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April 6, 2021

VIA ELECTRONIC MAIL

British Columbia Utilities Commission
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Attention: Patrick Wruck, Commission Secretary and Manager, Regulatory Support

Dear Sirs/Mesdames:

Re: British Columbia Hydro and Power Authority ("BC Hydro") - Fiscal 2022 Revenue Requirements Application - Project No. 1599164

We are counsel to the Commercial Energy Consumers Association of British Columbia (the "**CEC**"). Attached please find the CEC's Final Submissions with respect to the above-noted matter.

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

Yours truly,

OWEN BIRD LAW CORPORATION

Christopher P. Weafer

CPW/jj
cc: CEC
cc: BC Hydro
cc: Registered Interveners

COMMERCIAL ENERGY CONSUMERS ASSOCIATION OF BRITISH COLUMBIA

FINAL SUBMISSIONS

British Columbia Hydro and Power Authority (BC Hydro) - Fiscal 2022 Revenue Requirements Application
Project No. 1599164

April 6, 2021

Commercial Energy Consumers Association of British Columbia

British Columbia Hydro and Power Authority - Fiscal 2022 Revenue Requirements Application
Project No. 1599164

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COMMERCIAL ENERGY CONSUMERS ASSOCIATION OF BRITISH COLUMBIA

FINAL SUBMISSIONS

British Columbia Hydro and Power Authority (BC Hydro) - Fiscal 2022 Revenue Requirements Application
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The Commercial Energy Consumers Association of BC (the "**CEC**") represents the interests of ratepayers consuming energy under commercial tariffs in applications before the British Columbia Utilities Commission ("**BCUC**" or the "**Commission**").

British Columbia Hydro and Power Authority ("**BC Hydro"** or **"BCH**") applies for its Fiscal 2022 Revenue Requirements Application (the "**Application**"). The CEC has participated in the proceeding and provides the following comments for the Commission's review and consideration.

I. SUMMARY POSITION

1. The CEC finds the Application to be generally well-supported and adequate for a single year revenue requirement.

2. The CEC recommends the Commission:

   - approve the rate increase as requested by BC Hydro subject to the comments itemized in these submissions;
   - accept the Scenario A load forecast as the basis for setting the F2022 revenue requirement;
   - approve BC Hydro's estimate for its Cost of Energy;
   - approve the proposed Operating Costs as applied for by BC Hydro;
   - Commission direct BC Hydro to, within one year, revise the business case for the Asset Planning Investment Tool and present a firm timeline for its implementation;
   - approve the capital plan subject to the comments related to the Asset Investment Planning Tool and Performance Metrics;
   - approve the Project Write-Offs as proposed by BC Hydro;
   - approve the changes to the Regulatory Accounts as proposed by BC Hydro;
   - approve the Other Revenue Requirements as presented in the Application;

- approve the Transmission Revenue Requirement as proposed by BC Hydro;
- approve the recovery of BC Hydro's electric vehicle charging station costs as prescribed undertakings;
- commend BC Hydro for seeking customer input on its metrics and encourage BC Hydro to continue the consultation process; and
- direct BC Hydro to examine options to assist medium and large general service customers for issues related to COVID-19 and report back to the Commission with a plan for assistance forthwith.

3. The CEC considers that it would be appropriate for BC Hydro to file an application as quickly as possible after the upcoming FACOS study to rectify the extensive and ongoing over-contribution from the SGS, MGS and to some extent LGS customer classes.

4. The CEC submits that the Commission should deny BC Hydro's Demand Side Management ("**DSM**") spending plan and identify that it would accept a DSM spending plan that provided more balanced spending for commercial rate classes.

II. SUBMISSIONS

A. INTRODUCTION

5. BC Hydro applies for a general rate increase of 1.16 percent in its Fiscal 2022 Revenue Requirement.

6. BC Hydro will soon be submitting its next Revenue Requirement Application ("**RRA**") and the current Application is for a single fiscal year, which BC Hydro refers to as a 'gap year'.

7. BC Hydro submits that given the streamlined nature of this proceeding, the Commission should confine its determinations to matters actively canvassed by the participants and flag issues for consideration in the future where they can be considered based on a more extensive evidentiary record.[1]

8. The CEC agrees that this is a reasonable approach given the reduced process that was undertaken in this proceeding.

9. BC Hydro identifies three key themes which it considers to have been paramount in this proceeding. These include:

- Incorporation of BCUC regulation and responsiveness to feedback;
- Balancing of affordability and system investment; and

[1] BC Hydro Final Argument page 6

- Long term sustainability of system investment.[2]

10. The CEC submits that BC Hydro has generally undertaken to address the three themes identified and finds the 1.16% increase to be acceptable in that it remains below inflation.

11. The CEC submits that where BC Hydro has requested increased spending increases it has been well-documented as necessary.

B. OVERVIEW OF REVENUE REQUIREMENTS

12. BC Hydro provides the following Gross View of its Revenue Requirements for F2022 at Table 1-1 of the Application.

13. The result is a revenue shortfall of $59.5 million for F2022, and a requested general rate increase of 1.16%.[3]

14. BC Hydro states that the proposed rate increase, which is less than the forecast rate of inflation, reflects ongoing fiscal discipline and targeted investment in system reliability and resilience.[4]

