I don't see any reason why you would put off including that in rates as a valid change in costs."

[616] AMPC Submission, paras. 115 and 121.

[617] AMPC Submissions, para. 115. BC Hydro made this point at para. 579 of its Final Submission. It also indicated that adopting InterGroup's Recommendations, without recognizing offsetting factors, could be expected to necessitate a significant rate increase in fiscal 2022.

[618] Exhibit B-46, BC Hydro Undertaking No. 24. See also BC Hydro Final Submission, para. 587.

[619] Exhibit B-16, BCUC IR 3.313.2.2 shows that updating forecast Trade Income to be based on a five year average from fiscal 2015 to fiscal 2019 would result in a rate decrease of 3.13% in fiscal 2021. All else equal, a larger rate decrease in fiscal 2021 would result in a larger required rate increase in fiscal 2022.

(b) AMPC's Argument that the Pension Discount Rate Was Unreliable Is Untenable

331. The pension discount rate is an instance where AMPC wants to use older information than BC Hydro used in the Evidentiary Update. BC Hydro has explained in its Final Submission why it made sense to use the up to date information from the pension actuary.[620] AMPC's arguments to the contrary are untenable.

BC Hydro Followed a BCUC Order

332. AMPC cites InterGroup's distinction between cash items and non-cash items like non-current pension costs.[621] AMPC is correct; this distinction formed the basis for BC Hydro's proposal in the Previous Application to use a five-year average discount rate. However, the BCUC did not accept that proposal. BC Hydro followed BCUC Order G-47-18 in using the discount rate that it did.[622]

InterGroup Admitted the Discount Rate Used in the Evidentiary Update Was Reliable

333. AMPC seeks to avoid the effect of the BCUC's order by suggesting that "the updated discount rate was provided without meeting the burden of proof to support such a marked change".[623] Yet, at the same time:

- AMPC "does not challenge Morneau Shepell's credentials." [624]
- AMPC has not sought to reconcile its position with InterGroup's concession that they had no reason to believe the updated discount rate was unreliable.[625]

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[620] See BC Hydro Final Submission, starting at para. 159 and again starting at para. 588.

[621] AMPC Submission, para. 173.

[622] Prior Decision, pp. 71 and 72: "The Panel denies BC Hydro's proposal to use an average of actual past discount rates used in the calculation of actual current service costs in the preceding five fiscal years for forecasting purposes, and directs BC Hydro to continue with its previous method of using the discount rate in effect at the time the forecast was prepared."

[623] AMPC Submissions, para. 22c.

[624] AMPC Submissions, para. 22c.

[625] Tr. 11, p. 2070, l. 23 to p. 2071, l. 9 (Bowman).

334. One of the points that BC Hydro made in support of the reliability of the discount rate used in the Evidentiary Update was that it had been used in preparing BC Hydro's audited fiscal 2019 financial statements.[626] AMPC responds as follows, referencing Mr. Wong's evidence to the same effect:

> AMPC also notes that Mr. Wong's comment specifically related to the current portion of pension costs, and that he did not provide any comment regarding the approach to non-current pension costs for quarterly reporting. This is especially important given the impact noncurrent pension costs have on rates, and will likely have on finance charges applied to the F2020 and F2021 years prior to the next RRA (discussed in greater detail below).[627]

335. The distinction AMPC is seeking to draw between current pension costs and non-current pension costs is irrelevant in this context. It is the same discount rate. If it is sufficiently reliable for use in BC Hydro's fiscal 2019 audited financial statements for valuation of current pension costs, it is reliable for non-current pension costs.

If a Five-Year Average Methodology for Discount Rates is to Be Adopted, it Should Be Done for the Right Reasons

336. AMPC and BCOAPO[628] propose the adoption of a five-year average for forecasting discount rates, which is what BC Hydro had proposed in the Previous Application. AMPC and BCOAPO acknowledge that the BCUC has rejected this approach, but AMPC says that the BCUC "was not faced with the market volatility and resulting revenue requirement impact present in the current proceeding."[629] BC Hydro submits that, if the BCUC is to revisit the five-year average approach, then it should be done as part of an overall evaluation of the best way to update uncontrollable inputs as part of a revenue requirement proceeding. It should not be done *ad hoc*, simply because the methodology happens to reduce rates in the current circumstances.

