

06 April 2021

**VIA E-FILING**

Patrick Wruck  
Commission Secretary  
BC Utilities Commission  
6th Floor 900 Howe Street  
Vancouver, BC V6Z 2N3



Reply to: Leigha Worth  
ED@bcpiac.org  
Ph: 604-687-3034  
Our File: 7500.123

Dear Mr. Wruck,

**Re: British Columbia Hydro and Power Authority (BC Hydro) - Fiscal 2022 Revenue Requirements Application (F2022 RRA)  
BCOAPO Final Argument**

We represent the BC Old Age Pensioners' Organization, Active Support Against Poverty, Council of Senior Citizens' Organizations of BC, Disability Alliance BC, Together Against Poverty Society and the Tenant Resource and Advisory Centre, known collectively in this process as "BCOAPO et al."

Enclosed please find the BCOAPO's Final Argument with respect to the above-noted matter.

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

Sincerely,  
**BC PUBLIC INTEREST ADVOCACY CENTRE**

*Original on file signed by:*

Leigha Worth  
Executive Director | General Counsel

Encl.

**BC OLD AGE PENSIONERS' ORGANIZATION, ACTIVE SUPPORT AGAINST POVERTY,  
COUNCIL OF SENIOR CITIZENS' ORGANIZATIONS OF BC, DISABILITY ALLIANCE BC,  
TENANT RESOURCE AND ADVISORY CENTRE, AND TOGETHER AGAINST POVERTY  
SOCIETY ("BCOAPO ET AL.")**

**British Columbia Hydro and Power Authority (BC Hydro) - Fiscal 2022 Revenue  
Requirements Application (F2022 RRA)**

**04 April 2021**

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Please be advised that we submit the following final argument regarding the above noted Application on behalf of our client groups known in this and other BC Hydro regulatory processes as BCOAPO or BCOAPO et al. The constituent groups of BCOAPO et al. represent the interests of residential energy consumers in British Columbia, and more specifically in this process the interests of BC Hydro's residential ratepayers. BCOAPO represents a large and diverse population of BC Hydro's ratepayers and their interests will be affected by the approvals sought by BC Hydro in this proceeding.

### **ORDERS SOUGHT**

In the Application, BC Hydro requests approvals pursuant to sections 59 to 61 of the Utilities Commission Act to amend its rate schedules on a permanent basis as follows:

- A general rate increase of 1.16 per cent, effective April 1, 2021, for fiscal 2022 (see Appendix Y, Table Y-1), and
- Changes to BC Hydro's OATT rates, as set out in Chapter 9, Table 9-4, effective April 1, 2021<sup>1</sup>.

BC Hydro's Application also requests the following approvals:

- Regulatory Accounts: BC Hydro requests approval pursuant to sections 59 to 61 of the Utilities Commission Act to make the following changes to its regulatory accounts:
  - Recover the balances in the Cost of Energy Variance Accounts through the Deferral Account Rate Rider (DARR) using the DARR table mechanism (see Chapter 7, section 7.2.1.2); specifically, starting in fiscal 2022 and on an ongoing basis, set the DARR percentage effective April 1 of a given year based on the percentage in the DARR table mechanism corresponding to the forecast net balance of the Cost of Energy Variance Accounts at the end of the preceding fiscal year. Note: Following this approach, the DARR percentage would be set at 0 per cent as of April 1, 2021 for fiscal 2022;
  - Defer the variances arising in fiscal 2022 as a result of any changes determined in the depreciation study to the Amortization of Capital Additions Regulatory Account, with interest charges and recovery of these amounts being on the same basis as previously approved for this account;

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<sup>1</sup> Exhibit B-2, page 1-17

- Continue to defer any variances between forecast and actual dismantling costs in fiscal 2022 to the Dismantling Cost Regulatory Account; continue to apply interest to the balance of the account each year based on BC Hydro's current weighted average cost of debt; continue to recover the forecast interest charged to the account each year from the account each year; and, continue to recover the forecast account balance at the end of a test period over the next test period;
- Recover amounts deferred to the Project Write-off Costs Regulatory Account in respect of completed fiscal years over the next test period, starting in fiscal 2022 and on an ongoing basis, subject to BCUC review and approval of the recovery of these amounts; apply interest to the balance of the account based on BC Hydro's current weighted average cost of debt; and, recover actual interest charged to the account for amounts related to any completed fiscal years over the next test period;
- Establish an Electric Vehicle Costs Regulatory Account to defer any actual operating costs, amortization, and cost of energy amounts related to electric vehicle charging stations that meet the definition of a prescribed undertaking under the *GGRR* for fiscal 2020 and fiscal 2021; apply interest to the balance of the account based on BC Hydro's current weighted average cost of debt and recover the forecast interest charged to the account each year from the account each year; and, starting in fiscal 2022, recover the forecast balance at the end of a test period over the next test period, until such time that the actual amounts deferred to the account for fiscal 2020 and fiscal 2021 are recovered in rates; and
- Close the Rock Bay Remediation Regulatory Account at the end of fiscal 2022;
- Depreciation Rates at Burrard: BC Hydro requests BCUC approval, pursuant to Sections 59-61 of the Utilities Commission Act, to set depreciation rates of certain property, plant and equipment at the Burrard synchronous condense facility for fiscal 2022 as set out in Chapter 8, Table 8-2;
- Amortization of Infrastructure Rights Asset Class: BC Hydro requests BCUC approval, pursuant to Sections 59-61 of the Utilities Commission Act, to amortize the assets within the infrastructure rights asset class over a 35-year useful life, as described in Chapter 8, section 8.2.2; and

- DSM Expenditure Schedule: BC Hydro requests acceptance pursuant to section 44.2 of the Utilities Commission Act of the proposed DSM expenditure schedule of \$82.2 million, as set out in Chapter 10.

Subsequent to the filing of the Application, BC Hydro indicated that it was also seeking approval for:

- A regulatory account to capture any variance (for future recovery from or refund to customers) between the \$712 million return on equity amount reflected in the Application and any different amount subsequently determined by the BCUC in a cost of capital application in respect of fiscal 2022<sup>2</sup>.
- A 10% depreciation rate for the majority of the electric vehicle charging stations. For the remaining electric vehicle charging stations, a shorter life of five years (20% depreciation rate) or seven years (14% depreciation rate) due to the poor reliability experienced for charging stations supplied by one manufacturer<sup>3</sup>.

### **SUMMARY OF F2022 REVENUE REQUIREMENT AND REQUESTED RATE INCREASE**

The following table summarizes the F2022 Revenue Requirement<sup>4</sup>:

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<sup>2</sup> Exhibit B-5 (Cover Letter) and Exhibit B-4, BCUC 1.60.1

<sup>3</sup> Exhibit B-9, Undertaking 19

<sup>4</sup> Exhibit B-2-2, Appendix A, Schedule 1.0

Revenue Requirements Summary									
(\$ million)									
Line	Column	Reference	F2020			F2021			F2022
			RRA	Actual	Diff	RRA	Forecast	Diff	Plan
			4	5	6 = 5 - 4	7	8	9 = 8 - 7	10
1	<b>Cost of Energy</b>	3.0 L1	1,867.9	1,810.9	(57.0)	1,666.5	1,583.7	(82.8)	1,670.1
2	<b>Operating Costs</b>	3.0 L20	1,136.1	1,115.2	(20.9)	1,135.4	1,148.4	13.0	1,226.7
3	<b>Provisions &amp; Other</b>	3.0 L26	116.4	176.8	60.4	95.4	197.9	102.5	101.4
4	<b>Taxes</b>	3.0 L32	249.8	249.7	(0.1)	262.2	254.8	(7.4)	263.8
5	<b>Amortization</b>	3.0 L35	977.8	977.7	(0.0)	998.0	996.6	(1.3)	1,023.7
6	<b>Finance Charges</b>	3.0 L41	874.9	1,656.8	781.8	743.3	951.5	208.2	555.6
7	<b>Return on Equity</b>	3.0 L48	712.0	704.9	(7.1)	712.0	690.7	(21.3)	712.0
8	<b>Miscellaneous Revenue</b>	3.0 L52	(240.6)	(247.3)	(6.7)	(247.0)	(243.7)	3.3	(255.4)
9	<b>Inter-Segment Revenue</b>	3.0 L61	(64.9)	(72.0)	(7.1)	(71.9)	(97.4)	(25.5)	(83.5)
	<b>Deferral Accounts</b>								
10	Deferral Account Additions	2.1 L40	3.1	52.2	49.1	3.5	(30.8)	(34.3)	15.5
11	Interest on Deferral Accounts	2.1 L41	15.4	15.9	0.5	4.0	4.8	0.8	0.7
12	Deferral Account Recoveries	2.1 L42	(392.5)	(403.9)	(11.4)	(238.3)	(238.3)	0.0	0.0
13	Total		(373.9)	(335.7)	38.2	(230.8)	(264.4)	(33.5)	16.2
	<b>Other Regulatory Accounts</b>								
14	Regulatory Account Additions	2.2 L225	(279.2)	(984.2)	(705.0)	(144.7)	(382.7)	(238.0)	(112.1)
15	Interest on Regulatory Accounts	2.2 L226	(33.1)	(32.6)	0.5	(30.0)	(27.2)	2.8	(25.0)
16	Regulatory Account Recoveries	2.2 L227	381.4	287.7	(93.7)	379.2	272.6	(106.6)	340.6
17	Total		69.1	(729.1)	(798.3)	204.4	(137.3)	(341.7)	203.5
	<b>Subsidiary Net Income</b>								
18	Powerex Trade Income		(176.3)	(189.2)	(13.0)	(176.3)	(176.2)	0.0	(190.1)
19	Powertech Net Income		(3.4)	(3.4)	0.0	(3.7)	0.0	3.7	(2.0)
20	Total		(179.7)	(192.7)	(13.0)	(179.9)	(176.2)	3.7	(192.1)
21	<b>Less Other Utilities Revenue</b>	14.0 L19	(36.1)	(29.7)	6.4	(35.9)	(30.2)	5.7	(30.2)
22	<b>Less Liquefied Natural Gas Revenue</b>	14.0 L20	(0.5)	(1.3)	(0.7)	0.0	0.0	0.0	0.0
23	<b>Less Deferral Account Rate Rider</b>	14.0 L23	0.0	(0.2)	(0.2)	0.0	(0.0)	(0.0)	0.0
24	<b>Total Rate Revenue Requirement</b>		5,108.1	5,084.0	(24.2)	5,051.6	4,874.3	(177.2)	5,211.7
	<b>Rate Revenue at Current Rates</b>								
25	Total Domestic Revenue	14.0 L24	5,144.8	5,115.1	(29.6)	5,087.4	4,904.6	(182.9)	5,182.4
26	Less Other Utilities	Line 21	(36.1)	(29.7)	6.4	(35.9)	(30.2)	5.7	(30.2)
27	Less Liquefied Natural Gas Revenue	Line 22	(0.5)	(1.3)	(0.7)	0.0	0.0	0.0	0.0
28	Less Deferral Account Rate Rider	Line 23	0.0	(0.2)	(0.2)	0.0	(0.0)	(0.0)	0.0
29	Revenue Subject to Rate Increase		5,108.1	5,084.0	(24.2)	5,051.6	4,874.3	(177.2)	5,152.2
30	<b>Revenue Shortfall</b>	L24 - L29	0.0	0.0	0.0	0.0	0.0	(0.0)	59.5
31	<b>Rate Increases</b>		6.85%	6.85%	-	(1.62%)	(1.62%)	-	1.16%
32	<b>Deferral Account Rate Rider</b>		-	-	-	-	-	-	-
33	<b>Net Bill Impact</b>		1.76%	1.76%	-	(1.62%)	(1.62%)	-	1.16%
34	<b>Total Rate Revenue Requirement</b>	Line 24	5,108.1	5,084.0	(24.2)	5,051.6	4,874.3	(177.2)	5,211.7
35	<b>Rate Smoothing Regulatory Account transfers</b>	2.2 L131	0.0	0.0	0.0	0.0	0.0	0.0	0.0
36	<b>Revenue Requirement before transfers to Rate Smoothing Reg. Acct.</b>		5,108.1	5,084.0	(24.2)	5,051.6	4,874.3	(177.2)	5,211.7

Material changes from the F2021 RRA are explain (at a high level) as follows<sup>5</sup>:

- **Cost of Energy (+\$3.6 M):** Costs are increasing due to higher water rentals and increased costs from existing EPAs, offset by decreased market energy costs due to lower imports and higher exports.

<sup>5</sup> Exhibit B-2, page 1-23

- Operating Cost (+\$91.3 M): Largely due to increased costs related to Mandatory Reliability Standards, Vegetation Management, Cybersecurity, and Pension (due to changes in discount rate).
- Amortization (+\$25.7 M): Due to increase in capital additions.
- Finance Charges (-\$187.7): Due to lower interest rates.
- Deferral Account Transfers (+\$247.0 M): Credit balances in the Cost of Energy Variance accounts were refunded to customers in F2020 and F2021 which lowered the Deferral Account Transfers in those years. For F2022 there are no refunds/recoveries of balances in the Cost of Energy variance accounts.
- Inter-Segment Revenue (- \$11.6 M): Due to an increase in the PTP transmission service rate and higher transmission reservations.
- Subsidiary Net Income (-\$12.2 M): Primarily due to an increase in the five-year average used for Trade Income.

## **AFFORDABILITY**

One of BC Hydro's Service Plan performance measures is Affordable Bills. The current "measure" uses the annual Hydro Quebec report, Comparison of Electricity Prices in Major North American Cities. The 2020 Service Plan compares just residential bills<sup>6</sup>. However, BC Hydro indicated that its forthcoming 2021 Service Plan would also include the commercial and industrial customer classes<sup>7</sup>.

During the Review Session BC Hydro indicated that another metric it used was inflation<sup>8</sup>: However, we cannot help but to note that the use of inflation is, for many reasons, problematic. Not only does a reliance upon comparisons to inflation as an affordability measure utterly ignore the fact that, assuming for a moment inflation is an accurate reflection of the actual increase in the cost of living, BC Hydro's ratepayers are not necessarily seeing comparable increases in their incomes – there is a significant body of evidence out there indicating that Canadians are losing ground: financially, Millennials are worse off than Gen X'ers who are worse off than Boomers.

In addition, a number of Canada's leading economists have, for years, voiced some serious concerns with the disconnect between CPI and the actual increase in costs Canadians have been

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<sup>6</sup> Exhibit B-2, page 1-6 and Exhibit B-5, RCIG 1.1

<sup>7</sup> Exhibit B-2, page 1-6 and Transcript Volume 1, page 115

<sup>8</sup> Transcript Volume 1, pages 114 to 115

experiencing, noting a significant portion of the the index is rooted in an inexplicable disconnect between the cumulative reported increases in New Housing Price Indexes while others point to the Stats Can use of core items versus an all item calculation. However, we note that during the Review Session Mr. O'Reilly said in response to our inquiries about affordability, "But I do want you to know that I am sensitive to the ability of customers to pay and particularly for lower income customers and that's why you see investments in things like the conservation programs that help lower income customers bring their bills down, why we have had the customer crises fund and hope to have some form of that in the future and why we pay attention to groups like the members of our Low Income Advisory Council."<sup>9</sup> The Low Income Advisory Council is meeting this month, and we look forward to speaking to Mr. O'Reilly more about not only the utility's flawed definition of affordability, but also what measures it will take to address it.

## **STATUTORY CONSIDERATIONS**

### **PRESCRIBED UNDERTAKINGS UNDER THE GREEN HOUSE GAS REDUCTION REGULATION (GGRR)**

The *Greenhouse Gas Reduction Regulation* (BC Reg. 102/2012 and as amended) makes certain electrification infrastructure projects (subsection 4(2)) and electrification programs/projects (subsection 4(3)) prescribed undertakings for the purpose of section 18 of the *Clean Energy Act* (CEA) The regulation was also amended in June 2020 to add eligible electric vehicle charging stations constructed or purchased and operated by a public utility as prescribed undertakings (subsection 5). Under section 18 of the *CEA*, the BCUC must set rates that allow BC Hydro to collect sufficient revenue to recover costs incurred for implementing prescribed undertakings.

#### *Electrification Infrastructure Projects*

Currently, the Peace Region Electric Supply (PRES) project is the only low carbon electrification infrastructure project that BC Hydro is implementing as a prescribed undertaking under section 4(2) of the *GGRR*<sup>10</sup>. In its Decision on the Previous Application, the BCUC found that the project meets the definition of a prescribed undertaking under section 4(2) of the *GGRR*. The nature of the project has not changed since the Previous Application and is expected to be energized ahead of its target October 2021 in-service date and be completed within its Authorized Amount of \$285

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<sup>9</sup> Transcript, Volume 1, page 116.

<sup>10</sup> Exhibit B-2, page 2-13

million<sup>11</sup>. The current Application<sup>12</sup> includes \$177.9 M in capital additions in F2022 related to the PRES project.

### *Low Carbon Electrification Programs*

BC Hydro's low carbon electrification programs fall into two categories: (i) initial projects introduced in fiscal 2018 to enable and support low carbon electrification opportunities among BC Hydro's customers, and (ii) a multi-year BC Hydro funded low carbon electrification program developed in fiscal 2019. BC Hydro continues to carry out programs in those two categories and planned low-carbon electrification activities for fiscal 2022 are similar to those described in the Previous Application. In its Decision on the Previous Application, the BCUC accepted that expenditures for low carbon electrification projects/programs are prescribed undertakings<sup>13</sup>.