[2] BC Hydro Final Argument page 4

[3] Exhibit B-2, page 1-21 and 1-22

[4] BC Hydro Final Argument page 1

Table 1–1 Gross View of BC Hydro's Revenue Requirements

	($ million)	Schedule Reference	F2020 RRA	F2020 Actual	F2021 RRA	F2021 Forecast	F2022 Plan
			1	2	3	4	5
1	Cost of Energy	1.0 L1	1,867.9	1,810.9	1,666.5	1,583.7	1,670.1
2	Operating Costs	1.0 L2	1,136.1	1,115.2	1,135.4	1,148.4	1,226.7
3	Provisions & Other	1.0 L3	116.4	176.8	95.4	197.9	101.4
4	Taxes	1.0 L4	249.8	249.7	262.2	254.8	263.8
5	Amortization	1.0 L5	977.8	977.7	998.0	996.6	1,023.7
6	Finance Charges	1.0 L6	874.9	1,656.8	743.3	951.5	555.6
7	Return on Equity	1.0 L7	712.0	704.9	712.0	690.7	712.0
8	Miscellaneous Revenue	1.0 L8	(240.6)	(247.3)	(247.0)	(243.7)	(255.4)
9	Inter-Segment Revenue	1.0 L9	(64.9)	(72.0)	(71.9)	(97.4)	(83.5)
10	Deferral Account Transfers	1.0 L13	(373.9)	(335.7)	(230.8)	(264.4)	16.2
11	Other Regulatory Account Transfers	1.0 L17	69.1	(729.1)	204.4	(137.3)	203.5
12	Subsidiary Net Income	1.0 L20	(179.7)	(192.7)	(179.9)	(176.2)	(192.1)
13	Other Utilities Revenue	1.0 L21	(36.1)	(29.7)	(35.9)	(30.2)	(30.2)
14	Liquefied Natural Gas Revenue	1.0 L22	(0.5)	(1.3)	0.0	0.0	0.0
15	Deferral Rider Revenue	1.0 L23	0.0	(0.2)	0.0	(0.0)	0.0
16	Total Rate Revenue Requirement	1.0 L24	5,108.1	5,084.0	5,051.6	4,874.3	5,211.7
17	Less Revenue at F2021 Rates	1.0 L29	(5,108.1)	(5,084.0)	(5,051.6)	(4,874.3)	(5,152.2)
18	Revenue Shortfall	1.0 L30	0.0	0.0	0.0	0.0	59.5
19	Annualized Rate Increase	1.0 L31	6.85%	6.85%	-1.62%	-1.62%	1.16%
20	Deferral Account Rate Rider	1.0 L32	0.00%	0.00%	0.00%	0.00%	0.00%
21	Net Bill Increase	1.0 L33	1.76%	1.76%	-1.62%	-1.62%	1.16%

[5]

C. LOAD FORECAST

15. BC Hydro's load forecast is important in establishing capital expenditures that match load requirements.

16. The CEC notes that BC Hydro has cancelled/deferred several projects as a result of the 2019 load forecast being different from the Long Term Resource Plan, resulting in significant write-offs or unnecessary expenditures as discussed later in these submissions.

17. BC Hydro wrote off $6.5 million for the Metro North Transmission Project. BC Hydro determined that it is able to defer the Metro North Transmission Project until after fiscal

[5] Exhibit B-2, page 1-22

2029 based on its June 2019 load forecast,[6] and the expenditures incurred did not meet the capitalization criterion of providing future economic benefits as the design and engineering work cannot be re-used.[7]

18. BC Hydro determined that the need for an increase in the transfer capability along the Peace Region to Kelly Lake could be deferred to after 2031 as a result of the June 2019 load forecast, resulting in a write-off of $0.9 million.

19. BC Hydro states that it has made three major improvements to its load forecasting methodology. These include:

- Refinements to avoid overlap in efficiency requirements from codes and standards and BC Hydro's Demand Side Management Plan;
- New methodologies to reflect Electric Vehicle charging based on *Zero Emission Vehicles Act*; and
- Improvements in assessing distribution load and transmission load.

20. BC Hydro provides a discussion of its improvements in Section 3 of its Application.

21. The CEC submits that these are all important improvements and recommends that BC Hydro continue working to refine its load forecasting, particularly as the long-term effects of COVID-19 become embedded in the results.

22. BC Hydro prepared a comprehensive 20-year load forecast in March 2020 ("**March 2020 Load Forecast**") which projected a 1.7% increase in electricity sales in fiscal 2022 relative to the October 2018 load forecast.[8]

23. However, the pandemic resulted in significant shifts in electricity use, meaning that BC Hydro needed to develop alternative forecasts based on different outcomes.

24. BC Hydro developed COVID-19 Scenarios A and B which are described in Section 3.2.4 of the Application.

25. BC Hydro proposes to use its Scenario A forecast for fiscal 2022. Overall, BC Hydro is projecting lower electricity sales in the Test Period relative to the forecasted sales in the Fiscal 2020-Fiscal 2021 Revenue Requirements Application ("**2020-2021 RRA**").[9]

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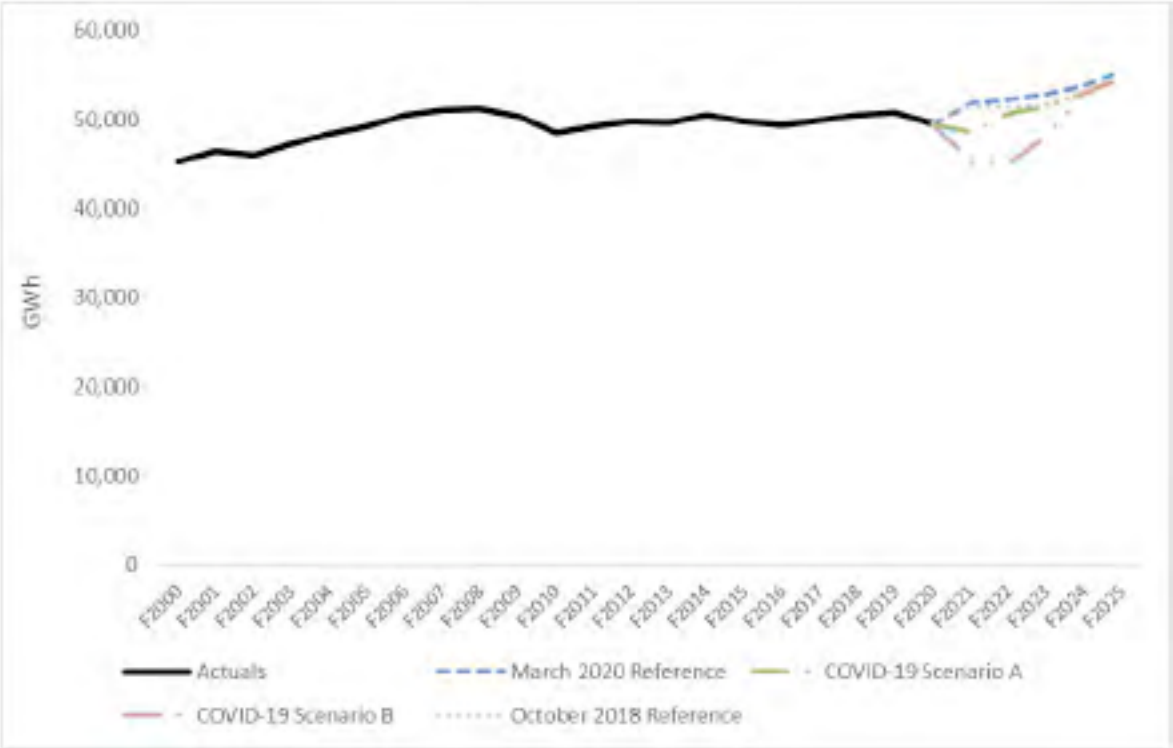
[6] Exhibit B-2-2, Appendix L