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[626] BC Hydro Final Submission, para. 589. BC Hydro's Application describes the review performed by its external pension actuaries: Exhibit B-1, Application, p. 5G-16.

[627] AMPC Submissions, para. 177.

[628] BCOAPO Submissions, p. 28.

[629] AMPC Submissions, para. 180.

D. THE BCUC SHOULD ENDORSE THE CURRENT APPROACH TO EVIDENTIARY UPDATES AND ADDRESSING POST-UPDATE DEVELOPMENTS

337. BCOAPO and AMPC's submissions regarding the content of BC Hydro's Evidentiary Update, and AMPC's advocacy for additional updating of certain inputs to account for post-Evidentiary Update developments, reflect a differing view on the role of an Evidentiary Update and regulatory accounts. If accepted, their arguments would have potentially significant impacts for how future BCUC processes unfold, and likely not for the better. BC Hydro submits that regulation must strive to be both fair and efficient,[630] and the current approach best achieves those objectives.

(a) Updating the Entire Application in the Middle of a Proceeding Has Its Own Challenges

338. BCOAPO advocates that future Evidentiary Updates update "all values where possible and practical to reflect more recent information."[631] Updating every input in the rates model has appeal in the abstract, but has practical challenges and a downside.

339. BC Hydro's Evidentiary Update was triggered by the release of fiscal 2019 actual information. Its approach to the content of the Evidentiary Update was founded on a straightforward principle: "Is the forecast in the Application still a reasonable basis for setting rates, based on what we know now?" BC Hydro recognizes that the implementation of such a principle requires it to exercise some judgement. However, parties are able to weigh-in (as they have done) and the BCUC is in a position to make determinations (as it will do now).

340. The approach that BCOAPO advocates would avoid some disputes over what data should be updated, but creates other issues. Significant work would be required to update all inputs in BC Hydro's rates model. The more complex and comprehensive the update, the more lead time BC Hydro requires to put the Evidentiary Update together. This can, in turn, affect the currency of the information in the Evidentiary Update. BCOAPO's query as to why BC Hydro did not include

[630] Both fairness and efficiency are cited in the BCUC Rules of Practice and Procedure: "These rules must be liberally construed in the public interest to ensure the fairest, most expeditious and efficient determination of every matter before the BCUC consistent in all cases with the requirements of procedural fairness."

[631] BCOAPO Submissions, p. 47.

the June 2019 Load Forecast in the Evidentiary Update[632] gets to this issue; BC Hydro needed the inputs for the Evidentiary Update "locked down" well in advance of filing, thus precluding its use.[633] In short, the current practice of focusing on the material changes facilitates completing an Evidentiary Update in a timely way in the middle of an already complex regulatory proceeding.

(b) AMPC's Rejection of Regulatory Accounts as a Means of Addressing Variances Arising During a Protracted Proceeding Is Impractical and Inefficient

341. In its Final Submission, BC Hydro submitted that its regulatory accounts are an efficient means of addressing new developments and changes from the Cost of Energy and finance charge assumptions reflected in the Evidentiary Update. BCSEA, for instance, shares this view:

> BCSEA supports reliance on the financial data current to the Evidentiary Update. In BCSEA's view, the Evidentiary Update is a reasonable basis for setting rates in the Test Period. A line has to be drawn somewhere. New financial data will never stop emerging. BCSEA submits that the regulatory accounts are an appropriate way to account for information that became available after the Evidentiary Update. The proceeding will have been underway for 15 months by the time BC Hydro's reply argument is due on May 27, 2020. In BCSEA's view it is time to bring this proceeding to a conclusion.[634] [Emphasis added.]

MoveUP similarly takes "comfort" from the fact that BC Hydro's regulatory accounts are capturing Cost of Energy variances associated with COVID-19.[635]

342. This approach is consistent with what occurred in the Fiscal 2017-Fiscal 2019 Revenue Requirements proceeding. Variances that arose between the time of the Application and the BCUC's Decision were recorded in regulatory accounts, and became part of the starting account balances in the current Test Period.