There is one customer project (item (i)) still continuing in F2022 with related expenditures of \$6 M<sup>14</sup>. The F2022 spending on the low carbon electrification program is \$9.52 M<sup>15</sup>.

While discussed in the DSM section of the Application this spending is not included in the DSM spending schedule BCH is seeking acceptance for. However, LCE expenditures are recovered through the DSM Regulatory Account<sup>16</sup>.

### *Electric Vehicles*

Section 5(2) of the *GRR* sets out criteria that qualify an electric vehicle charging station as a prescribed undertaking for the purposes of section 18 of the *CEA*:

(2) A public utility's undertaking that is in a class defined as follows is a prescribed undertaking for the purposes of section 18 of the Act:

(a) the public utility constructs and operates, or purchases and operates, an eligible charging station;

(b) the public utility reasonably expects, on the date the public utility decides to construct or purchase an eligible charging station, that

(i) the station will come into operation by December 31, 2025, and

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<sup>11</sup> Exhibit B-4, BCUC 1.47.5

<sup>12</sup> Page 6-36

<sup>13</sup> Exhibit B-2, page 2-13

<sup>14</sup> Exhibit B-2, Appendix N, page 6

<sup>15</sup> Exhibit B-2, Appendix N, page 8. See also Exhibit B-4, BCUC 1.75.1

<sup>16</sup> Exhibit B-2, page 10-1

(ii) if the station will be located in a limited municipality, the number of eligible charging sites in the municipality on the date the station will come into operation will not exceed the site limit for the municipality on that date;

(c) if an eligible charging station comes into operation on or after January 1, 2022, the station uses or is configured to use the Open Charge Point Protocol.

In Section 5(1) an “eligible charging station” is a fast charging station (i.e., a fixed device capable of charging an electric vehicle using a direct current) that:

- (a) Is available for use 24-hours a day by any member of the public;
- (b) Does not require users to be members of a charging network; and
- (c) Is capable of charging electric vehicles of more than one make.

BC Hydro has been investing in EV charging stations since F2013<sup>17</sup>. At the beginning of fiscal 2020, BC Hydro had 59 fast charging stations in operation across the province<sup>18</sup>. For stations in-service prior to F2020, the operating costs and costs of energy for all stations have been recovered in rates in the relevant test periods. Capital additions related to charging stations were first recorded at the end of F2019 and, as such, there was no associated amortization prior to F2020.<sup>19</sup>

During fiscal 2020 and fiscal 2021, BC Hydro put into operation, or reasonably expects to put into operation, an additional 43 fast charging stations, while decommissioning four stations, resulting in a total of 98 fast charging stations in operation at the end of fiscal 2021. Of these 98 stations, BC Hydro considers 97 of them to meet the definition of “eligible stations” (i.e., all but the station at Langley Centre). Furthermore, during the F2020 and F2021 period, BC Hydro decommissioned four stations, three of which it viewed as meeting the definition of “eligible stations”<sup>20</sup>.

In its Decision<sup>21</sup> on the Previous Application, the BCUC noted that BC Hydro had not demonstrated, subsequent to the *GRR* amendment, that the electric vehicle charging stations are prescribed undertakings, and thus denied BC Hydro recovery of related costs for the fiscal

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<sup>17</sup> Exhibit B-4, BCUC 1.5

<sup>18</sup> BC Hydro also has an additional four Level 2 charging stations that are not eligible (Exhibit B-2, page 2-16)

<sup>19</sup> Exhibit B-4, BCUC 1.5 and Exhibit B-5, BCSEA 10.3

<sup>20</sup> Exhibit B-2, page 2-16

<sup>21</sup> Page 93

2020 and fiscal 2021 test period. In accordance with the Decision, BC Hydro removed the capital additions from rate base and the associated amortization, operating costs as well as the cost of energy to serve BC Hydro-owned electric vehicle charging stations from its revenue requirements for fiscal 2020 and fiscal 2021. In the current Application, BC Hydro is seeking to establish an Electric Vehicle Costs Regulatory Account to recover, in the Test Period, its fiscal 2020 and fiscal 2021 costs related to electric vehicle charging stations that are prescribed undertakings<sup>22</sup>.

For fiscal 2022, BC Hydro considers that it has 155 eligible charging stations that meet the requirements to qualify as a “prescribed undertaking” and has included the associated costs in the proposed F2022 revenue requirement in the categories of cost to which they relate<sup>23</sup>.

#### *Eligibility of BC Hydro’s Charging Stations as a “Prescribed Undertaking”*

In Appendix C<sup>24</sup> of the Application, BC Hydro assesses each of the 98 fast charging stations in-service at the end of F2021 as well as the four decommissioned during the period against the *GRR* prescribed undertaking criteria applicable to EV stations. All but two are identified as satisfying the criteria in Section 5 of the *GRR* for the EV station to be a “prescribed undertaking” during the F2020-F2021 period. It should be noted that BC Hydro plans to modify one of the two ineligible stations (i.e., the site at Langley Events Center) such that it will be available 24 hours a day and qualify as an “eligible station” in F2022<sup>25</sup>.

Appendix C also assesses the 57 new stations planned for F2022 against the *GRR* Section 5 criteria and confirms that they all meet the requirements to qualify as “prescribed undertakings”.

BCOAPO has no issues with BC Hydro’s designation of the identified stations as eligible stations that qualify as prescribed undertakings.

#### *Requested Electric Vehicle Costs Regulatory Account*

BC Hydro requests BCUC approval to establish an Electric Vehicle Costs Regulatory Account to defer any actual operating costs, amortization, and cost of energy amounts related to electric vehicle charging stations that meet the definition of a prescribed undertaking under the *GRR* for fiscal 2020 and fiscal 2021; apply interest to the balance of the account based on BC Hydro’s current weighted average cost of debt and recover the forecast interest charged to the account each year from the account each year; and, starting in fiscal 2022, recover the forecast balance

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<sup>22</sup> Exhibit B-2, page 7-12

<sup>23</sup> Exhibit B-2, page 2-15 and 2-20 to 2-21

<sup>24</sup> Pages 3-4

<sup>25</sup> Exhibit B-2, page 2-21 and Exhibit B-4, BCUC 3.9

at the end of a test period over the next test period, until such time that the actual amounts deferred to the account for fiscal 2020 and fiscal 2021 are recovered in rates<sup>26</sup>.

Set out below is an excerpt from BCH's Compliance Filing<sup>27</sup> filed pursuant to Order G-246-20 setting out the costs removed and those specifically associated with eligible stations. It is the costs associated with the eligible stations that BC Hydro has recorded in the proposed Electric Vehicle Costs Regulatory Account (see Exhibit B-2, Appendix A, Schedule 2.2).

Table 2-7 Difference in Costs Between All and Eligible Electric Vehicle Charging Stations

(\$ million)	EV Removal - All Stations			EV Deferral - Eligible Stations			Difference - Ineligible Stations		
	F2020	F2021	Total	F2020	F2021	Total	F2020	F2021	Total
Operating Costs	1.9	1.7	3.7	1.9	1.7	3.6	0.1	0.0	0.1
Depreciation	0.2	0.5	0.7	0.2	0.5	0.7	0.0	0.0	0.0
Cost of Energy	0.2	0.3	0.5	0.2	0.3	0.5	0.0	0.0	0.0
Total	2.4	2.5	4.9	2.3	2.5	4.8	0.1	0.1	0.1

Note: the amounts presented in this table may not add due to rounding.

BC Hydro argues that section 18 of the *CEA* and section 5 of the *GRR* require that the BCUC set rates to recover its past costs on its prescribed undertakings, including the cost of eligible charging stations that came into operation prior to June 22, 2020.<sup>28</sup> As was the case in the FBC application regarding its EV Charging Stations, BCOAPO's interpretation of section 18 of the *CEA* and section 5 of the *GRR* makes a clear distinction between the inclusion of fast charging stations that came into operation prior to June 22, 2022 in section 5 of the *GRR*'s definition of a prescribed undertaking and the potential of the BCUC setting the utility's rates to recover costs associated with those stations incurred prior to June 22, 2020. In our submission an affirmative response to the first does not render the live issue associated with the second moot.

Our interpretation of the combined effect of section 18 of the *CEA*, section 5 of the *GRR* and the authorities dealing with the issue of retrospective effects cited in BCH's argument<sup>29</sup> are such that, from BCH's perspective, there is no taking away or negative impact on tangible rights the utility previously enjoyed. In fact, the opposite is, by design, true: the *GRR* creates a very real benefit for parties like BCH. So, based on an analysis of the wording, context, purpose and common-sense interpretations of the applicable statute and regulations, as well as the common law, we agree with BCH that its pre-June 22, 2020 stations are prescribed undertakings.

<sup>26</sup> Exhibit B-2 pages 7-13 to 7-14

<sup>27</sup> Page 13

<sup>28</sup> BCH Final Argument, para 162

<sup>29</sup> Pages 75 - 78

The fly in the ointment comes when the effect of this regulation is considered from a ratepayer point of view because, while the average ratepayer is far more likely to be agnostic about the designation of an EV charging station, they are far less likely to be sanguine about the possibility of a precedent being set that might allow utilities to recover costs associated with past activities in their going forward rates. BCOAPO submits that the F2020 costs and costs for the first quarter of F2021 should not be allowed into the Proposed Regulatory account.

BC Hydro has acknowledged that no finance costs were attributed to EV stations and removed from the F2020 or F2021 requirements<sup>30</sup>. Since interest costs were included in rates for these years, BCOAPO submits that the Panel should include in its decision that the balances in the account should not attract interest.

#### *Treatment of F2022 Costs*

During fiscal 2022, BC Hydro reasonably expects to construct and operate 57 new fast charging stations, 26 of which will be at existing sites and 31 of which will be at 16 new sites. All of these new stations will be eligible charging stations. Five new sites will be in limited municipalities: Burnaby, Maple Ridge, Prince Rupert, Surrey, and Terrace. The number of charging sites in those municipalities will not exceed the site limit for the limited municipality on the date that BC Hydro reasonably expects the eligible charging stations on these sites to come into operation<sup>31</sup>. The expenditures associated with the charging stations at the five new sites were internally approved by BC Hydro on December 30, 2019<sup>32</sup>.

In the current Application BC Hydro has included the cost associated with eligible fast charging stations that qualify as prescribed undertakings in the F2022 revenue requirement in the categories of costs to which they relate<sup>33</sup>. Set out below are the costs included in the F2022 RRA with respect to electric vehicles<sup>34</sup>. It should be noted that while not identified separately, the proposed F2022 revenue requirement also (implicitly) includes the finance charges associated with these stations.

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<sup>30</sup> Transcript Volume 1, page 124

<sup>31</sup> Page 2-21

<sup>32</sup> Exhibit B-5, BCOAPO 1.11.1

<sup>33</sup> Exhibit B-2, page 2-22

<sup>34</sup> Exhibit B-4, BCUC 1.1.3

**Electric Vehicle Infrastructure Costs**  
\$ million

	<b>Fiscal 2022 Forecast</b>	<b>Appendix A Reference</b>
Operating & Maintenance Costs		
Labour	0.8	Schedule 1, Line 2
Contract Services	1.0	Schedule 1, Line 2
<b>Total Operating &amp; Maintenance</b>	<b>1.8</b>	
Depreciation	0.5	Schedule 1, Line 5
Cost of Energy	0.4	Schedule 1, Line 1
<b>Total EV Infrastructure Costs</b>	<b>2.7</b>	

**RATE REBALANCING**

Section 58.1 of the UCA states that the BCUC may not set rates for BC Hydro for the purpose of changing the revenue-cost ratio for a class of customers except on application by BC Hydro.

BC Hydro indicates that it has no plans to file an application for rebalancing Revenue: Cost ratios<sup>35</sup>. BC Hydro also expresses the view that the BCUC cannot direct BC Hydro to file such an application<sup>36</sup>. BCOAPO agrees with BC Hydro interpretation of the UCA.

**LOAD AND REVENUE FORECAST**

BC Hydro prepared a comprehensive 20-year load forecast (the March 2020 Load Forecast) over the winter of 2019 and spring of 2020. The March 2020 Load Forecast was completed prior to the onset of impacts associated with the COVID-19 pandemic<sup>37</sup>.

To address the potential impacts of the pandemic, BC Hydro developed two scenarios in April 2020 that were used to inform decisions based on two potential outcomes. The sales projection for fiscal 2022 from one of those scenarios (referred to as “Scenario A”) is used in the calculation of the Test Period revenue requirements in the Application. As of November 2020, two-thirds of the way through fiscal 2021, actual total domestic sales were 1.2 per cent higher than COVID-19 Scenario A for the three main customer classes on an accrued sales basis<sup>38</sup>.

Key assumptions under Scenario A include<sup>39</sup>:

<sup>35</sup> Exhibit B-5, CEC 1.3.6

<sup>36</sup> Exhibit B-5, CEC 1.3.7

<sup>37</sup> Exhibit B-2, page 3-1

<sup>38</sup> Page 3-1

<sup>39</sup> Page 3-7

- Three months of closure of non-essential businesses (March to May);
- Gradual return within fiscal 2021 to pre-pandemic conditions for the residential and commercial sectors;
- BC GDP projections based on the BC Business Council's March 27 Scenario 1<sup>40</sup> (2020/fiscal 2021 minus 7.3 per cent, 2021/fiscal 2022 plus 2 per cent, 2022/fiscal 23 plus 2 per cent) for the light industrial sector;
- Permanent closure of one forestry mill and 1 some delays for other customer start-ups or expansions in the large industrial sector; and
- A global recession either imminent or already underway.

The following table compares the March 2020 Load Forecast to Scenario A<sup>41</sup>.

**Table 3-2 COVID-19 Scenarios Difference from March 2020 Reference Case**

Billed Sales Projections - After Rate Impacts and after Demand-Side Management <sup>4</sup>						
Fiscal Year	Main Customer Sectors <sup>1</sup>				Change In Domestic Sales (GWh)	Change In Domestic Sales (%)
	Residential Sales (GWh)	Commercial Sales (GWh)	Light Industrial Sales (GWh)	Large Industrial Sales (GWh)		
<b>COVID-19 Scenario A Relative to March 2020 Forecast</b>						
F2021	454	-1,138	-505	-2,015	-3,204	-6
F2022	0	0	-457	-1,126	-1,582	-3
F2023	0	0	-458	-887	-1,345	-2
F2024	0	0	0	-790	-790	-1
F2025	0	0	0	-790	-790	-1

It should be noted that with the Load Variance Regulatory Account forecast revenues are eventually trued-up against actual revenues, such that changes to the load forecast only impact when the impacts will be seen by rate payers.

### *Residential*

For F2022 Scenario A returns to the March 2020 Load Forecast<sup>42</sup>. The following Table compares the elements of the current F2022 forecast with those from the previous Application which was based on a March 2018 Load Forecast<sup>43</sup>.

<sup>40</sup> See Exhibit B-5, BCOAPO 1.15.1

<sup>41</sup> Page 3-13

<sup>42</sup> Exhibit B-5, BCOAPO 1.13.1

<sup>43</sup> Exhibit B-5, BCOAPO 1.13.2

	Fiscal Year	Number of Accounts	Use per Account (KWh/account)	Model projection (GWh)	Codes overlap adjustments (GWh)	EV Load Additions (GWh)	Fuel Switching Additions (GWh)	Rate Impacts (GWh)	D&M (GWh)	Loss Reduction (GWh)	Residential Load Forecast (GWh)	BCUC Ordered Adjustment to F21 RRA*	F21 RRA Final
October 2018 (GWh)	F2021	1,885,943	9,977	18,815	114	89	14	(26)	(673)	(10)	18,324	(403)	17,921
	F2022	1,907,221	9,990	19,054	149	124	14	(38)	(881)	(12)	18,411		
COVID-19 Scenario A (GWh)	F2022	1,921,842	9,865	18,959	127	271	36	76	(621)	(12)	18,896		
Fiscal 2022 Delta between COVID-19 Scenario A and October 2018 (%)	F2022	0.8	(1.3)	(0.5)	(15.0)	118.4	156.1	(301.4)	(29.5)	0.8	2.3		
Table Notes:													
* BCUC ordered BC Hydro to adjust its residential load forecast for fiscal 2021 by the variance observed between April 1, 2019 and December 31, 2019, which amounted to -2.2 per cent or a decrease of 403 GWh.													

Overall F2022 Residential load is higher than it was in the previous forecast. This is largely due to a higher number of accounts, higher EV loads and lower reductions due to rate impacts. The March 2020 residential accounts forecast is higher than the October 2018 forecast because the number of fiscal 2019 actual residential accounts (which was the base year for the accounts forecast) was higher than what was projected in October 2018. In addition, the Conference Board of Canada's housing stock forecast used in developing the March 2020 Load Forecast projected stronger housing stock growth than what was projected in October 2018<sup>44</sup>.

To-date (up to January 2021) the actual weather-adjusted Residential usage is tracking close to forecast such that the difference is less than 0.05% overall<sup>45</sup>.

BCOAPO has no issues with BC Hydro's Residential forecasts for F2021 or F2022.

### *Commercial*

For F2022 the Commercial load in Scenario A returns to the March 2020 Load Forecast<sup>46</sup>. The following Table compares the elements of the current F2022 forecast with those from the previous Application<sup>47</sup>.