[7] Exhibit B-2-2, Appendix P Attachment 1 to Section 6 page 26 of 45

[8] Exhibit B-2, page 3-10

[9] Exhibit B-2, page 3-1

Figure 3-4 Actual Billed Sales and Forecasted Sales After Adjustments for Residential, General, and Transmission Combined



[10]

26. COVID-19 Scenario A shows a moderate dip in the short-term while COVID-19 Scenario B shows a significant short term decline in sales and a longer recovery period. Both scenarios assume a return to 1.4% below the March 2020 Load Forecast by fiscal 2024. BC Hydro now expects the recovery to be more gradual than shown in either scenario, and BC Hydro will reflect this in future load forecasts.[11]

27. At present, Scenario A is tracking to within 0.7% of actual load up to January 31, 2021.[12]

[10] Exhibit B-2, page 3-11

[11] Exhibit B-2, page 3-11

[12] BC Hydro Final Argument page 12

Table 3-3 Fiscal 2021 Actuals from April 1, 2020 through November 30, 2020 Compared to COVID-19 Scenario A (Unofficial Accrued Sales)

	April 2020	May 2020	June 2020	July 2020	August 2020	Sept. 2020	October 2020	Nov. 2020	F2021 8-month YTD
COVID-19 Scenario A	**3,871**	**3,621**	**3,508**	**3,634**	**3,638**	**3,493**	**3,892**	**4,394**	**30,050**
Residential	1,588	1,333	1,215	1,208	1,178	1,136	1,395	1,811	10,863
Commercial & Light Industrial	1,288	1,259	1,298	1,398	1,433	1,362	1,469	1,588	11,094
Large Industrial	995	1,028	995	1,028	1,028	995	1,028	995	8,094
Actuals	**3,773**	**3,568**	**3,586**	**3,697**	**3,679**	**3,576**	**4,056**	**4,476**	**30,411**
Residential	1,457	1,264	1,219	1,229	1,234	1,193	1,513	1,837	10,945
Commercial & Light Industrial	1,336	1,294	1,382	1,471	1,428	1,461	1,523	1,581	11,477
Large Industrial	979	1,011	986	996	1,016	922	1,020	1,059	7,989
Actuals vs COVID-19 Scenario A (GWh)	**(98)**	**(52)**	**79**	**63**	**40**	**83**	**164**	**82**	**361**
Residential	(131)	(69)	4	21	57	57	118	26	82
Commercial & Light Industrial	49	35	84	74	(4)	99	54	(7)	383
Large Industrial	(16)	(17)	(9)	(32)	(12)	(74)	(8)	64	(104)
Actuals vs COVID-19 Scenario A (%)	**-2.5%**	**-1.4%**	**2.2%**	**1.7%**	**1.1%**	**2.4%**	**4.2%**	**1.9%**	**1.2%**
Residential	-8.2%	-5.2%	0.3%	1.7%	4.8%	5.0%	8.4%	1.4%	0.8%
Commercial & Light Industrial	3.8%	2.8%	6.5%	5.3%	-0.3%	7.3%	3.7%	-0.5%	3.5%
Large Industrial	-1.6%	-1.7%	-0.9%	-3.1%	-1.2%	-7.4%	-0.8%	6.4%	-1.3%

Table notes:
The allocation of an annual load forecast to a monthly forecast is an approximation based on a rolling five-year average shape of monthly billed sales at the BC Hydro system level. The allocation for the COVID-19 scenarios was adjusted to account for the months where health measures were expected to influence load. The monthly shape could influence the total annual variance.

13

28. BC Hydro provided full details of the build-up of its scenarios and responded to multiple information requests.

29. The CEC notes the considerable changes associated with COVID-19 relative to historical information, and uncertainty for the upcoming year.

30. The CEC considers the closer tracking to suggest that the forecast is appropriate for fiscal 2022.

31. The CEC further notes that the load forecast will be used for a single year, and will be updated for future years.

32. The CEC recommends that the Commission accept the Scenario A load forecast as the basis for setting the F2022 revenue requirement.

D. COST OF ENERGY

33. BC Hydro's cost of energy is effectively unchanged compared to fiscal 2021 plan.[14]

[13] Exhibit B-2, page 3-15

[14] BC Hydro Final Argument page 13

34. Rate payers only pay actual costs of energy and the variances between planned and actual costs of energy are deferred to various deferral accounts.[15]

35. BC Hydro undertakes Energy studies to maximize expected Consolidated Net Revenue from Operations ("**CNRO**").[16] Other tools used to optimize operational sources of energy supply on the integrated system is provided in Appendix D of the Compliance filing to the previous application.[17]

36. BC Hydro has not purchased Renewable Natural Gas because it is more expensive than conventional natural gas and the volume available is small.[18]

37. BC Hydro provides the following forecasts for its cost of energy.

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	4.0 L32	351.2	358.8	317.7	288.6	350.6
Non-Heritage Energy[1]	4.0 L37	1,332.4	1,353.1	1,447.2	1,423.1	1,511.5
Market Energy	4.0 L44	184.4	99.0	(98.4)	(128.1)	(191.9)
Total	4.0 L45	1,867.9	1,810.9	1,666.5	1,583.7	1,670.1

[19]

Heritage Energy

38. The cost of heritage energy is forecast to increase in Fiscal 2022 by over $60 million relative to F2021 Forecast. This is primarily due to an increase in water rental fees of $52.2 million. BC Hydro states these are mainly due to higher hydro generation volumes in the 2020 calendar year as a result of high inflows in the Peace and Columbia areas.[20]

39. BC Hydro's planned revenue in fiscal 2022 is higher than the fiscal 2021 plan due to a lower amount of planned storage as described in CEC IR 1.19.1.

40. The CEC has reviewed the evidence relating to the forecast and finds it to be reasonable.

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[15] BC Hydro Final Argument page 14

[16] Exhibit B-2, page 4-4

[17] Exhibit B-5, CEC 1.17.2

[18] Exhibit B-5, CEC 1.18.1

[19] Exhibit B-2, page 4-5

[20] Exhibit B-2, page 4-7

41. The CEC submits that BC Hydro's water rental costs are largely beyond BC Hydro's control, and that BC Hydro appears to be reasonably accounting for revenues from its Columbia River Treaty.[21]

42. The CEC recommends that the Commission approve BC Hydro's forecast of its cost of heritage energy.

Non Heritage Energy

43. BC Hydro's non-heritage energy costs are broken down by their component costs in the table below.

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[1]	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
Total	4.0 L37	1,332.4	1,353.1	1,447.2	1,423.1	1,511.5

1 These values are after Accounting Adjustments.

[22]

44. Non-heritage energy costs are forecast to increase from the fiscal 2021 costs primarily due to increasing costs from Independent Power Producers ("**IPPs**" and each an "**IPP**") which occur as a result of the existing agreements.