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[632] BCOAPO Submissions, p. 8.

[633] Exhibit B-15, Twenty-Year Load Forecast cover letter: "The June 2019 Load Forecast was completed after the financial inputs into the Evidentiary Update were finalized and is not reflected in the Evidentiary Update."

[634] BCSEA Submissions, para. 296. See also para. 48 where BCSEA agrees that "[a] regulatory variance account is a fair and efficient means of addressing emerging conditions during the regulatory process (and after it)." And at para. 165: "BCSEA agrees that BC Hydro's regulatory accounts benefit customers."

[635] BCOAPO also takes "comfort" in the context of COVID-19 from the fact that the variances that may occur between the forecast and actual Domestic revenues are eligible for deferral. (BCOAPO Submissions, p. 15.)

343. AMPC takes the view that: "A deferral account should capture changes that arise within the test years after a prospective rate hearing occurs."[636] [Our emphasis] BC Hydro answers this in three ways:

(a) Adopting AMPC's position would represent a departure from practice. The BCUC's Regulatory Account Checklist places no such restrictions on the use of regulatory accounts.

(b) COVID-19 illustrates that dogmatic adherence to the approach AMPC advocates could result in significant unfairness for either customers or the utility (i.e., a windfall) when unexpected circumstances arise in a protracted proceeding that cannot be adequately reflected in rates.

(c) The unfairness of this type of limitation on the use of variance accounts would be amplified if inputs are updated selectively, such that it would tend to increase the potential for a large variance / under-recovery to occur.

344. One might ask: is the solution just to update all inputs again at the end of a proceeding? BC Hydro submits the answer is "No". This approach, which would represent a significant departure from the BCUC's practice, would be better than a *selective* update at the conclusion of the proceeding (as AMPC seems to favour); however, a comprehensive update has its own issues. The first challenge relates to procedural fairness: BC Hydro would question the fairness of an approach that could lead to significant changes to the proposed rates without any review of the inputs by interveners. We expect that outcome would cause consternation among interveners as well. Attempting to address this procedural fairness issue by adding process would prolong proceedings. The longer proceeding would also give rise to the same potential for pre-decision variances to occur.

345. In short, regulatory accounts play a valuable role in rate regulation and benefit both utilities and their customers. A significant change to the current practice in this province along

[636] AMPC Submissions, para. 122.

the lines of what AMPC is advocating should not be adopted without careful consideration and further input from both BC Hydro and the other customers that could be harmed by it.

PART THIRTEEN: OTHER ISSUES RAISED

A. INTRODUCTION

346. As indicated previously, many of the intervener arguments and recommendations are prospective, and do not impugn the Test Period revenue requirements or the orders sought in the Application. In this Part, we address a number of those arguments.

B. BC HYDRO WILL REPORT ON THE STEPS TAKEN IN RESPONSE TO THE SAP INQUIRY

347. CEC submits that the BCUC "should direct BC Hydro to formalize and document its response to the Commission's recommendations" in the SAP Inquiry Report.[637] BC Hydro committed to do so during the oral hearing. It reiterates its intention to document the steps taken and file its report with the BCUC.

C. RESPONSE TO INTERVENERS' REQUESTS FOR DIRECTIONS IN RELATION TO FUTURE PROCESSES

348. CEC, AMPC and, to a lesser extent, MoveUP, Zone II RPG and Mr. Willis urge the BCUC to make orders with respect to future proceedings, including with respect to rate design (CEC, AMPC, Mr. Willis and Zone II RPG) and ROE proceedings (AMPC). BC Hydro submits that, unlike directions related to future revenue requirements applications that are based on consideration of the fulsome evidentiary record in this proceeding, directions related to matters falling well outside of the scope of this proceeding are problematic.

(a) This Panel Should Avoid Making Directions Related to Rate Design

349. CEC recommends that the BCUC "explicitly recognize the concern with existing and ongoing discrimination imbalance in its Decision in this matter" and make a number of directions that CEC sees as flowing from that recognition.[638] Rate rebalancing is a matter of rate design,

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[637] CEC Submissions, para. 6.