<sup>44</sup> Exhibit B-5, BCOAPO 1.13.3

<sup>45</sup> Exhibit B-5, BCOAPO 12.3

<sup>46</sup> Exhibit B-5, BCOAPO 1.14.1

<sup>47</sup> Exhibit B-5, BCOAPO 1.14.2

	Fiscal Year	Model projection (GWh)	Codes overlap adjustment (GWh)	EV load addition (GWh)	Fuel switching load addition (GWh)	Rate impacts (GWh)	DSM (GWh)	Loss reductions (GWh)	Commercial Load Forecast (GWh)	BCUC Ordered Adjustment to F21 RRA*	F21 RRA Final
October 2018 (GWh)	F2021	14,729	25	16	17	(20)	(407)	(8)	14,352	(215)	14,137
	F2022	14,755	43	22	34	(29)	(572)	(10)	14,243		
COVID-19 Scenario A (GWh)	F2022	14,584	92	48	48	58	(455)	(9)	14,366		
Fiscal 2022 Delta between COVID-19 Scenario A and October 2018 (5)	F2022	(1.2)	112.8	119.2	40.3	(297.5)	(20.5)	(5.5)	0.9		
Table Notes:											
* BCUC ordered BC Hydro to adjust its residential load forecast for fiscal 2021 by the variance observed between April 1, 2019 and December 31, 2019, which amounted to -1.5 per cent or a decrease of 215 GWh.											

Again, the F2022 Commercial load forecast is higher in this Application than in the previous Application. Key contributors are codes and standards overlap, EV load, fuel switching and rate impacts.

#### *Light Industrial*

For the Light Industrial sector, the forecast assumed a 7.3% decline in GDP for 2020 after which the GDP growth returned to the previous GDP forecast (2%)<sup>48</sup>.

The resulting forecast (along with the original March 2020 forecast) is compared below with the F2022 forecast from the previous Application<sup>49</sup>.

Load Forecast or Scenario	Fiscal Year	Light industrial model projections (GWh)	Cannabis-crypto currency load addition (GWh)	Construction load addition (GWh)	Fuel switching load addition (GWh)	Rate impacts (GWh)	DSM (GWh)	Loss reductions (GWh)	Light Industrial Load Forecast (GWh)	BCUC Ordered Adjustment to F2021 RRA (GWh)	F2021 RRA Final (GWh)
COVID-19 Scenario A	F2022	4,280	221	106	0	18	(77)	(2)	4,546		
March 2020	F2022	4,692	265	106	0	20	(77)	(2)	5,002		
October 2018	F2021	4,430	242	85	13	(7)	(79)	(2)	4,683	(70)	4,613
October 2018	F2022	4,464	244	85	13	(9)	(106)	(2)	4,688		

The Light Industrial model projections are driven by the GDP forecast. As noted above the GDP forecasts used were -7.3% for F2021 and 2.0% for F2022. The -7.3% was based on a forecast made at the start of the pandemic while the 2.0% is simply the GDP growth for F2022 used in the

<sup>48</sup> Exhibit B-2-2, Appendix D, page 26

<sup>49</sup> ExhibitB-5, BCOAPO 1.15.4

March 2020 Load Forecast. Since then, more recent GDP forecasts have been issued – as set out below<sup>50</sup>.

Calendar Year	COVID-19 Scenario A (%)	CBoC Report August 2020 (%)	CBoC Report January 2021 (%)	Ministry of Finance Update July 2020 (%)	Ministry of Finance Q1 Update September 2020 (%)	Ministry of Finance Fall Update December 2020 (%)
2020	(7.3)	(5.5)	(6.1)	(6.8)	(6.7)	(6.2)
2021	1.9	6.7	4.9	3.1	3.0	3.0

Not only are these forecasts less pessimistic about GDP decline for 2020, they are also more optimistic about the recovery that will be experienced in the following year. Indeed, the response to BCOAPO 1.15.7 acknowledges that such “bounce-back” is expected:

“Scenario A reverted to the Ministry of Finance Q2 November 2019 forecast for calendar year 2021, which was used for the March 2020 Load Forecast. Scenario A is more conservative in its GDP estimate for calendar year 2021 than the CBoC or Ministry of Finance reports because it does not account for a post-pandemic recovery effect. Generally, sharp declines in GDP are followed by stronger than average recoveries.”

[Emphasis added]

To-date (January 2021) the actual sales for the combined Commercial and Light Industrial sectors are tracking higher than forecast by roughly 2.3%<sup>51</sup> which aligns with the more recent and less pessimistic GDP forecasts for 2020. This result combined with the use of a GDP forecast for 2021 that failed to account for the “bounce-back effect discussed above would suggest that the combined Commercial and Light Industrial forecast for 2022 is too low. However, recovery from the pandemic is now proving to be slower than anticipated in Scenario A<sup>52</sup>. In BCOAPO’s view, BC Hydro’s Commercial and Light Industrial load forecasts are reasonable for purposes of setting F2022 rates given the results will eventually be “trued-up” through the Load Variance Regulatory Account.

<sup>50</sup> Exhibit B-5, BCOAPO 1.15.7

<sup>51</sup> Exhibit B-5, BCOAPO 12.3

<sup>52</sup> Transcript Volume 1, page 170

## Large Industrial

For the Large Industrial sector BC Hydro undertook an account by account assessment for each of the two scenarios<sup>53</sup>. The following Table compares the Scenario A F2022 forecast with the March 2020 forecast and that from the previous Application<sup>54</sup>. The work-up for each individual sector is provided in response to BCUC 1.13.1<sup>55</sup>.

Forecast / Scenario	Fiscal Year	Mining		Forestry			Oil and Gas and LNG	Other Large Industrial	Total Large Industrial (GWh)	BCUC Ordered Adjustment to F21 RRA* (GWh)	F21 RRA Final (GWh)
		Metal Mines	Coal Mines	Pulp and Paper	Wood Products	Chemical					
		(GWh)	(GWh)	(GWh)	(GWh)	(GWh)					
October 2018	F2021	3,387	549	3,206	1,208	1,347	2,959	1,588	14,243	(1,040)	13,203
	F2022	3,357	542	2,768	1,205	1,345	3,255	1,594	14,066		
March 2020	F2021	3,343	591	3,865	1,086	1,359	2,576	1,302	14,122		
	F2022	3,406	632	3,335	1,097	1,359	2,839	1,440	14,108		
COVID 19	F2021	3,221	532	2,729	965	1,277	2,369	1,013	12,107		
Scenario A	F2022	3,356	632	2,543	1,097	1,359	2,806	1,189	12,982		

**Table Notes:**

Forecasts shown are after adjustments for rates and DSM

\* BCUC ordered BC Hydro to adjust its Large Industrial Load Forecast for fiscal 2021 by the variance observed between April 1, 2019 and December 31, 2019, which amounted to -7.3 per cent or a decrease of 1,040 GWh.

To date the actual sales for the Large Industrial sector are tracking higher than forecast by roughly 1.1%<sup>56</sup>. Again, this is consistent with the more recent economic forecasts for 2020. However, overall and for the same reasons as cited for the Commercial and Light Industrial sectors, BCOAPO considers the Large Industrial sector forecast for F2022 to be reasonable for purposes of setting F2022 rates.

## Losses

Actual losses in F2020 were 9.57% and forecast losses for F2021 are 9.62%. For F0222 BC Hydro uses a loss percentage of 10.25%<sup>57</sup>. BC Hydro explains that the higher percentage reflects the expected increase in sales to the major distribution sectors (residential, commercial, and light industrial). These distribution loads have a proportionally more significant impact on the loss percentage than the transmission (large industrial) sales<sup>58</sup>. BCOAPO has no issues with the loss factor used by BC Hydro for F2022.

## COST OF ENERGY

<sup>53</sup> Exhibit B-2-2, Appendix D, page 26

<sup>54</sup> Exhibit B-5, BCOAPO 1.16.1

<sup>55</sup> Exhibit B-4

<sup>56</sup> Exhibit B-5, BCOAPO 12.2

<sup>57</sup> Exhibit B-2-2, Schedule 4, line 17

<sup>58</sup> Exhibit B-4, BCUC 1.21.1

The following table summarizes BC Hydro's forecast cost of energy for F2022<sup>59</sup>.

**Table 4-1 Cost of Energy Forecast (Integrated System and Non-Integrated Areas)**

Cost of Energy (Million)	Schedule Reference	F2020 RRA	F2020 Actual	F2021 RRA	F2021 Forecast	F2022 Plan
		1	2	3	4	5
Heritage Energy	40 L32	351.2	355.8	317.7	355.5	350.8
Non-Heritage Energy <sup>1</sup>	40 L37	1,332.4	1,353.1	1,447.2	1,423.1	1,511.9
Market Energy	40 L44	154.4	95.0	(95.4)	(125.1)	(191.9)
<b>Total</b>	<b>40 L45</b>	<b>1,638.0</b>	<b>1,803.9</b>	<b>1,669.5</b>	<b>1,653.5</b>	<b>1,670.8</b>

<sup>59</sup> Page 4-5

## HERITAGE ENERGY

The cost of Heritage Energy is detailed below<sup>60</sup>.

**Table 4-2 Cost of Heritage Energy**

Cost of Heritage Energy (\$ million)	Schedule Reference	F2020 RRA	F2020 Actual	F2021 RRA	F2021 Forecast	F2022 Plan
		1	2	3	4	5
Water Rentals	4.0 L27	329.3	331.6	323.2	331.0	375.4
Natural Gas for Thermal Generation	4.0 L28	7.5	7.1	8.5	8.2	11.8
Domestic Transmission - Other	4.0 L29	24.5	24.8	24.4	25.7	25.5
Columbia River Treaty Related Agreements	4.0 L30	15.0	37.7	(11.7)	(34.2)	(19.0)
Remissions and Other	4.0 L31	(25.2)	(42.4)	(26.7)	(42.1)	(43.2)
<b>Total</b>	4.0 L32	<b>351.2</b>	<b>358.8</b>	<b>317.7</b>	<b>288.6</b>	<b>350.6</b>

Water rental fees are calculated based on actual energy output from the prior calendar year. The increase for F2022 was due to higher hydro generation volumes in calendar year 2020<sup>61</sup>.

The increase in natural gas for thermal generation is driven by the higher volume of thermal generation at the Fort Nelson generating station<sup>62</sup>. In response to the undertakings BC Hydro has explained that the higher than historic natural gas use for thermal generation in F2022 is due to the fact there have been outages at the Fort Nelson generating station in each of the past three years and the forecast assumes no outages in F2022<sup>63</sup>.

BCOPAO has no issues with BC Hydro's forecast F2022 cost of Heritage Energy for purposes of setting F2022 rates. BCOAPO notes that differences between the forecast and actual cost of Heritage Energy will be captured in the Heritage Deferral Account.

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<sup>60</sup> Exhibit B-2, page 4-6

<sup>61</sup> Exhibit B-2, page 4-7

<sup>62</sup> Exhibit B-2, page 4-8

<sup>63</sup> Exhibit B-9, Undertaking #12

## NON-HERITAGE ENERGY

The cost of Non-Heritage Energy is summarized in the following table<sup>64</sup>.

**Table 4-5 Cost of Non-Heritage Energy**

Cost of Heritage Energy (\$ million)	Schedule Reference	F2020 RRA	F2020 Actual	F2021 RRA	F2021 Forecast	F2022 Plan
		1	2	3	4	5
IPPs and Long-Term Commitments <sup>1</sup>	4.0 L33	1,294.7	1,314.0	1,410.8	1,388.7	1,475.7
Non-Integrated Area	4.0 L34	30.5	31.3	30.2	26.1	27.4
Gas & Other Transportation	4.0 L35	3.7	4.5	2.5	5.2	4.9
Water Rentals (Waneta 2/3)	4.0 L36	3.7	3.3	3.7	3.2	3.5
<b>Total</b>	4.0 L37	<b>1,332.4</b>	<b>1,353.1</b>	<b>1,447.2</b>	<b>1,423.1</b>	<b>1,511.5</b>

<sup>1</sup> These values are after Accounting Adjustments.

Section 71 of the UCA provides the BCUC with the authority to review BCH's Electricity Purchase Agreements. However, there are exceptions where, by Regulation, certain projects have been exempted from BCUC oversight. The following table summarized the energy/costs for F2022 associated with exempt and non-exempt EPAs<sup>65</sup>.

		F2021 RRA	F2021 Forecast	F2022 Plan	F2021 RRA	F2021 Forecast	F2022 Plan
		GWh			\$M		
IPPs and Long-Term Commitments	Exempt	9,237	8,025	8,975	\$ 1,022	\$ 936	1,012
	Non-exempt	6,000	6,441	7,005	511	557	589
	<b>Total</b>	<b>15,238</b>	<b>14,467</b>	<b>15,980</b>	<b>1,533</b>	<b>1,493</b>	<b>1,601</b>

As indicated by the above Table the majority of the EPA costs in the revenue requirement are associated with exempt EPAs – where the contract was not subject to review by the BCUC.

Furthermore, the Non-Exempt costs and volumes in the above table include the Biomass Energy Program energy supply contracts. While these are filed with the Commission under Section 71 of the UCA, B.C Reg.71/2019 requires that that, in setting rates for BC Hydro, the BCUC may not disallow, for any reason, the recovery in rates of BC Hydro's costs with respect to these energy supply contracts<sup>66</sup>. The costs and energy associated with these contracts is set out below<sup>67</sup>:

<sup>64</sup> Exhibit B-2, page 4-11

<sup>65</sup> Exhibit B-5, BCOAPO 1.21.3 and Exhibit B-9, Undertaking #5

<sup>66</sup> Exhibit B-2, page 2-7

<sup>67</sup> Exhibit B-5, BCOAPO 1.21.2

	F2021 RRA	F2021 Forecast	F2022 Plan
BEP Energy (GWh)	949.52	902.07	1,226.93
BEP Cost (\$M)	\$ 80.69	\$ 75.55	\$ 102.37

The forecast cost of energy for fiscal 2022 includes forecast costs for non-exempt EPAs that, as of August 2020, BC Hydro expected to be renewing and filing with the BCUC. The Hluey Lake EPA renewal, filed with the BCUC on December 21, 2020, is currently under a section 71 review. BC Hydro has also recently executed an EPA renewal in relation to the Coats IPP project, and expected to be filing this agreement for a section 71 review by March 2, 2021. Both of these EPA renewals have yet to be accepted by the BCUC<sup>68</sup>.

The fiscal 2022 Plan costs for EPAs, as shown in Table 4-6 of the Application, reflect the IPP information available to BC Hydro as of August 2020 (i.e., forecast used for this Application) and include the forecast costs for new EPAs and EPA renewals expected for fiscal 2022. There have been no additional new EPAs or EPA renewals included in BC Hydro's August 2020 forecast relative to what was already included in the June 2019 forecast used for the F2021 RRA<sup>69</sup>.

The forecast increase in IPP energy costs from the fiscal 2021 Plan to the fiscal 2022 Plan is in large part due to predetermined factors, such as terms included in existing EPAs, increased forecast energy deliveries as permitted under existing agreements, and new IPP projects under existing EPAs reaching commercial operation<sup>70</sup>.

BCOAPAO has no issues with BC Hydro's forecast F2022 cost of Non-Heritage Energy for purposes of setting F2022 rates. BCOAPAO notes that differences between the forecast and actual cost of Non-Heritage Energy will be captured in the Non-Heritage Deferral Account and the Biomass Energy Program Variance Regulatory Account.

## MARKET ENERGY

The new 2020 TPA with Powerex (currently being reviewed by the BCUC in a separate proceeding) changes how Market Energy is classified. The previous agreement used to separate out transactions with Powerex (sales and purchases) related to domestic requirements versus

<sup>68</sup> Exhibit B-5, BCOAPO 1.20.1

<sup>69</sup> Exhibit B-5, BCOAPO 1.22.3

<sup>70</sup> Exhibit B-2, page 4-12 and Exhibit B-5, BCOAPO 22.1

those related to trade activities. The new agreement does not do this but rather just classifies transactions as imports or exports. The following tables set out the Market Energy costs under the two approaches<sup>71</sup>.

**Table 4-8 Cost of Market Energy – based on 2003 TPA**

Cost of Energy (\$ million)	Schedule Reference	F2020	F2020	F2021	F2021	F2022
		RRA	Actual	RRA	Forecast	Plan
		1	2	3	4	5
TPA Reference Agreement		2003 TPA	2003 TPA	2003 TPA		
Market Electricity Purchases	4.0 L30	150.6	133.1	43.7		
Surplus Sales	4.0 L30	(0.4)	(1.0)	(165.1)		
Net Purchases (Sales) from Powerco	4.0 L42	33.1	(35.2)	6.1		
Domestic Transmission – Export	4.0 L43	1.1	2.0	17.0		
<b>Total</b>	<b>4.0 L44</b>	<b>184.4</b>	<b>98.0</b>	<b>(98.4)</b>		

**Table 4-9 Cost of Market Energy – based on 2020 TPA**

Cost of Energy (\$ million)	Schedule Reference	F2020	F2020	F2021	F2021	F2022
		RRA	Actual	RRA - Reclassified	Forecast	Plan
		1	2	3	4	5
TPA Reference Agreement				2020 TPA	2020 TPA	2020 TPA
System Imports	4.0 L40			153.9	37.8	77.1
System Exports	4.0 L41			(209.2)	(211.0)	(296.5)
Domestic Transmission – Export	4.0 L43			17.0	45.1	27.5
<b>Total</b>	<b>4.0 L44</b>	<b>0.0</b>	<b>0.0</b>	<b>(38.4)</b>	<b>(128.1)</b>	<b>(191.9)</b>

BC Hydro has indicated that it is not possible to classify F2022 Market Energy cost using the previous (2003 TPA) approach<sup>72</sup>.