45. BC Hydro states that it is managing its costs to the extent it is able to do so through volume reductions, but most of the agreements require BC Hydro to take the full output of the IPP projects.[23]

46. Mr. O'Riley states:

> "So, there is no active -- for the most part, and there's a very small number of exceptions like island generation, there's no active management by BC Hydro of these individual EPAs to drive to a plan. They're essentially take and pay, really. We take and we pay."[24]

47. Mr. O'Riley also points out that there is no apparent link to the status of BC Hydro's energy account.

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[21] Exhibit B-4, BCUC 1.14.1

[22] Exhibit B-2, page 4-11

[23] BC Hydro Final Argument page 13-14

[24] Transcript Volume 1, page 161.

> "Well, I think it's independent of whether we're a surplus or deficit, it's the nature of the contracts. It's the nature of the contracts we have that typically we take the full output of the projects and that was the deal, that was how they were priced and how they were contracted. And so, if the full output is more, we pay more and there's a positive variance against plan."[25]

48. The CEC submits that BC Hydro ratepayers have paid a very high price for the energy from IPPs which should be managed to the greatest extent possible.

49. The IPP portfolio management function has transitioned to the Generation Systems Operations Key Business Unit ("**KBU**") in the Operations Business Group to allow for greater alignment of energy sourcing accountabilities within Generation System Operations.[26] From a planning perspective, comparisons between resource options considering cost and other attributes, are conducted through the Integrated Resource Plan, which is led by the Energy Planning and Analytics KBU. From an operating perspective, the Generation System Operations KBU optimizes the operational management of all sources of energy supply on BC Hydro's integrated system.[27]

50. The CEC submits that the transition to the Generation Systems Operations KBU is appropriate from an accountability perspective, and that it would also be appropriate for this resource group to develop metrics which assess the resultant cost-effectiveness of their resource planning over time. It is also vitally important that information related to IPP cost effectiveness is shared with, and is influential in, the Integrated Resource Plan, Energy Planning and Analytics KBU.

51. BC Hydro considers that the question of how to approach IPP renewals in a period of surplus is an appropriate topic for the next IRP.[28]

52. The CEC agrees that the IRP is an appropriate place for further review of managing IPP purchases during periods of surplus.

53. However, the CEC notes that the IRPs take significant time to develop and may be quite infrequent, with nearly a decade passing since the 2013 IRP. Consequently, circumstances can change significantly between finalized IRPs.

54. The CEC submits that it is appropriate for BC Hydro to continue to monitor circumstances as they change between IRPs and to take the initiative to revise any IPP contracts to the extent possible to reflect BC Hydro's ongoing surpluses.

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[25] Transcript Volume 1 page 161

[26] Exhibit B-2, page 5-9

[27] Exhibit B-5, CEC 1.22.2

[28] BC Hydro Final Argument page 13-14 and Transcript Volume 1 page 162

55. The CEC submits that BC Hydro should avoid undertaking any new IPP project unless it can be demonstrated to be absolutely necessary, and proven to be cost-effective relative to other options.

56. 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.

57. BC Hydro notes that it does not have any active programs for the procurement of new energy resources from IPPs. Although BC Hydro does expect some Electricity Purchase Agreement ("**EPA**") renewals (such as in Biomass Energy Programs), the only expected new EPAs are in a small number of potential new First Nations energy projects. There are two EPAs remaining from the Standing Offer Program.[29]

58. BC Hydro has recently executed an EPA renewal in relation to the Coats IPP project, and the Hluey Lake EPA renewal was filed with the BCUC in late 2020.[30]

59. BC Hydro is not required to renew the EPAs, which it has forecast as potential renewals.[31]

60. The CEC does not object to the renewal of the two IPPs in that both EPAs being renewed are in remote communities.[32]

61. The CEC recommends that the Commission approve BC Hydro's estimate for IPP energy costs.

Market Energy

62. BC Hydro engages in energy transactions with Powerex to optimize the system storage, which is referred to as Market Energy.[33]

63. The cost of Market Energy is forecast to be $93.5 million lower compared to the fiscal 2021 plan. This is largely due to lower system imports and higher system exports driven by higher water inflows. The decrease largely offsets the increases anticipated from Heritage and IPP energy.[34]

64. The CEC is of the view that Market Energy costs are managed and forecast appropriately.

65. The CEC recommends that the Commission approve BC Hydro's cost estimate for Market Energy.

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[29] BC Hydro Final Argument page 13-14

[30] Exhibit B-5, BCOAPO 1.20.1 and CEC 1.20.1

[31] Exhibit B-5, CEC 1.20.1

[32] Transcript Volume 1 page 159

[33] Exhibit B-2, page 4-16

[34] BC Hydro Final Argument page 14

E. OPERATING COSTS

66. BC Hydro provides an overview of its forecast Operating Costs in Part Five of its Final Argument.

67. BC Hydro has held operating budgets at current levels throughout all KBUs with certain exceptions of targeted investments in reliability and uncontrollable cost increases.

68. BC Hydro has also implemented a wage freeze for executive management and professional employees.

69. The CEC has reviewed the evidentiary record with respect to BC Hydro Operational costs and is generally satisfied with BC Hydro's approach.

70. BC Hydro notes that investments in reliability total about $49.7 million of the $104 million increase, while the balance is made up of Uncontrollable cost increases.

71. Key additions to BC Hydro's operational budgets are discussed below.

Reliability Investments

MANDATORY RELIABILITY STANDARDS FUNDING

72. BC Hydro plans an additional investment of $21.7 million in operating expenditures related to Mandatory Reliability Standards ("**MRS**"), including Critical Infrastructure Protection ("**CIP**")[35] standards. BC Hydro also includes spending of about $14 million in capital in Fiscal 2022, which is discussed under the Capital section of these submissions.

73. The vast majority of the planned MRS operating increase is necessary to deliver on mitigation plans developed in conjunction with the Western Electricity Coordinating Council ("**WECC**"). BC Hydro has no flexibility in terms of whether or not to implement steps in an approved mitigation plan, nor is there any discretion as to timing.[36]

74. $17 million of the $21.7 million in operating costs represent one-time costs.

75. The remaining $4.7 million includes $3.6 million for 21.5 FTEs, performing various MRS-related functions.

76. $1.1 million is included for ongoing MRS consulting and contractor services to obtain subject matter expertise.