[638] CEC Submissions, para. 563. The directions sought by CEC include that BC Hydro is to "consult with the CEC in regard to addressing an appropriate balance, including for DSM programming, development of a Freshet rate, increased COVID-19 related relief, evacuation relief and any other programs and services that could suitably be provided to the commercial rate class."

which is out of scope. There is also currently a prohibition on rate rebalancing[639] (a point which CEC concedes). CEC is, in effect, asking the BCUC to comment on the merits of current Government policy, which the BCUC should not be doing.

350. AMPC similarly advocates that the BCUC provide direction on "BC Hydro's cost of service methodology and rate design."[640] AMPC concedes "Any directives made by the Commission at this time regarding future proceedings do not bind the Commission to future decisions…". However, it argues that "the current Commission hearing panel has the opportunity, powers, and statutory mandate, to provide directives to BC Hydro about information it should include in upcoming proceedings, and the scope that the Commission anticipates for these processes."[641] The problem with the approach AMPC advocates is that it is asking this BCUC Panel to make those directions without fully considering the issues (because rate design was out of scope). Making directions — whether legally binding on a future Panel or not — in an evidentiary vacuum is ill-advised.

351. MoveUP and Mr. Willis recommend that BC Hydro consider rate design options that encourage electrification.[642] Again, the evidentiary record in this proceeding was not developed around rate design matters and there is an insufficient basis for such recommendations. BC Hydro has indicated that, following Phase Two of the Government's Comprehensive Review, BC Hydro will be consulting customers and other stakeholders to inform any resulting rate design applications.[643]

[639] Direction No. 8 prohibits rate rebalancing for fiscal 2020 and fiscal 2021. Thereafter, it is prohibited by s. 58.1(7) of the *UCA* except on application by BC Hydro.

[640] AMPC Submissions, para. 20. See also, para. 65e.

[641] AMPC Submissions, para. 63.

[642] MoveUP Submissions, pp. 12-14; Mr. Willis Submissions, pp. 6 and 7.

[643] Tr. 6, p. 807, ll. 14-24 (Fraser).

(b) The BCUC Panel Hearing the ROE Application Should Be Making Any Legal and Relevance Determinations About ROE

352. Although AMPC concedes that the ROE is fixed by Direction No. 8 for the current Test Period, it encourages the BCUC to make advance rulings for the upcoming ROE proceeding. The issues AMPC wants to include within the scope of that proceeding include "funding sources, financial and other risk and who bears it, and shareholder policy issues."[644]

353. BC Hydro submitted in its Final Submission that the BCUC should avoid encroaching on the discretion of the Panel assigned to hear the ROE proceeding.[645] BCSEA concurs with BC Hydro, stating that "it would be premature for the Current Panel to address the content of the future determination of BC Hydro's future return on equity."[646]

354. While AMPC concedes that directives issued by the BCUC "at this time regarding future proceedings do not bind the Commission to future decisions…",[647] the orders it is seeking are specifically intended to determine scope of the upcoming proceeding before the BCUC Panel hearing the ROE proceeding has had any chance to consider the relevance of the evidence. Relevance determinations, which in this case would be based on the underlying legal framework applicable to the determination of ROE (e.g., considerations informing the Fair Return Standard), should be left to the BCUC panel best equipped to make them.

355. Part of AMPC's argument seems to be that, unless the BCUC makes these directions, the future BCUC panel will be left without the ability to properly consider the issues because BC Hydro will not address them in its application. The only item listed by AMPC in paragraph 88 that would seem to require material evidence would be business risks, and BC Hydro would anticipate having to provide a business risk assessment to support its case in any event. To the extent that AMPC, after seeing BC Hydro's ROE Application, feels it needs other evidence, there will be an information request process. AMPC can also seek to file intervener evidence as it has done here.

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[644] AMPC Submissions, para. 65c. It expands on these issues in para. 88.

[645] BC Hydro Final Submission, para. 491.

[646] BCSEA Submissions, para. 197.

[647] AMPC Submissions, para. 64.