The decrease in Market Energy costs for F2022 is largely due to lower System Imports and higher System Exports due to higher water inflows<sup>73</sup>.

While this may be an issue more appropriately dealt with as part of the BCUC's pending review of the 2020 TPA, BCOAPO is concerned about the loss of transparency in terms of BC Hydro's inability to separate out imports/exports made for purposes of trade related activities versus those associated with the sale/purchase of electricity in circumstances where BC generation was insufficient to meet/in excess of domestic requirements. Of particular concern is the apparent inability under the 2020 TPA to identify the market purchases of electricity to meet domestic requirements. In BCOAPO's view reliance on market purchases for domestic supply exposes BC Hydro to additional supply and price risks and it is important to understand these in the context of setting rates.

<sup>71</sup> Exhibit B-2, pages 4-17 to 4-19

<sup>72</sup> Exhibit B-4, BCUC 1.17.1

<sup>73</sup> Exhibit B-2, page 4-19

BCOAPO submits that as part of its Decision regarding BC Hydro's F2022 rates, the BCUC should direct BC Hydro examine ways this information can continue to be provided in future RRAs and/or request that the issue be considered as part of the BCUC's upcoming review of the 2020 TPA.

Apart from this issue, BCOAPO has no concerns regarding BC Hydro's forecast cost of Market Energy for F2022.

## **OPERATING COSTS**

Total forecast Operating Costs for F2022 are \$1,126.5 M. However, in its Application BC Hydro focuses on what it terms as "Base Operating Costs", which excludes the following: IFRS Ineligible Capital Overhead, Waneta 2/3<sup>rd</sup> Operating Costs and Customer Crisis Fund costs. Details of Base Operating cost vs. Total Operating costs are found below<sup>74</sup>.

Operating Costs - Total Company		F2021			F2022
Column	Reference	RRA	Forecast	Diff	Plan
		7	8	9 = 8 - 7	10
<b>Operating Costs by Business Group</b>					
Integrated Planning	5.1 L9	295.2	300.8	5.6	346.2
Capital Infrastructure Project Delivery	5.2 L6	81.1	81.0	(0.1)	84.3
Operations	5.3 L9	245.8	263.9	18.1	261.4
Safety	5.4 L7	58.5	69.6	11.1	68.3
Finance, Technology, Supply Chain	5.5 L5	264.8	281.4	16.6	299.1
People, Customer, Corporate Affairs	5.6 L8	105.4	112.1	6.8	121.8
Other	5.7 L6	(244.4)	(275.9)	(31.5)	(276.0)
F17-F19 RRA Compliance Filing Adjustment		0.0	0.0	0.0	0.0
<b>Base Operating Costs</b>		806.4	833.0	26.6	905.1
IFRS Ineligible Capitalized Costs		192.5	192.5	0.0	214.9
Independent Power Producer Capital Leases		0.0	0.0	0.0	0.0
Waneta 2/3		5.9	5.9	0.0	6.1
Customer Crisis Fund		5.3	5.3	(0.0)	0.5
<b>Subtotal</b>		203.6	203.6	(0.0)	221.4
<b>Net Operating Costs</b>	L9+L14	1,010.0	1,036.6	26.6	1,126.5

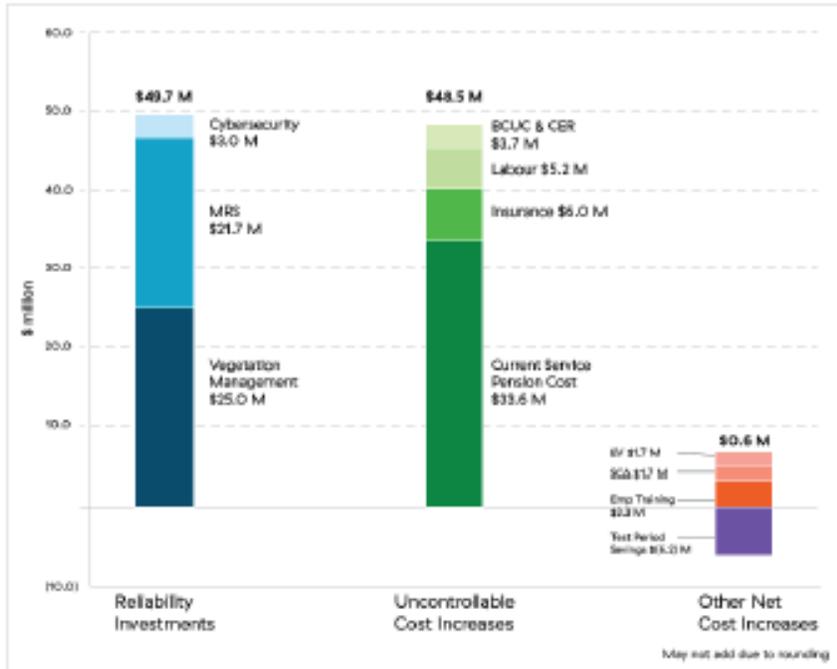
Base Operating costs are increasing by \$98.7 M from \$806.4 M per the F2021 RRA to 905.1 M in the current Application<sup>75</sup>. The following chart provides breakdown of the \$98.7 M increase<sup>76</sup>.

<sup>74</sup> Exhibit B-2-2, Appendix A, Schedule 5.0

<sup>75</sup> Exhibit B-2, page 5-11

<sup>76</sup> Exhibit B-2, page 5-15

**Figure 5-3 Fiscal 2022 Base Operating Cost Changes**



**RELIABILITY INVESTMENTS/SPENDING**

Roughly half of the increase in Base Operating costs for F2022 is due to planned increases in spending in three areas: i) MRS, ii) Vegetation Management and iii) Cybersecurity<sup>77</sup>.

Reliability Investments (\$ million)		
1	Mandatory Reliability Standards	21.7
2	Vegetation Management	25.0
3	Cybersecurity	3.0
	<b>Total</b>	<b>49.7</b>

*Mandatory Reliability Standards (MRS)*

BC Hydro is subject to Mandatory Reliability Standards (MRS or Standards) that are in place to ensure the reliable operation of the Bulk Electric System throughout North America. Ongoing compliance with these standards is mandatory. The scope and complexity of the requirements under these Standards is increasing<sup>78</sup>.

<sup>77</sup> Exhibit B-5, BCOAPO 1.25.1

<sup>78</sup> Exhibit B-2, page 5-24

BC Hydro (on a best effort basis) has estimated that embedded in its F2021 forecast operating costs are \$44.2 M in costs for maintaining and achieving compliance with MRS. The \$21.7 million represents a 49 per cent increase<sup>79</sup>.

BC Hydro also notes<sup>80</sup> that of the \$21.7 M increase in F2022, \$21.3 million is required for BC Hydro to achieve compliance with currently effective MRS<sup>81</sup> while \$0.4 million is required in fiscal 2022 for BC Hydro to implement MRS that have been adopted by the BCUC and will become effective in the coming years. BC Hydro goes on to note that:

“For fiscal 2023 and beyond, there will be additional funding required for compliance with reliability standards that are currently effective and those that are adopted but not yet effective at the time of that future Revenue Requirements Application. In addition, as the BCUC adopts new standards in the future, additional funding will be required for BC Hydro to achieve compliance with those standards.”

At the same time, BC Hydro acknowledges that a significant portion of the \$27.1 M is one-time costs related to improving documentation, systems and training<sup>82</sup>. Interrogatories were posed asking how BCH determine the required dollar increases. Apart from saying the BC Hydro is working to achieve compliance many of the details are confidential<sup>83</sup>. While BCOAPO can understand the need for confidentiality regarding BC Hydro’s activities with respect to MRS compliance, it does limit the ability of other parties to comment on the appropriateness of BC Hydro proposed MRS-related spending and leaves other parties relying largely on the BCUC and its Staff in this regard.

During the Review Session BCOAPO raised the question<sup>84</sup> as to whether BC Hydro had undertaken any internal audits of its MRS activities to determine if they’re being carried out efficiently. The ensuing discussion revealed that:

- BC Hydro considered what it was doing right now as “inefficient” and that part of the proposed spending was to improve its approach such that it would be more systematic and efficient.

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<sup>79</sup> Exhibit B-5, BCOAPO 1.30.1

<sup>80</sup> Exhibit B-5, BCOAPO 1.30.2

<sup>81</sup> Exhibit B-5, BCOAPO 1.30.3 confirms that BC Hydro is currently non-compliant with existing MRS in certain areas.

<sup>82</sup> Exhibit B-5, BCOAPO 1.30.4

<sup>83</sup> Exhibit B-5, CEC 1.23.1, 1.23.3, 1.23.3.1 and 1.23.4

<sup>84</sup> Transcript Volume 1, page 194

- The tri-annual audit performed by the Western Electricity Coordinating Council focuses on compliance rather than efficiency and cost-effectiveness.
- Historically BC Hydro has only had one internal audit in this area and that was in 2013. Furthermore, BC Hydro's internal audits also focus on compliance as opposed to efficiency.
- BC Hydro was looking to undertake another audit of the function in a couple of years after the currently planned improvements had been completed<sup>85</sup>.
- BC Hydro has the flexibility to define the scope of its internal audits and considered it would be reasonable to focus on both efficiency (i.e., cost-effectiveness) and effectiveness (i.e., compliance)<sup>86</sup>.

It is BCOAPO's view that the BCUC should direct BC Hydro to ensure that in the next internal audit of its MRS activities includes considerations of efficiency as well as compliance and that the subsequent Report is written with a view to being able to provide a public version (redacted as necessary) that would address issues related to efficiency.

Otherwise, BCOAPO has no concerns regarding BC Hydro's proposed F2022 spending on MRS-related activities.

### *Vegetation Management*

Spending on vegetation management has been relatively constant in real terms over the past 10 years<sup>87</sup>.

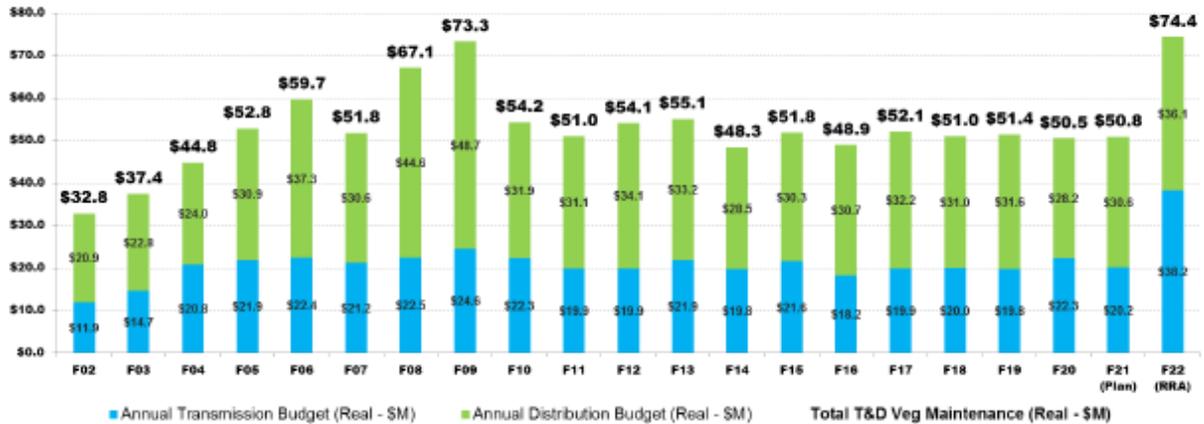
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<sup>85</sup> Transcript Volume 1, page 195

<sup>86</sup> Transcript Volume 1, page 198

<sup>87</sup> Exhibit B-2, page 5-43

**Figure 5-4 Historical Investment in Transmission and Distribution Vegetation Management**



Three primary factors are contributing to the need for the proposed F2022 significant increase in vegetation management investment<sup>88</sup>:

- (1) vegetation growth across the system has regrown back to levels that existed prior to the significant clearing activities that took place a decade ago;
- (2) cost pressures have increased with electrical system expansion, new regulatory requirements and general cost inflation associated with vegetation maintenance activities that can no longer be absorbed<sup>89</sup>; and
- (3) climate change is impacting the growth rate and health of vegetation across the province.

Following the period of heightened clearing of transmission right-of-way (RoW) vegetation a decade ago, an approach of hot-spotting was utilized to address the fastest growing tree species in combination with targeted clearing. BCH claims that this approach was effective for nearly a decade; however, more recently, grow-into events have occurred on the transmission system<sup>90</sup>. BCH states that prior to fiscal 2020, all system performance and reliability metrics were within targeted ranges and BC Hydro was able to preserve system performance without additional funding by advancing various measures. It is only recently that the metrics used to evaluate the vegetation management program have indicated a need for incremental vegetation management investment<sup>91</sup>.

<sup>88</sup> Exhibit B-2, page 5-41

<sup>89</sup> See page 5-45 for summary of cost pressures in excess of normal inflation.

<sup>90</sup> Exhibit B-4, BCUC 1.32.2.1

<sup>91</sup> Exhibit B-4, BCUC 1.32.2

More specifically, on the Transmission system there has been an accumulation of up to approximately 18,000 hectares of vegetation that requires clearing<sup>92</sup> and the transmission outages caused by vegetation have increased in recent years<sup>93</sup>. Also, for both F2020 and F2021 BC Hydro has found it necessary to increase vegetation management spending relative to the budgeted levels for the year<sup>94</sup>. On the Distribution system, the hazard tree accumulation has increased in recent years<sup>95</sup> and BC Hydro's distribution system reliability is low in comparison its peers as is its spending on vegetation management<sup>96</sup>.

BC Hydro has included an additional \$25 million and 18 FTEs to support the vegetation management program in fiscal 2022, bringing the total vegetation budget \$74.4 million<sup>97</sup>. The increased funding has been allocated as follows<sup>98</sup>:

- High Voltage Transmission (\$16.9 M) including: i) \$12 M for additional vegetation management, ii) \$4 M for LiDAR (LiDAR refers to Light Detection and Ranging (LiDAR) surveys to improve dynamic imaging and modelling for 20 per cent of the transmission system in fiscal 2022) and iii) \$0.9 M for incremental planning and forester resources.
- Low voltage transmission and distribution (\$8.9 M) including: i) \$4.7 M for incremental distribution vegetation maintenance, ii) \$3.5 M for incremental LV transmission vegetation maintenance and iii) \$0.7 M for incremental planning and forester resources.

With respect to the transmission system, over the last 10 years, BC Hydro has achieved system wide coverage by a combination of reduced right-of-way clearing (approximately 5,000 hectares per year<sup>99</sup>) and hot-spotting. This was enabled by the extensive clearing performed in the past (between fiscal 2006 and 2009) and the age of the lines (where trees were fully cleared for initial construction) had left the vegetation on the transmission system in a state that had only recently grown to a point of concern. However, hot-spotting is more reactive to growth and focused on specific areas of tall vegetation, addressing the highest risks, and is not sustainable in the long term.

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<sup>92</sup> Exhibit B-2, page 5-58

<sup>93</sup> Exhibit B-2, page 5-54

<sup>94</sup> Transcript Volume 1, page 25

<sup>95</sup> Exhibit B-2, page 5-76

<sup>96</sup> Exhibit B-2, page 5-66 and Exhibit B-4, BCUC 40.3

<sup>97</sup> Exhibit B-2, page 5-34

<sup>98</sup> Exhibit B-2, page 5-38. The amounts listed total \$25.8M of which \$0.8 M is recoverable from Telus.

<sup>99</sup> Recent analysis (page 5-57) suggests that an optimal level of ROW clearing would be 6,700 hectares per year.

The F2022 transmission budget seeks to address immediate needs in terms of the backlog in uncleared hectares (6,900 vs. the 6,700 optimal level<sup>100</sup>); hot spotting 43,000 trees (vs. the 40,000 long term sustainable level) and remove 15,000 high risk edge trees (slightly less than in previous years)<sup>101</sup>.

On the distribution side<sup>102</sup>, of the \$4.7 million increase to distribution vegetation management, approximately \$2 million will be allocated to hazard tree removal to address an increasing accumulation of hazard trees<sup>103</sup>. The remaining increase will be added to the existing pruning work planned on the system.

The Application also speaks to BC Hydro developing a new Vegetation Management Strategy which will be filed with its next RRA<sup>104</sup>.

Ideally, in BCOAPO's view, the new Vegetation Management Strategy would precede and serve as a guide for any significant increase in vegetation management spending such as that being proposed for F2022. However, BCOAPO notes that even at the increased level of spending proposed by BC Hydro it would take a few years to clear the accumulations on the Transmission and Distribution systems<sup>105</sup>. BCOAPO accepts the proposed level of spending on vegetation management for F2022 but submits that this level of spending should not be viewed as a benchmark or comparator for establishing the appropriate level of spending in future years. Rather, BCOAPO expects future spending to be guided by BC Hydro's forthcoming Vegetation Management Strategy and further expects that this strategy will be filed for and rigorously tested as part of BC Hydro's next revenue requirements application. BCOAPO also expects that BC Hydro's new Vegetation Management Strategy will also establish clear metrics for measuring both the cost effectiveness of its vegetation management activities and the impact its vegetation management activities are having on improving the reliability of its transmission and distribution systems.