77. BC Hydro has provided a clear overview of the reasoning behind its request for nearly $22 million in its Application and has responded to multiple information requests from the BCUC and interveners both on the public record and confidentially.

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[35] BC Hydro Final Argument pages 18-19

[36] BC Hydro Final Argument page 21

78. The CEC submits that BC Hydro has provided ample evidence that it is required to update its MRS performance.

79. The CEC submits that BC Hydro has also reasonably documented the need for the nearly $22 million in operating costs in Fiscal 2022 such as in CEC IR 1.23 series and other IR responses.

80. The CEC recommends that the Commission accept the MRS funding as being appropriate for F2022.

VEGETATION AND MANAGEMENT

81. BC Hydro proposes an increase of $25 million in vegetation management for fiscal 2022.[37]

Table 5-11 Fiscal 2021 and Fiscal 2022 Vegetation Program Funding Summary[93]

($ million)	F2021 RRA	Standard Labour Rate Increase	Incremental Funding	F2022 Plan
Transmission Vegetation Maintenance	17.8	0.1	15.5	**33.3**
Distribution Vegetation Maintenance	30.6	0.2	5.4	**36.1**
LiDAR	-	-	4.0	**4.0**
Planning Resources	-	-	0.9	**0.9**
Total Gross	**48.4**	**0.2**	**25.8**	**74.4**
Distribution Vegetation Recoveries (TELUS)	(6.1)	-	(0.8)	**(6.9)**
Total Net of Recoveries	**42.2**	**0.2**	**25.0**	**67.4**

38

82. The additional funds will, in part, support an additional 18 FTEs for vegetation management.[39]

83. BC Hydro devotes a significant section of its Final Argument to the cost of vegetation management, with the rationale summarized at pages 26-34. Key points and sections include:

- Vegetation Management Budget Contemplates Planning Work, Significant Clearing and Light Detection and Ranging ("**LiDAR**");

[37] BC Hydro's Final Argument page 22

[38] BC Hydro Final Argument page 23

[39] BC Hydro's Final Argument page 24

- There is a Compelling Rational for Additional Vegetation management funding:
  - The Long-Term Benefits of Prior Extensive Clearing are Diminishing;
  - Vegetation Cost Pressures Can No Longer Be Ignored;
  - Climate Change is Impacting Vegetation Growth Rate and Health;
- Planned spending reflects the Maximum Amount of Activity and Will Make a Significant Impact;
- BC Hydro is transitioning to a New Vegetation Management Strategy; and
- BC Hydro is developing New Vegetation-Focussed Performance Metrics.

84. BC Hydro will develop a new vegetation management strategy in fiscal 2022 which will inform vegetation management in future test periods.[40]

85. The CEC has reviewed the evidence and notes that BC Hydro has provided significant evidence as to the rationale for the spending, how the spending will be undertaken, and what priorities will be established in its Application, in responses to information requests and in the oral hearing.

86. In particular, the CEC notes that the heightened vegetation activity that occurred over a decade ago had ongoing benefits which enabled cost pressures to be absorbed.[41] However, the benefits obtained have been fully realized, and remaining vegetation requires extensive maintenance to manage safety and reliability.[42]

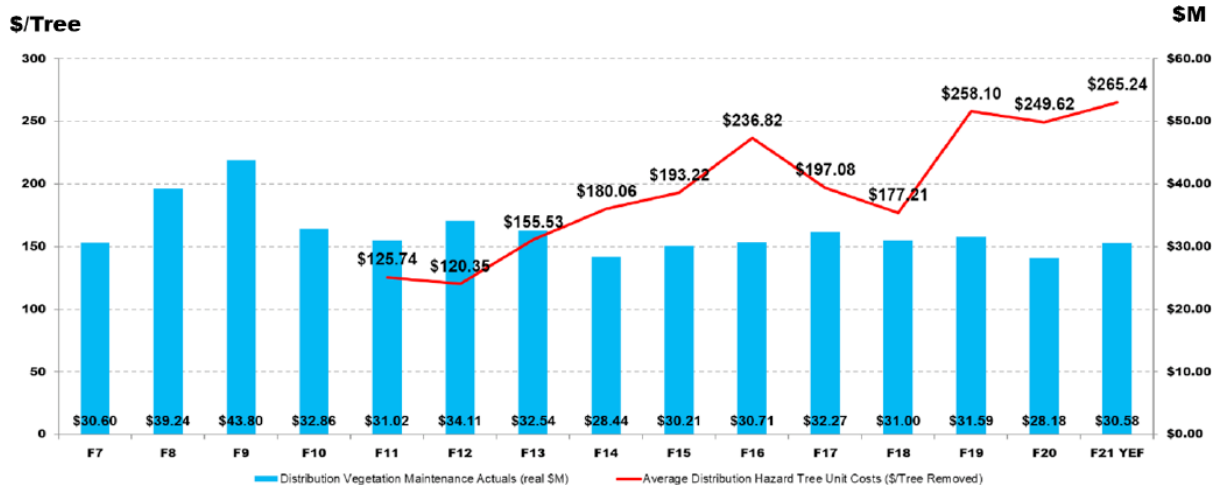
87. Overall investment in Transmission and Distribution Management has been fairly stable or declining over the last 10 years, despite significant increases in costs (such as $/tree) as noted in the two tables below.

[40] Exhibit B-2, page 5-48

[41] Exhibit B-2, page 5-36

[42] Exhibit B-2, page 5-37

43



44

88. The CEC finds the above graphs to be compelling evidence of a need for additional spending in vegetation management.

89. In addition, Ms. Daschuk provided a significant overview of the reasons for the required spending in the oral hearing.[45]

90. In the CEC's view, additional vegetation management spending is required and BC Hydro has provided sufficient justification for the requested Vegetation Management spending request.

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[43] Fiscal 2020$, Exhibit B-2, page 5-43 and Exhibit B-5-2, CEC 1.24.1

[44] Exhibit B-5-2, BCOAPO 1.36.2

[45] Transcript Volume 1, pages 22-28

91. The CEC recommends that the Commission approve the Vegetation Management as proposed by BC Hydro.

CYBERSECURITY

92. BC Hydro requests an additional $3 million in cybersecurity funding, resulting in a total operating budget of $8.0 million.