356. The following passage from AMPC's submission provides a perfect example of why its requests for advance directions / findings are problematic:

> b. The Commission should make a clear finding that addressing industrial rate competitiveness should be a goal across the BC Hydro proceedings expected in the near-term (e.g., rate of return and rate design), to facilitate a consistent approach. Otherwise, there is a risk that issues arising in this Application will not be resolved and will repeat in the future.[648]

357. The essence of AMPC's request as it relates to rate of return (i.e., ROE) is that it wants this Panel to determine a legal issue about what the BCUC can and cannot consider in determining a Fair Return for BC Hydro. AMPC's requested direction to consider affordability of rates in the ROE hearing contradicts previous BCUC rulings (which are, in turn, based on court decisions). For instance, the BCUC stated in the 2014 Generic Cost of Capital Decision Phase 1:

> In previous decisions, the Commission concluded that the opportunity to earn a fair return must be provided to each regulated utility as a separate obligation from those service and financing requirements detailed in other sections of the UCA. For instance, on page 8 of its 2006 ROE Decision, the Commission said:
>
> > "In coming to a conclusion of a fair return, the Commission does not consider the rate impacts of the revenue required to yield the fair return. Once the decision is made as to what is a fair return, the Commission has a duty to approve rates that will provide a reasonable opportunity to earn a fair return on invested capital."
>
> The Commission Panel confirms that the approval of rates to meet the FRS is not optional for the Commission. In other words, the Commission has a duty to approve rates that will provide a reasonable opportunity to earn a fair return on invested capital, which is consistent with the previous ROE decisions and the Regulatory Compact. In determining the fair return, this Commission Panel examines the overall return, i.e., the ROE and the common equity component, allowed to the utility. This Decision reiterates the principle articulated in the 2006 ROE Decision and the 2009 Decision, and argued by FBCU on pages 7 to 9 in its Final Submission, that the Commission does not consider the rate impacts of the revenue required to yield the fair return. However, by seeking an optimal capital

[648] AMPC Submissions, para. 39b.

> structure and the opportunity cost of capital we are serving the needs of the customer.[649] [Emphasis added.]

358. The other arguments advanced by AMPC about what should be considered in the determination of ROE are similarly controversial.

359. The point is: there are established principles relating to the determination of ROE that have not been canvassed at all in this proceeding. The matters that AMPC is seeking to raise now will be live issues in the ROE proceeding. They are issues that should be determined by the BCUC Panel hearing the ROE application with a full appreciation of the facts and with the benefit of considered submissions.

D. THE BCUC SHOULD REJECT CEC'S REQUEST FOR DIRECTION TO DEVELOP FORMULAIC RATES

360. CEC recommends that the BCUC "direct BC Hydro to consider what formulaic forecasting of its costs can be developed for consideration in its next revenue requirements application but preclude the need for BC Hydro to address the type of PBR FortisBC is putting before the Commission."[650] Formulaic ratemaking is a key component of PBR. The BCUC scoped PBR out of this proceeding. The BCUC instead established a process to explore PBR, in which there will be evidence on which it can make a considered determination. That process, and not this one, is the appropriate place to address such proposals.

E. COMMERCIAL CUSTOMERS ARE IMPORTANT AND ARE BEING TREATED FAIRLY

361. CEC alleges eligibility discrimination against commercial customers and requests that the BCUC direct BC Hydro to consult with CEC on various programs and services, including DSM programming and the development of a freshet rate.[651]

362. Mr. O'Riley emphasized that all customers are important to BC Hydro:

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[649] *BCUC Generic Cost of Capital (Stage 1) Decision*, BCUC Decision and Order No. G-75-13, p. 12. Online: https://www.bcuc.com/Documents/Decisions/2013/DOC_34706_05-10-2013-BCUC-GCOC-Stage1DecisionWEB.pdf.

[650] CEC Submissions, para. 571.

[651] CEC Submissions, paras. 562 and 563.