### *Cybersecurity*

Cybersecurity is the practice of securing digital systems against unauthorized access and potential loss of data. BC Hydro has determined its requirement for additional resources and

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<sup>100</sup> Note: These values include both HV and LV transmission per page 5-57

<sup>101</sup> Pages 5-59 to 5-62

<sup>102</sup> Page 5-73

<sup>103</sup> Page 5-76

<sup>104</sup> Page 5-48 and Exhibit B-4, BCUC 1.32.8 & 1.32.9

<sup>105</sup> Exhibit B-4, BCUC 39.5 & BCUC 40.8 and Transcript Volume 1, page 27

funding in the Test Period with reference to the results of self-assessments performed according to widely recognized standards and models, internal audits and third-party assessments<sup>106</sup>.

The additional resources planned for cybersecurity as set out below<sup>107</sup>.

**Table 5-14 Additional Resources Required for Cybersecurity Function in Fiscal 2022**

Focus Area	FTE	Labour Funding (\$'000's)	Non-labour Funding (\$'000's)	Total Funding (\$'000's)
Cyber security enhancements for OT and ICS environments	1	205	960	1,165
Enhance identity and access management	1	165	110	275
Extend cybersecurity monitoring and detection	1	165	360	525
Enhanced training and awareness	-	-	100	100
Extend risk assessments and penetration testing	1	165	570	735
Enhance response and recovery plans	-	-	200	200
<b>Total</b>	<b>4</b>	<b>700</b>	<b>2,300</b>	<b>3,000</b>

Similar to BC Hydro's MRS activities, BCOAPO recognizes that information about cybersecurity is security sensitive, which limits the extent to which BC Hydro can discuss it publicly. BCOAPO understands that details regarding BC Hydro's program and budget including its plans to address the recommendations of the variations were provided during the confidential portion of the Review Session<sup>108</sup>. BCOAPO relies on BCUC Staff and, ultimately, the BCUC Panel to assess the reasonableness of the proposed F2022 budget for cybersecurity.

#### UNCONTROLLABLE COST INCREASES

Uncontrollable cost increases consist of<sup>109</sup>:

- a) Increased labour costs (\$38.3 M) due to changing discount rates for current service pension costs and a general wage increase for union employees mandated by existing union collective agreements. BC Hydro notes that pension benefits remain unchanged from the Previous Application and salaries for management and professional staff are frozen;

<sup>106</sup> Exhibit B-2, page 5-81

<sup>107</sup> Exhibit B-2, page 5-85

<sup>108</sup> BC Hydro Final Argument, pages 37-38

<sup>109</sup> Exhibit B-2, pages 5-12, 5-16 and 5-18

- b) Increased costs (\$3.7 M) for BCUC and Canada Energy Regulator Cost Recovery Levies to bring the fiscal 2022 forecast in line with actual fiscal 2021 levies; and
- c) Increased costs (\$6 M) for property, general liability, and Directors and Officers liability insurance coverage.

Current Service Costs account for the bulk of the increase in labour costs (\$33.6 M)<sup>110</sup>. This increase relates to BC Hydro's pension plan where costs are increasing primarily due to the 74 basis points decrease in the discount rate from 3.33 per cent in fiscal 2021 to 2.59 per cent in fiscal 2022. The discount rate is provided by BC Hydro's external actuary<sup>111</sup>. The general wage increase for union employees is 2%<sup>112</sup>.

Concerns were raised during the Review Session that the timing of the forecast (July 2020) used to establish the 2.59% correlates with what was the timing of a "low water mark" for bond yields in 2020 and that bond yields have gone up since then. BC Hydro acknowledged the point but noted that any differential between what's in the application and what actually incurs will go into the deferral account and will be repaid back to customers over the next test period<sup>113</sup>.

BCOAPO considers the significant change in the discount rate in the current Application relative to that used for the F2021 RRA to be, in no small part, due to the unprecedented circumstances caused by the current pandemic. BCOAPO also understands that the circumstances of the pandemic continue to be a source of uncertainty regarding the outlook for interest rates and the economy overall and that the impact of any variance in between the forecast used and the definitive discount rate for determining F2022 current service pension costs will be captured in the PEB Current Pension Costs Regulatory Account. Given these facts, BCOAPO has no issues with the "uncontrollable cost increases" BC Hydro has incorporated into the F2022 revenue requirement.

### OTHER COSTS

Other cost increases contributing to the increase in Base Operating costs are<sup>114</sup>:

- a) Employee Training (\$3.3 M) to provide additional employee training time for field crews so that BC Hydro meets its evolving safety requirements. This will provide an average

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<sup>110</sup> Exhibit B-2, page 5-16

<sup>111</sup> Exhibit B-2, pages 5-18 and 5-103

<sup>112</sup> Exhibit B-2, page 5-18

<sup>113</sup> Transcript Volume 1, pages 85-86

<sup>114</sup> Exhibit B-2, page 5-19

of an additional three-and-a-half training days per IBEW employee for a total of 13.5 days of training<sup>115</sup>.

- b) SAP Supply Chain Application incremental operating cost increase (\$1.7 M) to support and maintenance of application components and interfaces.
- c) EV Charging Infrastructure costs (\$1.7 M) as discussed above.

Largely offsetting these cost increases are savings/reductions in operating costs due to<sup>116</sup>:

- d) An increase in the costs eligible for capitalization (\$2.3 M).
- e) The in-housing of the reliability coordinator function previously carried out by Peak Reliability (\$1.6 M).
- f) A reduction in apprentice and trainee intakes (\$1.3 M). While apprentices and trainees do work on capital programs, the time that they spend on training is not able to be capitalized. Accordingly, when apprentices and trainees are reduced, there are some resultant operating cost savings<sup>117</sup>.
- g) A reduction in the rolling 5-year average cost for storm restoration used to forecast the test year's costs (\$0.5 M).
- h) A decrease operating expenses attributable to lease payments due to three property leases being reclassified to depreciation expense and finance charges (\$0.4 M).

With respect to the increase in training days required, BC Hydro notes that this relates specifically to IBEW employees and is driven by the growing mandatory safety and regulatory training requirements<sup>118</sup>. With respect to the SAP Supply Chain Application incremental operating costs, BCOAPO notes that the \$1.7 M is less than the \$3.1 M estimate in the project's Application for required sustainment costs in F2022<sup>119</sup>. BCOAPO has no issues with the proposed cost increases in either of these areas.

With respect to the identified savings/reductions, BCOAPO notes that while all five items represent reductions in operating expenses for F2022 only the in-housing of the reliability coordinator and the reduction in apprentice/trainee intakes can be viewed as true savings. The increased costs eligible for capitalization will eventually be recovered from rate payers through

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<sup>115</sup> Exhibit B-2, page 5-87 and Exhibit B-5, BCOAPO 1.40.1

<sup>116</sup> Exhibit B-2, pages 5-20 to 5-22

<sup>117</sup> Exhibit B-5, BCOAPO 28.3

<sup>118</sup> Exhibit B-2, page 5-86

<sup>119</sup> Exhibit B-5, RCIG 7.1

future amortization expense<sup>120</sup>. The decrease in operating expenses due to the reclassification of certain leases will increase depreciation expense and finance charges in the current year. Finally, in the case of storm restoration costs, the difference between forecast and actual cost will be deferred and eventually recovered from/refunded to customers<sup>121</sup>.

### LABOUR COSTS AND FTEs

The following table summarizes BCH's FTEs by area<sup>122</sup>.

										a	b	b-a
FTEs Including Regular and Overtime Hours	Fiscal 2012 Actual	Fiscal 2013 Actual	Fiscal 2014 Actual	Fiscal 2015 Actual	Fiscal 2016 Actual	Fiscal 2017 Actual	Fiscal 2018 Actual	Fiscal 2019 Actual	Fiscal 2020 Actual	Fiscal 2021 RRA	Fiscal 2022 RRA	Change F2021 - F2022
1 Operating	4,415	4,096	4,089	4,003	3,997	4,082	4,209	4,185	4,287	4,043	4,121	78
2 Capital	1,460	1,582	1,686	1,835	1,811	1,805	2,013	2,061	2,045	2,370	2,286	(84)
3 Deferred	377	350	325	293	250	161	162	171	170	164	166	2
4 Sub-total	6,252	6,008	6,101	6,131	6,058	6,148	6,385	6,416	6,501	6,576	6,573	(3)
5 SMI	80	118	111	85	69	-	-	-	-	-	-	-
6 Site C Project	56	82	92	97	107	167	226	322	445	472	504	32
7 Accenture Repatriation	-	-	-	-	-	-	-	428	428	428	428	-
<b>Total FTEs, Appendix A, Schedule 16 Line 53</b>	<b>6,388</b>	<b>6,208</b>	<b>6,303</b>	<b>6,312</b>	<b>6,234</b>	<b>6,315</b>	<b>6,611</b>	<b>7,161</b>	<b>7,369</b>	<b>7,471</b>	<b>7,500</b>	<b>29</b>
8 Total FTEs, Excluding Site C Project	6,332	6,126	6,211	6,215	6,127	6,148	6,385	6,839	6,924	6,999	6,996	(3)

May not add due to rounding

The sources for the increase in Operating FTEs are set out below<sup>123</sup>.

<sup>120</sup> Exhibit B-5, BCOAPO 27.2

<sup>121</sup> Exhibit B-5, BCOAPO 29.1

<sup>122</sup> Exhibit B-2, page 5-92

<sup>123</sup> Exhibit B-5, BCOAPO 1.42.1

Operating & Capital FTEs		FTEs	\$M
<b>Operating FTEs</b>			
1	Reliability Investments	44	6.4
	Mandatory Reliability Standards	22	3.6
	Vegetation Management	18	2.1
	Cybersecurity	4	0.7
2	Operations business group employee training hours resulting in a shift in work hours to operating from capital.	24	3.3
3	Approved Technology KBU workforce optimization conversions	6	-
4	Energy Studies team	1	0.3
5	Miscellaneous shift in FTEs <sup>1</sup>	5	-
6	Indigenous Relations - Functionalization shift <sup>2</sup>	(2)	-
7	<b>Operating - Total F2022 Incremental Operating Cost Impact</b>	<b>78</b>	<b>9.9</b>
<b>Capital FTEs</b>			
8	Reduction in apprentice and trainee intakes. <sup>3</sup>	(52)	(1.3)
9	Operations business group employee training hours resulting in a shift in work hours to operating from capital.	(24)	-
10	Approved Capital Infrastructure Project Delivery business group workforce optimization conversions.	(13)	-
11	Approved Operations business group workforce optimization conversions.	3	-
12	Miscellaneous shift in FTEs.	2	-
13	<b>Capital - Total F2022 Incremental Operating Cost Impact</b>	<b>(84)</b>	<b>(1.3)</b>
<b>Total F2022 Incremental Operating Cost Impact (line 7 + line 13)</b>		<b>(6)</b>	<b>8.6</b>

## **CAPITAL EXPENDITURES AND ADDITIONS**

The following tables set out the overall planned capital expenditures and additions for F2022 relative to previous years<sup>124</sup>.

<sup>124</sup> Exhibit b-2, pages 6-6 & 6-7

**Table 6-1 Actual and Planned Capital Expenditures  
(Fiscal 2020 to Fiscal 2022)<sup>126</sup>**

(\$ millions)	F2020		F2021		F2022
	RRA	Actual	RRA	Forecast	Plan
<b>Generation</b>					
Growth (Schedule 13, Line 1)	3.2	2.6	-	4.6	5.0
Sustaining (Schedule 13, Line 3)	341.8	302.5	435.5	346.6	393.4
<b>Total Generation</b>	<b>345.1</b>	<b>305.1</b>	<b>435.5</b>	<b>351.2</b>	<b>388.4</b>
Site C Project (Schedule 13, Line 8)	1,530.0	1,619.1	1,535.5	1,626.0	1,361.0
<b>Transmission</b>					
Growth (Schedule 13, Line 4)	185.0	159.6	198.9	101.2	142.9
Sustaining (Schedule 13, Line 5)	222.6	223.3	286.5	270.3	325.6
<b>Total Transmission</b>	<b>407.6</b>	<b>382.9</b>	<b>485.4</b>	<b>371.5</b>	<b>468.5</b>
<b>Distribution</b>					
Growth (Schedule 13, Line 6)	300.0	339.7	284.6	343.2	306.7
Sustaining (Schedule 13, Line 7)	187.5	176.2	176.8	175.9	219.3
<b>Total Distribution</b>	<b>487.5</b>	<b>515.9</b>	<b>461.4</b>	<b>519.1</b>	<b>526.1</b>
<b>Business Support</b>					
Technology (Schedule 13, Line 9)	95.6	133.0	56.0	71.2	69.2
Properties (Schedule 13, Line 10)	58.9	56.4	55.3	65.1	75.6
Fleet / Other (Schedule 13, Line 11)	63.6	59.0	75.1	82.0	70.3
<b>Total</b>	<b>2,988.3</b>	<b>3,071.4</b>	<b>3,104.1</b>	<b>3,086.0</b>	<b>2,959.0</b>
Less: Contribution in Aid	(157.8)	(178.8)	(148.4)	(159.7)	(214.2)
<b>TOTAL</b>	<b>2,830.5</b>	<b>2,892.6</b>	<b>2,955.7</b>	<b>2,926.4</b>	<b>2,744.8</b>

**Table 6-2 Actual and Planned Capital Additions  
(Fiscal 2020 to Fiscal 2022)**

(\$ millions)	F2020		F2021		F2022
	RRA	Actual	RRA	Forecast	Plan
<b>Generation</b>					
Growth	2.7	-	-	-	-
Sustaining	312.0	359.5	297.0	244.3	272.4
<b>Total Generation (Schedule 13, Line 13)</b>	<b>314.7</b>	<b>359.5</b>	<b>297.0</b>	<b>244.3</b>	<b>272.4</b>
Site C Project (Schedule 13, Line 17)	27.9	12.9	189.4	197.5	-
<b>Transmission</b>					
Growth	97.9	88.0	83.3	92.3	168.1
Sustaining	195.9	111.6	146.3	191.4	272.6
<b>Total Transmission (Schedule 13, Line 15)</b>	<b>293.8</b>	<b>199.7</b>	<b>229.6</b>	<b>283.7</b>	<b>440.7</b>
<b>Distribution</b>					
Growth	306.9	307.6	344.2	325.3	301.7
Sustaining	195.3	162.0	196.5	199.0	201.2
<b>Total Distribution (Schedule 13, Line 16)</b>	<b>502.2</b>	<b>469.6</b>	<b>540.7</b>	<b>524.3</b>	<b>502.9</b>
<b>Business Support</b>					
Technology (Schedule 13, Line 18)	147.6	93.7	75.5	143.4	94.3
Properties (Schedule 13, Line 19)	39.9	44.3	55.6	60.8	59.8
Fleet / Other (Schedule 13, Line 20)	64.9	56.4	71.3	74.4	75.2
<b>Total</b>	<b>1,391.0</b>	<b>1,236.1</b>	<b>1,459.1</b>	<b>1,528.3</b>	<b>1,445.2</b>
<b>Less: Contribution in Aid</b>	<b>(146.1)</b>	<b>(140.5)</b>	<b>(165.8)</b>	<b>(165.7)</b>	<b>(187.2)</b>
<b>TOTAL</b>	<b>1,244.9</b>	<b>1,095.6</b>	<b>1,293.2</b>	<b>1,362.7</b>	<b>1,258.0</b>

In its Final Argument<sup>125</sup> BC Hydro makes the point that its planned capital expenditures and additions for F2022 are lower than those planned for F2021. However, BCOAPO notes that, if one excludes Site C, total capital expenditures and capital additions for F2022 are higher than those in either F2020 or F2021.

### GENERATION

For Generation, both capital spending and capital additions are concentrated in the areas of Dam Safety and Sustaining-Other.

In the case of Dam Safety, capital additions are less than 10% of total Generation Additions. However, capital expenditures are 25% of the total where a significant portion of fiscal 2022 expenditures in this category can be attributed to the early design progression of a number of

<sup>125</sup> Page 41

large projects, including: Strathcona – Upgrade Discharge, John Hart Dam Seismic Upgrade, Bridge River 1 – Improve Slope Drainage, and Various Sites - Reservoir Booms Replacement<sup>126</sup>.

In the case of Sustaining-Other, both capital expenditures and capital additions for F2022 exceed the actual values for F2020 and the forecast values for F2021. These investments are driven by the need to address issues and risks with existing facilities<sup>127</sup>.

In the Application BC Hydro did not include descriptions of projects with capital expenditures greater than \$20 million (i.e., Appendix J in the Previous Application). There are eight generation projects that have total planned capital expenditures greater than \$20 M (the materiality threshold for inclusion in Appendix J) and have planned capital expenditures or additions in F2022 that were not included in Appendix J of the previous Application. In response to the information requests, project summaries were provided for all eight<sup>128</sup>. BCOAPO notes that only two of the projects<sup>129</sup> have capital additions that will impact the F2022 revenue requirement. In both cases the project summaries provided explain the need and choice of alternatives<sup>130</sup>.

BCOAPO has no issues with BC Hydro's generation-related F2022 capital expenditures or capital additions.

## TRANSMISSION

For transmission, capital expenditures in each of the areas of Growth, Sustainment-Stations and Sustainment-Lines are in line with those included in the F2021 RRA<sup>131</sup>.

However, in the case of capital additions the F2022 amounts in all three areas are higher than those in the F2021 Application<sup>132</sup>.

- Transmission Growth capital additions increase from \$97.9 million planned in fiscal 2020 and \$85.3 million planned in fiscal 2021 to \$323.1 million planned in fiscal 2022 primarily due to the forecast completion of the Peace Region Electric Supply project and the MIN to LNG Canada Interconnection project, with the later partially offset by a Contribution in Aid.