Table 5-13 Cybersecurity Base Operating Budget

$ million	F21 RRA Plan	Planned Increase	Internal Changes	F22 RRA Plan
Base operating budget	$4.6	$3.0	$0.4	$8.0
FTE	19	4	2	25

[46]

93. The $3 million will be required on a permanent basis[47] and includes the cost of four FTEs.[48]

94. Fiscal 2021 actuals as of September 30, 2020 for cybersecurity are 21 FTEs and $3.4 million in operating costs, which is slightly over F21 Plan RRA in FTEs, but below in Base Operating Budget.[49]

95. The CEC notes that BCUC Order G-246-20 directs BC Hydro to address the adequacy of its cybersecurity programs with respect to its distribution and head office systems in this RRA.[50]

96. BC Hydro's approach to cybersecurity incorporates both in-house and external expertise, and the planned budget increase includes both labour and non-labour costs.[51] $2.3 million is associated with outsourcing services that are specialized and could not be readily recruited for in-house work.[52]

97. In its Final Argument, BC Hydro warns against the risk of complacency and quotes Mr. Morrison:

> "So why is it important that BC Hydro invest more in cyber security? Well, first there's more to protect. The footprint and complexity of our environment that we need to protect is expanding. To respond to business needs we're continually

[46] Exhibit B-2 page 5-78

[47] Exhibit B-5, BCOAPO 1.39.1

[48] BC Hydro Final Argument page 34

[49] Exhibit B-5, CEC 1.31.3

[50] Exhibit B-5, BCOAPO 1.3.1

[51] BC Hydro Final Argument page 35

[52] BC Hydro Final Argument pages 35-37

> adding new applications, infrastructure and mobile devices. These all need to be protected. Second, cyber threats are growing in volume and sophistication. Every day we're learning about nation state attacks and ransomware incidents. These are impacting Canadian businesses and some very close to home here in B.C."[53]

98. The CEC submits that the risk of cyber-attacks on BC Hydro is real and significant, and has already been amply demonstrated as existing within the province through LifeLab, TransLink, and other attacks and data breaches. Defending against such threats is of paramount importance given the extensive and critical nature of BC Hydro's role in serving the population and economy of BC.

99. The CEC supports BC Hydro acquiring highest level expertise where necessary and submits that the use of internal and external expertise is appropriate.

100. The CEC recommends that the Commission approve the increased expenditures on cybersecurity.

Uncontrollable Factors

101. BC Hydro identifies approximately $48.5 million in uncontrollable cost increases which primarily include:

- Increased labour costs of $33.6 million due to changing discount rates for current service pension costs and $5.2 million in a general wage increase for union employees mandated by existing union collective agreements;[54]
- Increased costs of $3.7 million for BCUC and Canada Energy Regulator Cost recovery levies;[55]
- Increased costs of $6 million for property, general liability and Directors and Officers liability insurance coverage;[56]
- Other costs of $6.8 million including employee training, sustainment and maintenance of the SAP Supply chain application and EV charging infrastructure; and
- Various savings of $6.2 million.

[53] BC Hydro Final Argument page 36

[54] Exhibit B-2, page 5-102

[55] Exhibit B-2, page 5-18

[56] Exhibit B-2, page 5-18

EMPLOYEE TRAINING

102. BC Hydro's fiscal 2022 includes an additional $3.3 million for employee training, which will provide an average of an additional 3.5 training days per IBEW employee, for a total of 13.5 days of training.[57] BC Hydro states that current training budgets are no longer sufficient to allow IBEW employees in the Operations Business Group to complete mandatory safety and regulatory training, as well as the technical and leadership training needed to maintain their current skills.[58] Training budgets for M&P and MoveUp employees remains sufficient and BC Hydro has not allocated incremental funding for training these employees in fiscal 2022.[59]

103. The CEC has reviewed the evidence and finds that the additional $3.3 million for employee training is acceptable.

104. The CEC recommends that the Commission approve the requested allotment for employee training.

Operating Costs Conclusion

105. The CEC recommends that the Commission approve the proposed Operating Costs as applied for by BC Hydro.

F. CAPITAL COSTS

106. BC Hydro's capital expenditures and additions are discussed in Chapter 6 of the Application, with additional evidence provided in the following Appendices.

Appendix	
A	Planned and either actual or forecast expenditures for Fiscal 2020, 2021 and 2022
E	Summary of BC Hydro's Capital plan including major investments, risks and opportunities
F	Technology Strategy and Five Year Plan
G	Asset health indices for generation assets relative to previous application
H	Asset health indices for transmission and distribution
I	Capital investment information for projects in excess of $2 million for Technology and $5 million for other projects
P	Explanations for material variances between planned and actual capital expenditures for fiscal 2020.
S	Discussion of capital planning and delivery processes
T	Annual reporting on reliability indices

[60]

[57] Exhibit B-2, page 5-87

[58] Exhibit B-2, page 5-86

[59] Exhibit B-5, Zone II Ratepayers Group 1.12.1

[60] Exhibit B-2, pages 6-3 to 6-4

107. BC Hydro states that its approach is to continue to promote safety, reliability and resilience, while still having regard for affordability for customers. In particular it notes:

- moderate investments to reflect lower load growth;
- monitoring of system performance;
- a 'safety above all' approach;
- investments for growth, reliability and resilience; and
- meeting capital delivery performance targets.[61]

108. BC Hydro's planned capital expenditures and additions are derived from its fiscal 2021 to 2030 Capital Plan, which is the most recent capital plan available.[62] BC Hydro has no more recent information, and the single 'gap year' made the development of a new plan impractical.[63]

109. The CEC submits that this is a reasonable basis for the capital expenditures and additions.

110. The capital planning process is unchanged from the process that the BCUC has found to be reasonable in a past Decision.[64] Since the 2017-2019 RRA, BC Hydro has used a portfolio risk adjustment which assists in accounting for variances and developing a more accurate forecast.[65]

111. The CEC notes that other utilities have a similar practice[66] and finds it to be an acceptable approach until further development can be undertaken on BC Hydro's capital planning processes.