> I just want to say we do care about all our customers and we need all our customers. They all make up the sum of the load and as I describe this business sometimes to peaks folks, we manage a ratio of costs in the enumerator and load in the denominator, so we need the load, and we care about all the customers. I think the special challenge that's been highlighted with the industrial customers is electricity is a large portion of their costs. And they are in some -- operate in some pretty tough markets. And I'm not saying that the retail sector today is not operating in a tough market, which you see as you go down the street, and see closed stores for all kinds of reasons. And I'm also not saying that lower income residential customers are not also struggling. So we think about all the customers, we do think about them in different ways, and I think that is important.[652]

363. Current commercial program offerings reflect commercial customer interest and feedback, not eligibility barriers. For example, BC Hydro's evidence is that:

(a) BC Hydro has not recently been approached by any individual commercial customers requesting a freshet rate and if there was sufficient customer interest, BC Hydro would examine a freshet rate for commercial customers.[653]

(b) As discussed further in Part Eleven, Section D, BC Hydro did not reduce commercial and industrial sector programs, but adjusted its forecast expenditures based on updated projections of commercial and industrial sector participation and incentive levels.

364. BC Hydro is always open to working with the CEC and individual commercial customers with regards to potential programs and services and would respond positively to any invitation.[654]

F. THERE ARE INHERENT CHALLENGES IN TRACKING RECONCILIATION COSTS SEPARATELY

365. Zone II RPG states that it supports the development of an action plan and annual reporting on reconciliation, in consultation with Indigenous peoples; and that it sees value in requiring BC Hydro to track its costs associated with reconciliation in more detail.[655] BC Hydro is committed

[652] Tr. 5, p. 576, ll. 3-21 (O'Riley).

[653] Exhibit B-13, CEC IR 2.133.1.

[654] Tr. 5, p. 362, ll. 19-26 (O'Riley).

[655] Zone II RPG Submissions, para. 35.

to advancing reconciliation with Indigenous peoples throughout the province and supports working with the BCUC and with Indigenous peoples to identify ways to provide more visibility to the BCUC with regards to BC Hydro's reconciliation efforts.[656] In BC Hydro's submission, it is important for any directive from the BCUC in this regard to recognize the inherent challenges in tracking costs that are embedded throughout the organization[657] as well as the importance of allowing the format and purpose of any such reporting to be informed through further engagement.

G. BC HYDRO IS WORKING TO DISPLACE DIESEL GENERATION IN THE NIA

366. Zone II RPG submits that "BC Hydro could do more to pursue the reduction of the NIA's reliance on diesel for energy production" and that a starting point would be the development of a strategy for reducing reliance on diesel generation in the NIA.[658] BC Hydro is pursuing displacement of diesel generation and developing a diesel reduction strategy that will take into account the Phase 2 Comprehensive Review, government funding, and the differing needs of the communities within the NIA.

367. BC Hydro's witnesses explained that the company is actively working with the federal and provincial governments and individual First Nations, while also reviewing initiatives in other jurisdictions, to find viable solutions for displacing diesel generation in the NIA.[659] Mr. O'Riley described some of BC Hydro's progress, and also described the nature of the challenges that are involved:

> It's a very difficult problem because, you know, the available resources are highly dependent on the location of the community and what is available and a reasonable distance around, and some of the technologies that have been put forward are difficult in practice to implement in remote communities. So it's a very hard problem and we're not there yet on a solution.[660]

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[656] Tr. 6, p. 639, ll. 15-17 (O'Riley).

[657] Tr. 6, p. 633, l. 26 to p. 636, l. 1.

[658] Zone II RPG Submissions, paras. 8(b), 38 and 46.

[659] Tr. 6, p. 640, l. 22 to p. 641, l. 1 (O'Riley).

[660] Tr. 6, p. 641, ll. 1-8 (O'Riley).