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<sup>126</sup> Exhibit B-2, page 6-26

<sup>127</sup> Exhibit B-2, Appendix S, page 20 of 92

<sup>128</sup> Exhibit B-4, BCUC 43.1

<sup>129</sup> Exhibit B-2, Appendix I: Mica Upgrade 600V Circuit Breakers and Bridge River 2-Strip and Recoat Penstock 2 Interior

<sup>130</sup> Exhibit B-4, BCUC 43.1, Attachments 3 & 9

<sup>131</sup> Exhibit B-2, page 6-33

<sup>132</sup> Exhibit B-2, page 6-34 – 6-35

- Transmission Sustain capital additions increase from \$217.9 million planned in fiscal 2020 and \$234.3 million planned in fiscal 2021 to \$272.6 million planned in fiscal 2022 primarily due the forecast completion of the 2L13/14 Circuit Refurbishments Overhead Lines Life Extension project, the Williston Station Service Transfer & AC Panels Stations Auxiliary Equipment project and the Barnard 50/60 Feeder Section Replacement Other Power Equipment project.

There are seven transmission projects that have total planned capital expenditures greater than \$20 M (the materiality threshold for inclusion in Appendix J) and have planned capital expenditures or additions in F2022 that were not included in Appendix J of the previous Application. In response to the information requests, project summaries were provided for all seven<sup>133</sup>. BCOAPO notes that none of the projects have capital additions that will impact the F2022 revenue requirement.

BCOAPO has no issues with BC Hydro's transmission-related F2022 capital expenditures or capital additions.

## DISTRIBUTION

Distribution capital expenditures increase from \$487.5 million planned in fiscal 2020 and \$461.4 million planned in fiscal 2021 to \$526.1 million planned in fiscal 2022 primarily due to an increase in larger distribution customer projects and an increase in Overhead Equipment Asset Replacements. The increase in Overhead Equipment Asset Replacements is due to the LED Street Light Conversion project and the need to address equipment on the overhead system with PCB (polychlorinated biphenyl) levels at or above 50 ppm. The increase in distribution customer projects is offset by increased Contributions in Aid. Overall, once capital contributions are accounted for net capital expenditures in F2022 for Distribution are in line with those for previous years<sup>134</sup>.

Distribution Growth capital additions will increase from \$306.9 million planned in fiscal 2020 to \$344.2 million planned in fiscal 2021 and then decrease to \$301.7 million planned in fiscal 2022. This is primarily due to the expected completion of a number of voltage conversion projects throughout the Lower Mainland as well as an increase in the number of larger distribution customer projects, offset by Contributions in Aid<sup>135</sup>.

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<sup>133</sup> Exhibit B-4, BCUC 43.1

<sup>134</sup> Exhibit B-2, page 6-59

<sup>135</sup> Exhibit B-2, page 6-60

Distribution Sustain capital additions (\$201.2 M) are relatively stable compared to the prior test periods (i.e., \$195.3 million planned in fiscal 2020 and 195.4 M planned in fiscal 2021<sup>136</sup>).

There are two distribution projects that have total planned capital expenditures greater than \$20 M (the materiality threshold for inclusion in Appendix J) that have planned capital expenditures or additions in F2022 and were not included in Appendix J of the previous Application. In response to the information requests, project summaries were provided for one of the two projects<sup>137</sup>. However, BCOAPO notes that none of the projects have capital additions that will impact the F2022 revenue requirement.

BCOAPO has no issues with BC Hydro's distribution-related F2022 capital expenditures or capital additions.

### **OTHER CAPITAL REQUIREMENTS**

Spending and additions in Technology is generally in line with that in the past<sup>138</sup>.

In the case of Properties planned capital spending is higher than in previous years due to the commencement of several Building development projects. Capital additions for Properties are planned to be similar to fiscal 2021, and higher than fiscal 2020 due to the planned completion of several Building Development projects in fiscal 2021 and fiscal 2022<sup>139</sup>.

Capital spending and additions for Fleet are in line with previous years<sup>140</sup>.

BCOAPO has no issues with the F2022 capital expenditures or capital additions in these areas.

### **REGULATORY ACCOUNTS**

#### **COST OF ENERGY VARIANCE ACCOUNTS**

BC Hydro has five Cost of Energy Variance Accounts that capture the differences between forecast and actual revenues and costs for recovery or refund to ratepayers in future periods: the Heritage Deferral Account, the Non-Heritage Deferral Account, the Load Variance Regulatory Account, the Biomass Energy Program Variance Regulatory Account, and the Trade Income Deferral Account.

#### *Recovery Mechanism*

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<sup>136</sup> Exhibit B-2, page 6-60

<sup>137</sup> Exhibit B-4, BCUC 43.1. A project summary was provided for the Vancouver Island Submarine Cable Extension but not the Downtown Vancouver Underground Feeder project.

<sup>138</sup> Exhibit B-2, page 6-72

<sup>139</sup> Exhibit B-2, page 6-80

<sup>140</sup> Exhibit B-2, page 6-82

BC Hydro is proposing to return to the DARR table mechanism to recover the balances in the Cost of Energy Variance Accounts going forward. For purposes of applying the table BC Hydro proposes to determine the level of the DARR based on the forecast net balance of the Cost of Energy Variance Accounts at the end of the preceding fiscal year<sup>141</sup>. The DARR table is provided below<sup>142</sup>.

**Table 7-1 Deferral Account Rate Rider Table Mechanism**

Forecast Net Balance at the end of the Preceding Fiscal Year		% Rate Rider Effective Following April 1
> \$ million	<= \$ million	
-	(500)	(5.0)
(500)	(450)	(4.5)
(450)	(400)	(4.0)
(400)	(350)	(3.5)
(350)	(300)	(3.0)
(300)	(250)	(2.5)
(250)	(200)	(2.0)
(200)	(150)	(1.5)
(150)	(100)	(1.0)
(100)	(50)	(0.5)
(50)	0	0.0
0	50	0.0
50	100	0.5
100	150	1.0
150	200	1.5
200	250	2.0
250	300	2.5
300	350	3.0
350	400	3.5
400	450	4.0
450	500	4.5
500	-	5.0

BC Hydro believes that the DARR table mechanism continues to provide a principled and structured approach to clearing the net balances in the Cost of Energy Variance Accounts in a reasonable and transparent manner and meets the following objectives:

1. Minimize intergenerational inequity by being responsive to the changing net balance in the Cost of Energy Variance Accounts;
2. Maintain rate stability for customers to the extent practicable; and
3. Be administratively simple and transparent.

<sup>141</sup> Exhibit B-2, page 7-3

<sup>142</sup> Page 7-5

BC Hydro estimates that use of the DARR table will result in the Cost of Energy Variance Account balances typically being amortized over a period of 4-6 years<sup>143</sup>.

BC Hydro acknowledges that it did not consider other mechanisms to recover or refund the balances in the Cost of Energy Variance Accounts<sup>144</sup> or consider options for flexibility in applying the table when/if proposed rate increases varied materially from inflation<sup>145</sup>. However, BC Hydro has also acknowledged that there may be unique circumstances in the future that could warrant a departure from the DARR table mechanism as proposed. Either BC Hydro could propose such a deviation in the Revenue Requirements Application, and/or intervenors could propose a deviation in the course of the proceeding. The BCUC may choose to approve, deny or alter BC Hydro's DARR proposal and/or the DARR mechanism in any such application<sup>146</sup>.

BCOAPO has no issues with the use of the DARR mechanism as the primary approach to clearing the net balances in the Cost of Energy Variance Accounts. However, BCOAPO submits that it is important that the BCUC's approval be worded such that BC Hydro, other parties and future BCUC Panels do not interpret the approval as precluding the consideration of other approaches particularly in cases where the general rate increase departs materially from either inflation or expectations regarding general rate increases that will be required in subsequent years.

In BCOAPO's view, use of the forecast balance for the previous year seems reasonable as it uses the most up to date information and will therefore (hopefully) help manage the overall balance better.

#### *Trade Income*

In F2020, actual Trade Income was \$13 million higher than the F2020 RRA Plan. BC Hydro deferred this favorable variance to the Trade Income Deferral Account to the benefit of ratepayers and for inclusion in the determination of the Deferral Account Rate Rider (DARR). For F2021, BC Hydro is not forecasting any variance to plan with respect to Trade Income and therefore has not forecast additions to the Trade Income Deferral Account<sup>147</sup>.

#### AMORTIZATION OF CAPITAL ADDITIONS REGULATORY ACCOUNT

In accordance with Directive 36 from the BCUC's Decision on the Previous Application, BC Hydro is conducting a depreciation study which is expected to be completed during fiscal 2022. Any

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<sup>143</sup> Exhibit B-5, BCSEA 1.13.1

<sup>144</sup> Exhibit B-4, BCUC 1.55.1

<sup>145</sup> Exhibit B-5, BCOAPO 1.63.1

<sup>146</sup> Exhibit B-5, AMPC 1.5.2.2 and Exhibit B-4, BCUC 1.55.4

<sup>147</sup> Exhibit B-2, pages 7-2 to 7-3

asset useful life and salvage value percentage changes recommended in the study are required to be recognized in BC Hydro's financial statements prospectively in the period of the change and future periods. Accordingly, any such changes will result in variances in depreciation expenses in fiscal 2022. The magnitude of these impacts could be positive or negative, are not yet known and will not be known until the depreciation study is complete.

BC Hydro is proposing to defer the variances arising in fiscal 2022 as a result of any changes determined in the depreciation study, positive or negative, to the Amortization of Capital Additions Regulatory Account, for recovery in the next test period consistent with other balances in that account<sup>148</sup>. This means that the amounts will be amortized evenly over each year of the next test period<sup>149</sup>.

BCOAPO has no issues with BC Hydro's proposal to defer any variances arising as a result of any changes determined in the depreciation study to the Amortization of Capital Additions Regulatory Account.

However, BCOAPO does have an issue regarding the proposal to recover the amount over each year of the next test period. Based on the submissions<sup>150</sup> recently made in proceeding regarding BC Hydro's PBR report, the test period (i.e., the number of years) is a contentious matter that may not be settled until the BCUC makes its decision regarding BC Hydro's next rate application. Given this uncertain, it is BCOAPO's submission that the decision regarding the recovery period should be deferred until BC Hydro's next rate application.

#### DISMANTLING COST REGULATORY ACCOUNT

The Dismantling Cost Regulatory Account was established to capture variances between forecast and actual dismantling costs.

As dismantling costs have been increasing, the BCUC's F2020&F2021 RRA Decision directed BC Hydro to provide, in its next Revenue Requirements Application, an assessment of whether its current practice of expensing dismantling costs as they occur would result in intergenerational inequity, and options on how BC Hydro could calculate and collect dismantling costs to better promote intergenerational equity. Given the intergenerational equity concerns, the BCUC also directed BC Hydro to include, in the depreciation study, a net salvage study and to report on the results and recommendations, as well as BC Hydro's plan to implement those recommendations.

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<sup>148</sup> Exhibit B-2, pages 7-6 to 7-7

<sup>149</sup> Exhibit B-4, BCUC 1.56.3

<sup>150</sup> March 22, 2021 Transcript, pages 282-283; 286-287; 290; 292; 294; 296; 301; 306-307.

As directed by the BCUC, BC Hydro is including a net salvage study in the depreciation study. In addition, BC Hydro is requesting that the depreciation study consultant review BC Hydro's current method and other methods of recovering dismantling costs and provide a recommendation for methods appropriate for BC Hydro that may better promote intergenerational equity. As a result, BC Hydro proposes that the next RRA would be the appropriate time to consider this matter, after the depreciation and net salvage study is complete and filed with the BCUC.

In the interim, BC Hydro requests BCUC approval to continue to defer any variances between forecast and actual dismantling costs in fiscal 2022 to the Dismantling Cost Regulatory Account; continue to apply interest to the balance of the account each year based on BC Hydro's current weighted average cost of debt; continue to recover the forecast interest charged to the account each year from the account each year; and, continue to recover the forecast account balance at the end of a test period over the next test period.

BCOAPO has no issues with BC Hydro's proposal as it pertains to F2022.

#### PROJECT COSTS WRITE-OFF REGULATORY ACCOUNT

In its Decision regarding BC Hydro's F2020&F2021 RRA the BCUC indicated it was willing to consider a regulatory account to capture actual project write-off costs "provided that in future RRAs BC Hydro also lists all of the projects and costs that have been written-off and captured in the regulatory account along with a description of each project, the rationale for incurring the costs and the rationale for the decision to not continue with the project"<sup>151</sup>. Subsequently, in Order G-337-20 the BCUC approved the establishment of the new Project Write-off Costs Regulatory Account to capture actual project write-off costs where BC Hydro believes future recovery from ratepayers is appropriate.

BC Hydro has provided a listing and description of the amounts that have been written-off in fiscal 2020 for which BC Hydro believes recovery from ratepayers is appropriate. BC Hydro has captured these amounts in the Project Write-off Costs Regulatory Account. BC Hydro requests BCUC approval to recover amounts deferred to the Project Write-off Costs Regulatory Account in respect of completed fiscal years over the next test period, starting in fiscal 2022 and on an ongoing basis, subject to BCUC review and approval of the recovery of these amounts; apply interest to the balance of the account based on BC Hydro's current weighted average cost of debt;

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<sup>151</sup> Exhibit B-2, page 7-11

and, recover actual interest charged to the account for amounts related to any completed fiscal years over the next test period.<sup>152</sup>

Actual write-off costs in F2020 were \$11.9 M (net of customer contributions). BC Hydro has determined that it is not appropriate to recover \$2.6 M of this from ratepayers and has deferred \$9.3 M of these costs to the Project Write-off Costs Regulatory Account for recovery in F2022<sup>153</sup>. Details are provided in Appendix L of the Application. The bulk of the costs relate to the Metro North Transmission Project which has been cancelled due to a reduction in the load forecast which now indicates it is not needed until after 2029<sup>154</sup>.

BCOAPO has no issues with BC Hydro's proposed approach regarding the recovery of costs deferred to the Project Write-off Costs Regulatory Account or with the \$9.3 M of costs from F2020 that it proposes to recover in F2022.

#### ELECTRIC VEHICLE REGULATORY ACCOUNT

BC Hydro is requesting approval of an Electric Vehicle Costs Regulatory Account to recover, pursuant to section 18 of the *CEA*, its fiscal 2020 and fiscal 2021 costs related to Electric Vehicle charging stations that are prescribed undertakings as defined under section 5 of the *Greenhouse Gas Reduction (Clean Energy) Regulation (GGRR)*<sup>155</sup>. Further details have been provided above.

#### ROCK BAY REMEDIATION REGULATORY ACCOUNT

The Rock Bay Remediation Regulatory Account was established for the deferral of expenditures related to the remediation of the BC Hydro's Rock Bay property. Remediation of the Rock Bay property was completed in fiscal 2019 and BC Hydro is not forecasting the deferral of any further remediation costs to this account over the Test Period. Therefore, BC Hydro requests BCUC approval to close the Rock Bay Remediation Regulatory Account at the end of fiscal 2022 as its balance will be fully amortized into rates at that time<sup>156</sup>.

BCOAPO has no issues with BC Hydro's proposal to close this account at the end of F2022.

#### "COST OF CAPITAL STUDY" REGULATORY ACCOUNT<sup>157</sup>

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<sup>152</sup> Exhibit B-2, page 7-12

<sup>153</sup> Exhibit B-2-2, Appendix L, page 4

<sup>154</sup> Appendix L, page 5

<sup>155</sup> Exhibit B-2, page 7-12

<sup>156</sup> Exhibit B-2, page 7-14

<sup>157</sup> BC Hydro has not formally suggested a name for this account.

BC Hydro has amended the initial orders sought to also request a regulatory account to capture any variance between (a) the amount of net income reflected in the proposed rates for fiscal 2022 (\$712 million) and (b) the net income flowing from the BCUC's determination in the upcoming BC Hydro cost of capital proceeding<sup>158</sup>.

While details regarding the scope of BC Hydro's upcoming cost of capital study have not been provided, it is BCOAPO's expectation that it will address not only the appropriate ROE for BC Hydro but also the appropriate capital structure (i.e., deemed equity and debt components) to be used for purposes of determining the annual revenue requirement. In the current application BC Hydro has calculated the finance expense to be included in the revenue requirement using its total interest expense as the starting point and then making various adjustments related to regulatory accounts, capitalized interest during construction and other matters<sup>159</sup>. The overall effect is that for F2022 BC Hydro has effectively calculated finance (interest) expense based on its actual capital structure. The implication being the if the capital structure ultimately approved by the BCUC for purposes of setting BC Hydro's rates differs from BC Hydro's actual capital structure, then the decision regarding the cost of capital could also result in the finance expense allowed in the F2022 revenue requirement (as a result of the cost of capital study) being different from that currently reflected in the proposed rates.

Given this possible outcome, it is BCOAPO's submission that the scope of the proposed Regulatory Account should be expanded to include not only variances in net income but also variances in finance/interest expense for F2022 as between (a) the amounts reflected in the proposed rates for fiscal 2022 and (b) those flowing from the BCUC's determination in the upcoming BC Hydro cost of capital proceeding. It is not clear to BCOAPO that, in the case of finance charges, such variances would be captured in the existing Total Finance Charges Regulatory Account.