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[61] BC Hydro Final Argument page 47

[62] BC Hydro Final Argument page 41

[63] BC Hydro Final Argument page 41

[64] BC Hydro Final Argument page 2

[65] BC Hydro Final Argument page 43

[66] BC Hydro Final Argument page 44

112. BC Hydro's Actual and Planned Capital Expenditures are as follows:

Table 6-1 Actual and Planned Capital Expenditures (Fiscal 2020 to Fiscal 2022)[128]

($ millions)	F2020		F2021		F2022
	RRA	Actual	RRA	Forecast	Plan
Generation					
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	383.4
Total Generation	345.1	305.1	435.5	351.2	388.4
Site C Project (Schedule 13, Line 8)	1,530.0	1,619.1	1,535.5	1,626.0	1,361.0
Transmission					
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
Total Transmission	407.6	382.9	485.4	371.5	468.5
Distribution					
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
Total Distribution	487.5	515.9	461.4	519.1	526.1
Business Support					
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
Total	2,988.3	3,071.4	3,104.1	3,086.0	2,959.0
Less: Contribution in Aid	(157.8)	(178.8)	(148.4)	(159.7)	(214.2)
TOTAL	2,830.5	2,892.6	2,955.7	2,926.4	2,744.8

[67]

113. The CEC notes that BC Hydro's planned capital expenditures are about $2 million lower than F2021 RRA and Forecast.

[67] Exhibit B-2, page 6-6

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

($ millions)	F2020		F2021		F2022
	RRA	Actual	RRA	Forecast	Plan
Generation					
Growth	2.7	-	-	-	-
Sustaining	312.0	359.5	297.0	244.3	272.4
Total Generation (Schedule 13, Line 13)	314.7	359.5	297.0	244.3	272.4
Site C Project (Schedule 13, Line 17)	27.9	12.9	189.4	197.5	-
Transmission					
Growth	97.9	88.0	83.3	92.3	168.1
Sustaining	195.9	111.6	146.3	191.4	272.6
Total Transmission (Schedule 13, Line 15)	293.8	199.7	229.6	283.7	440.7
Distribution					
Growth	306.9	307.6	344.2	325.3	301.7
Sustaining	195.3	162.0	196.5	199.0	201.2
Total Distribution (Schedule 13, Line 16)	502.2	469.6	540.7	524.3	502.9
Business Support					
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
Total	1,391.0	1,236.1	1,459.1	1,528.3	1,445.2
Less: Contribution in Aid	(146.1)	(140.5)	(165.8)	(165.7)	(187.2)
TOTAL	1,244.9	1,095.6	1,293.2	1,362.7	1,258.0

[68]

114. BC Hydro's planned capital additions are about $1 million lower than F2021 Forecast, and slightly lower than F2021 RRA.

115. The reductions in capital expenditures and additions are largely due to the completion of major projects and programs in fiscal 2021, such as the Supply Chain Applications and some Distribution programs.[69]

116. BC Hydro does not expect the pandemic to have a material impact on forecast capital additions.[70]

117. BC Hydro provides details of its generation and distribution plans including capital projects in its Application.

118. The CEC will only provide comments on specific areas of concern.

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[68] Exhibit B-2, page 6-7

[69] Exhibit B-2, page 6-7

[70] Exhibit B-2, page 6-7

Capital Cost Performance Metric

119. In Section 6-3.2 of its Application BC Hydro reviews its Service Plan commitment to delivering capital programs to within +/-5% of expected cost.

Table 6-3 Project Budget to Actual Cost Metric Results (2012 to 2020)

	F2012 to F2016	F2013 to F2017	F2014 to F2018	F2015 to F2019	F2016 to F2020
# of Projects	563	540	493	426	377
Original Approved Expected Costs ($ million)	6,491	6,363	6,936	8,000	7,182
Actual Costs ($ million)	6,479	6,303	6,963	8,028	7,022
Cost Variance ($ million)	-12.0	-59.9	27.9	27.1	-160.2
% Variance from Original Approved Expected Costs	-0.18	-0.94	0.40	0.34	-2.23

[71]

120. BC Hydro's history demonstrates that between F2016 to F2020 it spent $160.2 million less than budgeted on its projects.

121. The CEC submits that while it is laudable for BC Hydro to underspend on its projects, a major weakness in BC Hydro's metrics are a lack of benefit accountability for the budgeted cost.

122. The CEC submits that the metric does not provide a good view of BC Hydro's cost-effectiveness regarding, benefits, budgeting or capability in constructing projects, in that it is difficult to determine if BC Hydro might have intentionally or inadvertently overestimated its budget, or otherwise allowed for excessive spending.

123. The CEC submits that ongoing analysis of additional metrics, which include analysis of the benefits and budgets, would be useful for long-term tracking.

Asset Investment Planning Tool

124. In its last RRA, BC Hydro reviewed the Asset Investment Planning Tool, which the BCUC encouraged BC Hydro to pursue in Order G-246-20.[72]

125. It had an estimated cost of $5.3 million to $9.3 million.[73]

[71] Exhibit B-2, page 6-18

[72] Exhibit B-2, page 6-8

[73] Exhibit B-5, CEC 1.35.1

126. BC Hydro provides the following description in CEC IR 1.35.1:

> "The main objective of the Asset Investment Planning ("**AIP**") Tool project was to improve upon BC Hydro's already well-established and effective capital planning process. BC Hydro sought to improve this process by implementing an integrated technology solution and an enterprise investment value framework that enables a more consistent and objective approach to comparing the risk and benefits of different investments. Migrating all business groups across the organization to a common technology platform and investment evaluation framework would improve the efficiency and transparency of our already mature capital decision making capability.
>
> The expected financial benefits are associated with implementing these tools and processes to objectively optimize the scope and timing of investments in order to maximize the portfolio value across the enterprise.
>
> The project was approved to start the Definition Phase in August 2018 and originally forecast to complete Implementation by December 2020. At the time of the Definition business case approval the expected project cost was in the range of $5.3 million to $9.3 million."[74]

127. In CEC IR 1.35.1, BC Hydro also provided the initial business case for the project.

128. The CEC notes that the justification in the business case would appear to suggest that the project addressed significant issues, is very important in managing BC Hydro's complex portfolio of asset investments, and the urgency of implementation is high.

Justification Statement	With an aging asset infrastructure and enterprise investment demands that exceed financial and other constraints, the existing processes and multitude of tools used to plan BC Hydro's large and complex portfolio of asset investments require enhancement. BC Hydro requires consistent and scalable processes with dedicated, enabling tools to justify its investments and demonstrate that it is maximizing business value from those investments. This project will develop and implement an investment value framework and an enterprise solution for asset investment planning. The project will increase the business value derived from $2B per year of capital investments, limit the need for manual processes to update and prioritize investments, reduce the time required to develop investment scenarios and drive consistency and transparency for BC Hydro's approach to asset investment planning.