368. Mr. O'Riley confirmed that, despite the challenges, diesel displacement is "absolutely a priority. What we don't have right now is the ready solutions."[661]

369. Zone II RPG accurately notes that the development of a diesel reduction strategy has been delayed. BC Hydro's witnesses explained that the delay is due to the Phase 2 Comprehensive Review and the work BC Hydro is doing with the both the provincial and federal governments around how the strategy would be funded.[662] As Ms. Daschuk explained, consideration also has to be given to differing needs in each of the communities in the NIA.[663]

370. Ms. Daschuk noted that BC Hydro has identified anticipated objectives of the diesel reduction strategy:

> There are four key objectives that we have for our strategy. That is to meet the community goals, which include working very closely with the communities themselves; using the right technology at the right time, and as I mentioned that's giving us also the opportunity to try some new technologies; ensuring that we're addressing BC Hydro operational requirements and the integration with the system that we have in those communities; and ensuring that ratepayers' interests are protected. So, those are four objectives that we have for the strategy.[664]

371. Ms. Daschuk confirmed that, in the interim while the strategy is in development, BC Hydro is nonetheless making progress on diesel reduction in each of the various areas.[665] She explained that, if the diesel reduction strategy results in a capital investment during the Test Period, then BC Hydro would manage that by reallocation of the capital budget through the ex-plan process.[666]

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[661] Tr. 6, p. 645, ll. 4-6 (O'Riley).

[662] Tr. 6, p. 644, ll. 1-6 (O'Riley); Tr. 9, p. 1582, ll. 2-8 (Daschuk); Tr. 9, p. 1583, ll. 2-10 (Daschuk); Tr. 9, p. 1600, l. 14 to p. 1601, l. 11 (Daschuk); Tr. 9, p. 1606, ll. 10-15 (Daschuk); Tr. 9, p. 2612, ll. 9-26 (Daschuk).

[663] Tr. 9, p. 1581, ll. 3-14 (Daschuk). See also, Tr. 9, p. 1583, ll. 3-10 (Daschuk); Tr. 13, p. 2417, l. 26 to p. 2418, l. 9 (Leonard).

[664] Tr. 9, p. 1605, l. 12 to p. 1606, l. 5 (Daschuk).

[665] Tr. 9, p. 1606, ll. 16-25 (Daschuk).

[666] Tr. 9, p. 1597, ll. 1-26 (Daschuk); Tr. 13, p. 2412, ll. 3-10 (Daschuk).

372. Zone II RPG submits that, in future proceedings, it also would be appropriate for the BCUC to consider not just the avoided cost of diesel, but the broader societal benefits of reducing (or eliminating) reliance on diesel generation, including a positive step in reconciliation, a reduction in GHGs and an improvement in air quality. Though Zone II RPG's comments were with respect to future proceedings, and not the Application, Ms. Daschuk acknowledged that factors other than cost of dollars per megawatt could form part of the business case for diesel reduction.[667] She agreed that considerations could include economic benefits in northern communities,[668] the reduction of GHGs,[669] and improved air quality.[670]

373. BC Hydro submits that its current approach is reasonable as progress on diesel reduction continues to be made and BC Hydro intends to finalize a diesel reduction strategy in the near future based on the outcome of the Phase 2 Comprehensive Review.[671]

[667] Tr. 13, p. 2417, ll. 10-18 (Daschuk).
[668] Tr. 13, p. 2417, ll. 4-7 (Daschuk).
[669] Tr. 13, p. 2417, ll. 8-18 (Daschuk).
[670] Tr. 13, p. 2417, ll. 19-23 (Daschuk).
[671] Tr. 13, p. 2411, ll. 13-18 (Daschuk).

PART FOURTEEN: CONCLUSION AND ORDER SOUGHT

374. BC Hydro has demonstrated that its requested permanent rate increases and forecast revenue requirements are just and reasonable. BC Hydro has also demonstrated that the proposed demand-side management expenditure schedule is in the public interest. BC Hydro respectfully submits that the BCUC should approve the orders sought, without acceding to intervener arguments. The BCUC should also demur on intervener requests for directions or findings on matters not before it, particularly when those directions could impair the ability of future BCUC Panels to determine applications before them.

ALL OF WHICH IS RESPECTFULLY SUBMITTED.

Dated:	May 27, 2020	***[original signed by Matthew Ghikas]***
		Matthew Ghikas
		Counsel for BC Hydro
Dated:	May 27, 2020	***[original signed by Christopher Bystrom]***
		Christopher Bystrom
		Counsel for BC Hydro
Dated:	May 27, 2020	***[original signed by Tariq Ahmed]***
		Tariq Ahmed
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