## **OTHER REVENUE REQUIREMENT ITEMS**

### **AMORTIZATION EXPENSE**

BC Hydro's forecast amortization expense includes<sup>160</sup>:

- The amortization of property, plant and equipment (capital assets) in service;

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<sup>158</sup> Exhibit B-4, BCUC 60.1 and BC Hydro's Final Argument, page 53

<sup>159</sup> Exhibit B-2, Appendix A, Schedule 8.0

<sup>160</sup> Exhibit B-2, page 8-1 to 8-2

- Amortization related to agreements that are recognized as leases in accordance with IFRS 16, Leases;
- Amortization of the following regulatory accounts:
  - DSM Regulatory Account;
  - Pre-1996 Contributions in Aid of Construction Regulatory Account; and
  - Amortization of Capital Additions Regulatory Account.

**Table 8-1 Amortization Expense**

(\$ million)	Schedule Reference	F2020 RRA	F2020 Actual	F2021 RRA	F2021 Forecast	F2022 Plan
1 Amortization of Capital Assets	7.0 L5	885.4	885.8	904.5	903.1	929.4
2 IPP Leases	7.0 L13+L14	88.9	89.3	90.1	89.9	90.8
3 Other Leases	7.0 L13	3.4	2.6	3.4	3.7	3.7
4 Total Gross Amortization	7.0 L17	977.8	977.7	998.0	996.8	1,023.7
5 Transfer to NHDA	7.0 L18	0.0	(0.4)	0.0	0.2	0.0
6 Regulatory Account Transfers	7.0 L22	(0.2)	0.4	(0.5)	1.1	0.0
7 Total Transfer to Deferral & Regulatory		(0.2)	0.1	(0.5)	1.3	0.0
<b>Regulatory Account Recoveries</b>						
8 DSM Amortization	7.0 L28	103.3	103.3	107.4	106.5	108.0
9 Pre-1996 CIAC Amortization	7.0 L32	5.1	5.1	5.1	5.1	5.1
10 Capital Additions Regulatory Account	7.0 L34	9.7	9.7	9.4	9.4	(2.1)
11 Regulatory Account Recoveries	7.0 L35	118.1	118.1	121.9	121.0	111.1
12 Total Current Amortization	7.0 L36	1,095.7	1,095.9	1,119.4	1,119.0	1,134.7

The increase for F2022 is primarily due to higher planned amortization of capital assets, which is driven by capital additions<sup>161</sup>.

Asset class depreciation rates used in the Application are the same as those previously approved by the BCUC, except for certain property, plant and equipment at the Burrard synchronous condense facility. The methodology for determining the depreciation rates for Burrard is the same as that used and approved in the Previous Application<sup>162</sup>. (Note: The response to CEC 1.54.1 confirmed that the depreciation rate should be 25% for all of the Burrard asset categories.)

BC Hydro is also seeking approval to amortize the assets within the infrastructure rights asset class over a 35-year useful life in fiscal 2022, consistent with the treatment approved for fiscal 2020 and fiscal 2021. BC Hydro expects its upcoming depreciation study to address the expected useful life of infrastructure rights<sup>163</sup>.

<sup>161</sup> Exhibit B-2, page 8-2

<sup>162</sup> Exhibit B-2, page 8-5

<sup>163</sup> Exhibit B-2, pages 8-3 and 8-5

Finally, BC Hydro is seeking approval to amortize the costs of EV charging stations over a 10-year useful life based on manufacturer recommendations. In its next RRA, BC Hydro will request approval for a depreciation rate for EV charging stations based on the rate recommended in the depreciation study<sup>164</sup>.

Subject to the BCOAPO's submissions regarding EV charging stations above, BCOAPO has no issues with the BC Hydro's proposed depreciation rates for F2022 or the resulting amortization expense.

### RETURN ON EQUITY

BC Hydro's return on equity is no longer prescribed by Direction No. 8 and BC Hydro plans to file a cost of capital application in fiscal 2022 to recommend an appropriate return on equity.

Until a return on equity is set, BC Hydro continues to forecast its return on equity to collect sufficient revenue to achieve an annual rate of return on deemed equity to yield a distributable surplus of \$712 million for fiscal 2022 based on 30 per cent deemed equity, as prescribed by section 3 of Direction No. 8 for fiscal 2020 and fiscal 2021<sup>165</sup>.

In response to BCUC 1.60.1 BC Hydro states:

“Noting the BCUC's desire for an expedited process for the Application, BC Hydro proposes the establishment of a regulatory account which could capture any variance (for future recovery from or refund to customers) between BC Hydro's proposed \$712 million amount and any different amount subsequently determined by the BCUC in respect of fiscal 2022.”

BCH has indicated that the \$712 M means represents an ROE of 10.04% based on its deemed equity percentage of 30% per Direction No. 8 (Exhibit B-2-2, Appendix A, Schedule 9, line 31). BC Hydro has also indicated that using the common equity component of 38.5 per cent and the return on equity (ROE) of 8.75 per cent for the benchmark utility, FEI, would yield a net income of \$796 M<sup>166</sup>.

In BCOAPO's view the problem with both of these calculations is that they ignore the fact the using a capital structure with a higher equity component than BC Hydro's actual capital structure effectively reduces the “deemed” debt component to something less than BC Hydro's actual debt

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<sup>164</sup> Exhibit B-9, Undertaking #19

<sup>165</sup> Exhibit B-2, page 8-6

<sup>166</sup> Exhibit B-4, 60.4

and would therefore likely result in a reduction in BC Hydro’s allowed interest expense (finance charges) as noted above.

The proposed finance/interest expense for F2022 is based on BC Hydro’s actual capital structure<sup>167</sup>. Taking a similar approach for ROE and using the average shareholder equity for F2022 along with the \$712 M in net income translates into an ROE in excess of 10%<sup>168</sup>. In BCOAPO’s view this level of excessive<sup>169</sup>. However, absent a cost of capital study, BCOAPO is not in a position to recommend what would be an appropriate ROE other than to observe it should be lower.

Overall, BCOAPO is willing to accept the proposed \$712 M in net income as a “placeholder” for purposes of setting F2022 rates subject to the BCUC adopting its BC Hydro’s proposal for a “Cost of Capital Study” Regulatory Account and the scope of the Account being expanded per BCOAPO’s submissions above.

## FINANCING COSTS

Finance charges are primarily comprised of interest charges on BC Hydro’s debt. In addition, finance charges include interest related to leases recognized as lease obligations under IFRS 16, Leases and non-current pension costs. Total finance charges are calculated net of sinking fund income, finance charges capitalized to unfinished construction (interest during construction) and interest applied to regulatory accounts<sup>170</sup>.

The financing costs per the Application are set out below<sup>171</sup>:

**Table 8-4 Finance Charges**

(\$ million)	Schedule Reference	F2020	F2020	F2021	F2021	F2022
		RRA	Actual	RRA	Forecast	Plan
		1	2	3	4	5
1 Total Gross Finance Charges	8.0 L1	874.9	1,656.8	743.3	651.5	555.6
2 Total Finance Charge Reg. Acct Additions	8.0 L21	0.0	(0.9)	0.0	76.6	0.0
3 Other Regulatory Account Additions	8.0 L3-10+L32	(119.8)	(803.1)	(18.8)	(201.8)	(11.9)
4 Interest on Regulatory Accounts	8.0 L25	(17.7)	(16.7)	(28.0)	(22.3)	(24.3)
5 Regulatory Account Recoveries	8.0 L31	(1.7)	(100.3)	(2.8)	(108.3)	(85.2)
6 Total Current Finance Charges	8.0 L32	735.8	735.8	696.0	605.8	454.2

<sup>167</sup> Exhibit B-2, Appendix A, Schedule 8.0

<sup>168</sup> Exhibit 9, Undertaking #14

<sup>169</sup> BCOAPO notes that in Stage 1 of its Cost of Capital Decision (Order G-75-13) the BCUC set the benchmark ROE for FEI at 8.75% and in its Stage 2 Decision none of risk premiums established for the remaining utilities exceeded 100 basis points.

<sup>170</sup> Exhibit B-4, page 8-7

<sup>171</sup> Exhibit B-2, page 8-9

In term of debt costs:

- For existing debt, BC Hydro forecasts finance charges based on the actual cost of the debt;
- For debt that will be issued in the future that is unhedged, BC Hydro forecasts finance charges based on economic forecasts that are developed and provided by the Treasury Board of the Government of B.C. The most recent economic forecasts available at the time the finance charges forecast was prepared for the Application were as of July 2020; and
- For debt that will be issued in the future and has already been hedged, BC Hydro forecasts finance charges based on the current market forward rates at the time the forecast is prepared. Mark-to-market gains or losses on the hedges are recorded in the Debt Management Regulatory Account.

The forecast interest rates used for unhedged debt are<sup>172</sup>:

**Table 8-3 Forecast Interest Rates for Unhedged Debt and Forecast Foreign Exchange Rate**

	<b>F2022 Plan</b>
Canadian Short-term Interest Rate (%)	0.39
U.S. Short-term Interest Rate (%)	0.48
Canadian Long-term Interest Rate (%) – 10-year	1.91
U.S. Long-term Interest Rate (%)	1.97
US\$/C\$ Exchange Rate	0.7517

Source: Treasury Board Forecast, July 2020.

In the interrogatory responses BC Hydro provided an updated interest rate forecast<sup>173</sup>:

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<sup>172</sup> Exhibit B-2, page 8-8

<sup>173</sup> Exhibit B-5, CEC 1.56.1

	Fiscal 2022
Canadian Short-term Interest Rate (%)	0.24
U.S. Short-term Interest Rate (%)	0.28
Canadian Long-term Interest Rate (%) – 10-year	1.86
U.S. Long-term Interest Rate (%)	1.67
US\$/C\$ Exchange Rate	0.7630

CEC 1.56.1.2<sup>174</sup> asked for the financing cost to be recalculated using the updated interest rates. The result is summarized below:

(\$ million)	Schedule Reference	Recalculated		Per Application		Change	
		F2021 Forecast	F2022 Plan	F2021 Forecast	F2022 Plan	F2021 Forecast	F2022 Plan
Total Gross Finance Charges	8.0 L1	4	5	4	5	4	5
		948.0	550.3	951.5	555.6	(3.5)	(5.3)
Total Finance Charge Reg. Acct Additions	8.0 L21	78.3	0.0	76.6	0.0	1.7	0.0
Other Regulatory Account Additions	8.0 L3-L8+L22	(200.1)	(12.2)	(201.8)	(11.9)	1.8	(0.3)
Interest on Regulatory Accounts	8.0 L25	(22.3)	(24.2)	(22.3)	(24.3)	0.1	0.2
Regulatory Account Recoveries	8.0 L31	(108.3)	(67.0)	(108.3)	(65.2)	0.0	(1.8)
Total Current Finance Charges	8.0 L32	695.6	447.0	695.6	454.2	0.0	(7.2)

In its response BC Hydro notes:

- The table has only been recalculated for the components of finance charges impacted by forecast interest and exchange rates provided by the Treasury Board. For example, market forward interest rates that are used to forecast finance charges on future hedged debt issues have not been updated.
- Through the use of the Total Finance Charges regulatory account, ratepayers will only pay the actual costs BC Hydro incurs.

In order to facilitate a “new regulatory cycle” as of BC Hydro’s F2023 Application (which BCOAPO supports), the current proceeding has been streamlined. This streamlining has eliminated the opportunity for a second round of information requests. It has also eliminated the opportunity for BC Hydro to provide an “evidentiary update” in which BC Hydro would typically update for more recent actual results and available forecasts. Given these circumstances and the fact that any

<sup>174</sup> Exhibit B-5

variances in finance costs due to actual F2022 interest rates differing from those used in the Application will be captured in the Total Finance Charges Regulatory Account, BCOAPO has no issues with Current Finance Charge forecast used by BC Hydro.

## TAXES

The taxes included in the Application are set out below<sup>175</sup>:

**Table 8-5 Taxes**

(\$ million)	Schedule Reference	F2020 RRA	F2020 Actual	F2021 RRA	F2021 Forecast	F2022 Plan
		1	2	3	4	5
1 Grants in Lieu	6.0 L15	110.8	111.3	114.8	115.7	118.0
2 School Taxes	6.0 L18	138.3	137.5	148.8	138.3	145.0
3 Other	6.0 L17+L19+L20	0.8	0.9	0.8	0.8	0.8
4 Total Gross Taxes	6.0 L21	249.8	249.7	262.2	254.8	263.8
5 Transfer to NHCA	6.0 L22	0.0	0.0	0.0	0.0	0.0
6 Total Current Taxes	6.0 L23	249.8	249.7	262.2	254.8	263.8

BCOAPO has no issues with the provisions BC Hydro has included in its F2022 forecast revenue requirement for taxes.

## MISCELLANEOUS REVENUES

Miscellaneous revenues include revenues from amortization of contributions in aid of construction, lease and other revenues related to BC Hydro's purchase of the remaining two-thirds interest in the Waneta Dam from Teck Metals Ltd., external transmission revenues under the Open Access Transmission Tariff (OATT), meter/transformer rentals and power factor surcharges, late payment charges, building rentals, interconnections, Customer Crisis Fund rate rider revenues, and other revenues<sup>176</sup>.

**Table 8-6 Miscellaneous Revenues**

(\$ million)	Schedule Reference	F2020 RRA	F2020 Actual	F2021 RRA	F2021 Forecast	F2022 Plan
		1	2	3	4	5
1 Total Gross Miscellaneous Revenue	15.0 L36	240.8	247.3	247.0	243.7	255.4
2 Transfers to NHCA	15.0 L40	(3.1)	(1.3)	(3.5)	(3.5)	(15.5)
3 Transfers to Regulatory Accounts	15.0 L41	0.0	0.0	0.0	0.0	0.0
4 Total Current Miscellaneous Revenue	15.0 L42	237.5	246.0	243.8	240.2	239.9

As can be seen from the table, the revenues for F2022 are consistent with those in past years and BCOAPO has no concerns regarding the F2022 Plan amounts.

<sup>175</sup> Exhibit B-2, page 8-10

<sup>176</sup> Exhibit B-2, page 8-10

## INTER-SEGMENT REVENUES

Inter-Segment revenues include the following allocations:

- The allocation of business support costs to Powerex;
- The allocation of point-to-point transmission costs to Powerex under the 2020 Transfer Pricing Agreement between BC Hydro and Powerex; and
- The allocation of point-to-point transmission costs to BC Hydro under the 2020 Transfer Pricing Agreement between BC Hydro and Powerex.

Total planned Inter-Segment revenues for fiscal 2022 are forecast to increase by approximately \$12 million compared to the fiscal 2021 RRA Plan due to higher planned point-to-point charges as a result of the increase in the point-to-point transmission service rate under the OATT and higher transmission reservations<sup>177</sup>.

**Table 8-7 Inter-Segment Revenues**

(\$ million)	Schedule Reference	F2020 RRA	F2020 Actual	F2021 RRA	F2021 Forecast	F2022 Plan
		1	2	3	4	5
1 Powerex - Corporate Allocation	3.0 157	(2.0)	(2.0)	(2.0)	(2.0)	(2.0)
2 Mark to Market Losses (Gains)	3.0 158	(1.4)	0.8	0.0	(0.3)	0.0
3 Powerex PTP Charges	3.0 159	(41.5)	(40.8)	(34.0)	(21.3)	(34.4)
4 BC Hydro PTP Charges	3.0 160	(19.1)	(20.1)	(35.0)	(63.8)	(48.3)
5 Total Current Inter-Segment Revenues	3.0 161	(64.0)	(72.0)	(71.0)	(97.4)	(83.5)

BCOAPO has no issues with the F2022 Plan amounts forecasted.

## SUBSIDIARY NET INCOME

Subsidiary net income includes Trade Income for Powerex Corp. (Powerex) and the net income of Powertech Labs (Powertech).

BC Hydro's approach to forecasting Trade Income is unchanged from the Previous Application. In the Test Period, Trade Income is forecast at \$190.1 million in fiscal 2022 (net of BC Hydro's allocation of business support costs), and is calculated based on an average of actual Trade Income over the last five years (i.e., fiscal years 2016 through 2020)<sup>178</sup>.

<sup>177</sup> Exhibit B-2, page 8-11

<sup>178</sup> Exhibit B-2, page 8-12

**Table 8-8 Subsidiary Net Income**

(\$ million)	Schedule Reference	F2020 RRA	F2020 Actual	F2021 RRA	F2021 Forecast	F2022 Plan
		1	2	3	4	5
1 Powerex Trade Income	1.0 L18	(178.3)	(180.2)	(178.3)	(178.2)	(180.1)
2 Powertech Net Income	1.0 L19	(3.4)	(3.4)	(3.7)	0.0	(2.0)
3 Total Gross Subsidiary Net Income	1.0 L20	(179.7)	(183.7)	(179.0)	(178.2)	(182.1)
4 Deferral Account Additions	2.1 L17	0.0	88.7	0.0	0.0	0.0
5 Deferral Account Recoveries	2.1 L18	(150.5)	(154.2)	(109.8)	(109.8)	0.0
6 Total Current Subsidiary Net Income	3.0 L65-L68	(330.2)	(248.2)	(288.7)	(288.0)	(182.1)

As the DARR is proposed to be set at 0 per cent for fiscal 2022, deferral account recoveries are zero for fiscal 2022 (i.e., line 5 above), resulting in a decrease in total current subsidiary net income.

BCOAPO notes that the Powerex Trade Income forecast is based on the actual values for the five most recent available years – consistent with the BCUC determinations<sup>179</sup> in the Decision accompanying Order G-246-20.

## PROVISIONS AND OTHER

A summary of the forecast F2022 values and past values is set out below:

Provisions & Other - Total Company (\$ million)												
Line	Column	Reference	F2017	F2018	F2019	F2020			F2021			F2022
			Actual	Actual	Actual	RRA	Actual	Diff	RRA	Forecast	Diff	Plan
			1	2	3	4	5	6 = 5 - 4	7	8	9 = 8 - 7	10
<b>Provisions &amp; Other - By Category</b>												
9	Gain/loss on Capital and Intangible Assets		61.8	69.4	60.7	43.9	47.0	3.2	46.8	46.7	(0.0)	50.0
	Gain/Loss on Project Write-offs		0.0	0.0	0.0	0.0	15.3	15.3	0.0	0.0	0.0	0.0
10	Real Property Sales		(10.0)	(10.0)	(10.0)	0.0	(10.0)	(10.0)	0.0	0.0	0.0	0.0
11	Bank Fees and Other Charges		5.1	5.3	5.5	5.5	6.0	0.5	5.6	5.9	0.3	6.0
12	Dismantling Expenses		30.9	35.7	30.6	67.0	67.0	0.0	43.0	43.0	(0.0)	45.5
13	EPA Terminations		0.4	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14	Other Provisions		(5.1)	10.8	7.0	0.0	3.4	3.4	0.0	0.0	0.0	0.0
15	First Nations Provisions		0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16	Total		83.0	115.2	95.9	116.4	128.7	12.4	95.4	95.6	0.2	101.4
<b>Regulatory Account Recoveries</b>												
17	PCB Remediation		18.3	18.9	15.3	22.5	22.5	(0.0)	22.7	22.7	0.0	53.1
18	Asbestos Remediation		24.4	16.6	15.3	9.1	9.1	(0.0)	6.4	6.4	0.0	5.0
19	Dismantling Cost		0.0	0.0	0.0	25.5	25.5	(0.0)	24.6	24.6	0.0	(3.3)
20	Rock Bay Remediation		(3.8)	(3.2)	0.0	(10.8)	(10.8)	(0.0)	(10.4)	(10.4)	0.0	(0.1)
21	Arrow Water Divestiture Costs		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22	Arrow Water Provision		0.3	1.8	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
23	Rate Smoothing		(201.2)	(326.2)	814.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
24	Project Write-Off Costs		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.3
25	Total		(162.0)	(292.2)	848.6	46.3	46.3	(0.0)	43.3	43.3	0.0	63.9
26	Total Current Provisions & Other	L16 + L25	(79.0)	(177.0)	944.4	162.6	175.0	12.4	138.7	138.9	0.2	165.3

Provisions and Other are forecast to increase by approximately \$27 million compared to the fiscal 2021 RRA Plan primarily due to higher regulatory account recoveries in the Remediation Regulatory Account and in the Project Write-off Costs Regulatory Account. These increases in

<sup>179</sup> Page 163

recoveries were partially offset by lower regulatory account recoveries in the Dismantling Cost Regulatory Account. In addition, the refund of the credit balance in the Rock Bay Remediation Regulatory Account was completed in fiscal 2021.

BCOAPO has no issues with the amounts BC Hydro has included in the F2022 revenue requirement determination for Provisions and Other.

### **TRANSMISSION REVENUE REQUIREMENT**

BC Hydro is seeking approval for changes to the OATT (Open Access Transmission Tariff) rates effective April 1, 2021. The rates charged under the OATT are designed to collect the Transmission Revenue Requirement (TRR) – which is the sum of all costs used to provide transmission service under the OATT. The methodology used to calculate the TRR in the current Application is consistent with that used by BC Hydro (and BCTC) in previous Applications<sup>180</sup>. Calculation of the TRR is summarized below<sup>181</sup>:

**Table 9-1 Transmission Revenue Requirement**

		F2020 RRA (\$ million)	F2020 Actual (\$ million)	F2021 RRA (\$ million)	F2021 Forecast (\$ million)	F2022 Plan (\$ million)
		1	2	3	4	5
1	Operating Cost	219.4	206.4	220.5	226.2	245.5
2	Provisions and Other	33.8	48.7	37.3	37.8	62.8
3	Taxes	157.6	158.4	163.7	163.1	167.0
4	Amortization	233.5	234.4	236.1	233.9	239.2
5	Finance Charges	243.9	243.0	227.6	226.8	148.3
6	Allowed Net Income	236.1	232.8	232.9	225.2	232.5
7	Business Support Cost	203.3	207.2	210.0	207.0	248.6
8	Internal Allocations to Transmission					
9	Generation Ancillary Services	2.8	2.1	2.8	2.8	2.5
10	Transmission Capitalized Overhead	(16.1)	(16.1)	(16.3)	(15.6)	(16.6)
11	Gross Transmission Costs	1,314.4	1,311.6	1,314.7	1,307.2	1,329.8
12	Less Internal Allocations from Transmission					
13	Generation Related Transmission Assets	(43.3)	(43.3)	(43.3)	(43.3)	(43.3)
14	Generation Real Time Dispatch	(2.4)	(2.4)	(2.4)	(2.4)	(3.1)
15	Distribution Real Time Dispatch	(20.6)	(20.8)	(21.0)	(20.9)	(26.3)
16	Substation Distribution Assets	(125.6)	(127.0)	(127.4)	(145.8)	(150.4)
17	Less Miscellaneous Revenues					
18	FortisBC Inc. General Wheeling Agreement	(5.2)	(5.2)	(5.3)	(5.3)	(5.3)
19	Secondary Revenues	(6.0)	(7.1)	(6.2)	(6.9)	(7.1)
20	Interconnections	(2.2)	(6.4)	(2.2)	(4.6)	(2.3)
21	Amortization of Contributions	(14.6)	(14.6)	(15.0)	(14.8)	(11.0)
22	NLT Supplemental Charges	(2.3)	(2.3)	(2.3)	(2.4)	(2.4)
23	Subtotal	(222.1)	(229.1)	(225.0)	(246.2)	(251.2)
24	Transmission Revenue Requirement	1,092.3	1,087.7	1,089.6	1,061.0	1,078.6

BC Hydro Fiscal 2022

<sup>180</sup> Exhibit B-2, pages 9-1 to 9-2

<sup>181</sup> Exhibit B-2, page 9-5

BCUC 1.65.5<sup>182</sup> noted that, in each of the past two years, interconnections revenue has been higher than the \$2.2 M forecast and asked if the F2021 revenue forecast of \$2.3 M should be increased. BC Hydro explained that it forecasts interconnections revenue based on active studies and anticipated studies, which are based on discussions with customers who have indicated that they will be requesting a study in the upcoming fiscal year and that volume and cost/revenue of studies completed in the previous fiscal year(s) is not an indicator of volume or cost/revenue of future study requests (i.e., interconnection revenue).

It is not clear to BCOAPO whether the differences between forecast actual interconnections revenues are captured in one of BC Hydro’s existing Regulatory Accounts or not. If not then, given the apparent difficulty in forecasting these revenues and the fact they are beyond the control of BC Hydro (i.e., based on customer requests and requirements), the BCUC should direct BC Hydro report back in its F2023 Application as to the pros/cons of doing so.

The OATT rate for Point to Point (PTP) service (\$/MW/h) is calculated using the following formula<sup>183</sup>:

$$\text{PTP Rate} = \frac{(\text{TRR} - \text{Ancillary Services Revenue})}{(\text{Maximum Capacity Supply})}$$

The derivation of the F2022 rate is set out below<sup>184</sup>:

**Table 9-6 Calculation of the PTP Transmission Service Rate**

		Reference	F2020 RRA (\$ million)	F2020 Actual (\$ million)	F2021 RRA (\$ million)	F2021 Forecast (\$ million)	F2022 Plan (\$ million)
			1	2	3	4	5
1	TRR	Schedule 3.4 L29	1,092.3	1,087.7	1,089.6	1,061.0	1,078.6
2	Less Ancillary Services	Schedule 3.4 L36 to L39	(6.9)	(5.7)	(7.0)	(6.9)	(6.4)
3	Net TRR	Schedule 3.4 L40	1,085.4	1,082.0	1,082.7	1,054.1	1,072.2
4	Maximum Capacity Supply (MW)	Schedule 3.4 L.41	13,279	13,279	13,279	13,279	13,596
5	Annual Billing Determinants (MW month)	L4 x 12 months	159,348	159,348	159,348	159,348	163,152
6	PTP Rate (\$/MW Month)	L3 X 1,000,000/L5 = Schedule 3.4 L43	6,811.71	6,540.80	6,794.28	6,615.27	6,571.79

<sup>182</sup> Exhibit B-4

<sup>183</sup> Exhibit B-4 BCUC 1.66.4

<sup>184</sup> Exhibit B-2, page 9-23

BC Hydro notes that the “Maximum Capacity Supply” for F2022 has increased primarily due to improvements related to certain generating facilities connected to the integrated system which are expected to be completed in fiscal 2022<sup>185</sup>.

The F2022 PTP volume forecast is set out below:

	Schedule Reference	F2020 RRA	F2020 Actual	F2021 RRA	F2021 Forecast	F2022 Plan	
		1	2	3	4	5	
1	<b>PTP Volumes (MWh)</b>						
2	Long-Term PTP	Schedule 3.4 L52	9,881,280	10,120,632	9,881,280	9,286,728	8,453,400
3	Short Term PTP	Schedule 3.4 L61	9,939,991	4,017,483	10,324,607	4,347,966	4,087,966
4	<b>Total PTP Volumes</b>		19,821,271	14,138,115	20,205,887	13,634,694	12,541,366
5	NITS and Secondary Transmission		9,566,902	12,954,763	9,566,902	12,954,763	12,954,763
6	<b>Total Volumes</b>	<b>Schedule 3.4 L48</b>	29,388,173	27,092,878	29,772,789	26,589,457	25,496,129

BC Hydro notes that Short-Term PTP purchases are difficult to forecast as they are subject to higher uncertainty than Long-Term PTP due to economic and market conditions that fluctuate more frequently. The lower forecast for F2022 is based on the latest trend in Short-Term PTP purchases<sup>186</sup>.

In the case of Long-Term PTP volumes the value for F022 decreases as one of the current long-term contracts is ending January 1, 2021<sup>187</sup>.

BC Hydro notes that BC Hydro and Powerex are the main users of the transmission system and account for approximately 99% of the overall revenue collected under the OATT. The other 1% (roughly \$11.1 M) is accounted for by other transmission users<sup>188</sup>.

CEC 1.59.1<sup>189</sup> states: “Should additional customers purchase transmission services beyond the forecast amounts, there is no mechanism, such as a regulatory account, through which variances to the costs and revenues associated with them can be re-applied to the next test period TRR once actuals are known”. While there is no mechanism whereby the variances are applied to the next test periods TRR, it is BCOAPO’s understanding<sup>190</sup> that such variances are captured in BC Hydro’s regulatory account and, in the case of revenues from 3d parties (i.e., not Powerex<sup>191</sup>) would be refunded/recovered from ratepayers.

<sup>185</sup> Exhibit B-4, BCUC 1.66.3

<sup>186</sup> Exhibit B-4, BCUC 1.66.1

<sup>187</sup> Exhibit B-2, page 9-1 and Exhibit B-5, CEC 1.58.1

<sup>188</sup> Exhibit B-2, page 9-1

<sup>189</sup> Exhibit B-5

<sup>190</sup> Transcript Volume 1, pages 206-207

<sup>191</sup> In Powerex’s case the variances are captured for both sides of the transaction and effectively negate each other.

BCOAPO has no issues with derivation of the Transmission Revenue Requirement.

**DEMAND SIDE MANAGEMENT (DSM)**<sup>192</sup>

BC Hydro is seeking approval under section 44.2 of the UCA for a proposed F2022 DSM expenditure schedule of \$82.2 M as set out below<sup>193</sup>.

**Table 10-4 Fiscal 2021 and Fiscal 2022 Expenditure Summary (\$ million)**

	F2021 RRA	F2021 Forecast	F2022 Plan
Rate Structures	0.5	0.5	0.5
Programs			
Residential	19.7	19.8	21.0
Commercial	17.5	17.1	16.6
Industrial	26.9	21.6	20.8
Total Programs	64.1	58.5	58.4
Capacity-focused	4.3	3.6	2.9
Supporting Initiatives	20.2	19.9	20.5
Total Traditional DSM	89.1	82.4	82.2
Low-Carbon Electrification	7.7 <sup>194</sup>	7.6	15.5
Total Expenditures	96.8	90.0	97.6

The above schedule also includes \$15.5 M in planned spending for F2022 on Low-Carbon Electrification undertakings that fall within one or more classes defined in sections 4(3)(a), 4(3)(b), 4(3)(c), and 4(3)(d) of the *GRR*. It is not seeking approval under section 44.2 for these expenditures.

Planned DSM expenditures for F2022 are in line with those for forecast for F2021 – both overall and by program area (with Residential being the one area seeing a slight increase) – but below those planned per the F2021 RRA. The main area of change is with respect to the Industrial programs where the decline reflects the trend of the reduced number of projects from large industrial customers<sup>194</sup>.

The anticipated savings from these DSM programs are set out below<sup>195</sup>.

<sup>192</sup> BC Hydro has not formally suggested a name for this account.

<sup>193</sup> Exhibit B-2, page 10-9

<sup>194</sup> Exhibit B-4, BCUC 1.69.1

<sup>195</sup> Exhibit B-2, page 10-10

Table 10-5 Fiscal 2021 and Fiscal 2022 Energy (GWh/year) Impact Summary

	F2021 RRA	F2021 Forecast	F2022 Plan
<b>New Incremental Energy Savings (GWh/year)</b>			
Codes and Standards	411	405	259 <sup>196</sup>
Rate Structures	118	119	119
Programs			
Residential	36	39	41
Commercial	52	48	43
Industrial	136	136	127
Total Programs	224	222	210
Total New Incremental Energy Savings	753	747	588
<b>New Incremental Load Growth (GWh/year)</b>			
Low-Carbon Electrification	61	65	148

The one notable change for F2022 is in the area of Codes and Standards where the savings forecast for F2022 are materially lower than in the previous year. BC Hydro notes that the reduction in Codes and Standards energy savings was expected and reflects the decline in the remaining opportunities for new incremental energy savings resulting from previously adopted lighting regulations<sup>196</sup>.

The following table summarized the spending and planned saving from the individual Residential programs and compares them with previous years<sup>197</sup>.

<sup>196</sup> Exhibit B-4, BCUC 1.69.2

<sup>197</sup> Exhibit B-5, BCOAPO 1.73.1

Residential Programs	Expenditures (\$ million)				
	F2020 RRA Plan	F2020 Actuals	F2021 RRA Plan	Updated F2021 Forecast	F2022 Plan
Low Income	5.8	5.2	6.9	4.1	7.4
Non Integrated Areas	1.2	0.9	1.4	1.1	1.4
Retail	2.1	2.4	2.1	2.3	2.2
Home Renovation Rebate	4.2	4.8	4.4	6.0	5.0
Energy Management Activities	5.0	4.7	4.9	4.9	5.0
<b>Residential Sector Total</b>	<b>18.4</b>	<b>17.9</b>	<b>19.7</b>	<b>18.4</b>	<b>21.0</b>

Residential Programs	New Incremental Energy Savings (GWh/year)				
	F2020 RRA Plan	F2020 Actuals	F2021 RRA Plan	Updated F2021 Forecast	F2022 Plan
Low Income	8.9	9.1	8.8	6.0	8.2
Non Integrated Areas	0.5	0.1	0.6	0.5	0.6
Retail	5.6	7.4	5.2	8.2	6.8
Home Renovation Rebate	7.9	8.9	8.4	9.0	9.1
Energy Management Activities	13.3	18.9	13.1	16.5	15.9
<b>Residential Sector Total</b>	<b>36.1</b>	<b>44.4</b>	<b>36.1</b>	<b>40.2</b>	<b>40.5</b>

BC Hydro notes that in F2021 incentives were increased for a time-limited period in three programs to encourage participation that was reduced due to the COVID-19 pandemic. These programs were Home Renovation Rebate, Non-Integrated Areas, and Leaders in Energy Management-Commercial (LEM-C). BC Hydro also notes that the programs continued to be cost-effective (TRC and Utility Cost) at the higher incentive level<sup>198</sup>.

BC Hydro further notes that the proposed DSM schedule is cost effective even if one uses current Market Prices as the basis for the Utility Cost test<sup>199</sup>.

<sup>198</sup> Exhibit B-4, BCUC 1.68.1

<sup>199</sup> Exhibit B-2, page 10-20 to 10-21

Table 10-10 Benefit-Cost Ratios and Net Levelized Costs (\$/MWh)

	Benefit-Cost Ratios		Net Levelized Costs (\$/MWh)	
	Utility Cost Test (Market Price at \$33 per MWh)	Modified Total Resource Cost Test (LRMC at \$54 per MWh)	Utility Cost (\$)	Total Resource Cost (\$)
Rate Structures	34.6	1.8	(11)	26
Programs	2.1	2.4	1	(18)
Total Portfolio <sup>2022</sup>	1.4	1.6	19	14

BCOAPO has no issues with BC Hydro’s proposed F2022 DSM Expenditure Schedule.

**CONCLUSION**

Throughout these submissions, BCOAPO has crafted its positions, and set out its concerns and recommendations, taking into consideration the evidence, regulations, and legislation applicable to this Application.

ALL OF WHICH IS RESPECTFULLY SUBMITTED:

*Original on file signed by:*

*Original on file signed by:*

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**Leigha Worth**, Executive Director

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**Irina Mis**, Staff Lawyer