[74] Exhibit B-5, CEC 1.35.1

Problem or Opportunity	The BC Hydro Generation, Transmission & Distribution, Technology, Fleet Services and Properties groups have historically worked independently to develop processes and find tools to support capturing information and making investment decisions regarding their investment portfolios. As a result, BC Hydro does not have a set of standardized and aligned processes and an enterprise IT solution that enables effective and efficient investment planning and portfolio decision making. The resulting business problems include: • There is no single source of truth that links assets, risks / value and investments (i.e. a central asset based risk register) • There is no single source of truth for investment information or methods used to optimize portfolio value, run investment scenarios and measure trade-offs. • There is no means to objectively assess the trade-offs on the scope and timing of various investments (projects, programs) to maximize portfolio (or sub-portfolio) value. The current portfolio decision making approach is driven by risk and is heavily reliant on subject matter expert input. This approach is extremely laborious and inadequate considering the fact that the portfolio is made up of hundreds of potential investments, many of which have flexibility on scope and timing. • Due to limited functionality and the limited current license base, there is heavy reliance on manual transfers and manipulation of investment information to facilitate review. This makes the processes time consuming, less transparent and more prone to error. • There is no centralized risk tracking, portfolio analytics & modeling of long-term investment needs as asset investment information is not integrated to key systems (e.g. SAP, AHI/EHR for asset condition information • There are no integrated workflow management capabilities for developing or approving investment information which creates the need for manual work arounds with no audit trail. • There are no asset investment planning business and technology sustainment roles or ongoing governance structure that are integrated into the organization for support and continuous improvement
Urgency	Developing a consistent and scalable enterprise approach to asset investment planning (bottom up planning through portfolio optimization) is one of the key priorities for the new Integrated Planning line of business and this project is essential to achieving it. Proceeding now is essential to ensuring that BC Hydro can develop, test and fully implement the new capabilities ahead of the F20+. A value framework (clear definition of sources of business value: risk, benefits) and a means of intelligently implementing it are required to enable an objective portfolio optimization approach that can maximize business value. For each planning cycle that does not use this approach, the financial and efficiency benefits cannot be realized. Organizational maturity for evolving the asset investment planning approach is high, based on the experience gained by the asset management teams using the interim solutions and the engagement that has occurred through the Enterprise Investment & Prioritization initiative and the Generation Operating Model initiative.

[75]

129. The CEC finds the change in discussion of the value of the project between the business case and this proceeding to be disturbing.

130. The CEC notes that Ms. Daschuk was the project sponsor and presumably signed off on the descriptions contained in the business case, which appear now to be significantly diminished in the current discussion.

[75] Exhibit B-5, CEC 1.35.1 Attachment 1

131. In the oral hearing, Ms. Daschuk stated that:

> "The tool was intended to allow [BC Hydro] to make better decisions around how to optimize or get the best value out of the capital. It was a value based framework, as opposed to a risk based framework. It would have given us some ability to look at different ways in which capital investments could add value to the company and to our customers.
>
> We still have a plan to pursue the asset portfolio tool, we are just not doing it right now."[76]

132. She later stated:

> "I would say that we feel we have a very robust capital planning process, and the asset portfolio optimization tool was going to make us even better. And we still believe that we have a robust approach, which is albeit a risk-based approach. We are going to look at those opportunities to do that in the future. I still feel very confident that we have a good capital program, good capital plan, we're making good decisions on what types of projects to advance."[77]

133. BC Hydro states that it cancelled the project based on new information of the expected cost and its view of the cost-effectiveness of the project.[78]

134. In the oral hearing Ms. Daschuk points out that the cost of the tool was becoming 'increasingly high' and that when speaking with other utilities they would be better to make other investments in technology first and then 'layer on to an existing enterprise management platform'.[79]

135. The CEC does not find credible BC Hydro's suggestion that it sincerely intends to follow through with the planning tool in the future.

136. Mr. Weafer asked:

> "But just to put that in a timeframe, BC Hydro identified over two years ago the asset planning tool that it was worth investing in, and looking at capital expenditure cost effectiveness.
>
> We've now had two years pass, and it's cancelled, and now when do you think you will be in a position to have what you are proposing in place at BC Hydro?"[80]

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[76] Transcript Volume 1 page 149-150

[77] Transcript Volume 1 page 151

[78] Exhibit B-2, page 6-8

[79] Transcript Volume 1 page 149-150

[80] Transcript Volume 1 page 150

137. Ms. Daschuck replied:

> "We don't have a timeline."[81]

138. Ms. Daschuk noted that the costs were increasing and they 'didn't see the benefits justifying the costs at this time'[82], and again acknowledged there is no timeframe for when the issues will be addressed.[83]

139. The CEC does not find BC Hydro's explanations as to the cancellation of the project to be very persuasive in that there is little specific evidence of the change in cost effectiveness. It is puzzling that BC Hydro finds that pursuing a project to improve its cost-effectiveness is in itself not cost-effective.

140. The project appears to have never been properly initiated.

141. The CEC notes that BC Hydro had planned expenditures of $4.2 million for the Asset Planning Investment Tool in its F2020 RRA, but only spent $0.3 million. BC Hydro had similar planned expenditures of $1.0 million in F2021, and did not spend any of it.

First RRA Appearance	Planning ID	Name of Project	Capital Addition RRA F2020	Capital Addition Actual F2020	Capital Addition RRA F2021	Capital Addition Forecast F2021	Capital Addition Plan F2022	Capital Expenditure RRA F2020	Capital Expenditure Actual F2020	Capital Expenditure RRA F2021	Capital Expenditure Forecast F2021	Capital Expenditure Plan F2022
F22	T002304	PC Device Purchase F22		-		-	3.8		-		-	3.8
NONE	T001968	Storage Capacity Growth F19		0.3		-			2.5			
NONE	T001849	Edmonds Campus Network Referesh		2.6		-			0.4			
NONE	T002114	Server Refresh		2.1		-			0.2			
NONE	T002257	Enterprise License Agreement True Up F20-F21		19.5		-			19.5			
		Projects and Programs less than $2 million	34.1	21.2	22.9	44.5	40.2	30.9	24.9	17.9	33.1	32.2
		TOTAL Manage Risk and Sustain Productivity	72.6	64.9	65.7	71.6	79.2	68.8	83.1	53.1	68.0	60.6
	Planning ID	Name of Project	Capital Addition RRA F2020	Capital Addition Actual F2020	Capital Addition RRA F2021	Capital Addition Forecast F2021	Capital Addition Plan F2022	Capital Expenditure RRA F2020	Capital Expenditure Actual F2020	Capital Expenditure RRA F2021	Capital Expenditure Forecast F2021	Capital Expenditure Plan F2022
		Enhance Business Capability										
		Projects Over $2 million										
F20-F21	T001127	Supply Chain Applications	57.4	-	-	68.0	0.3	19.0	26.6	-	8.0	0.3
F20-F21	T001851	Stations Work Planning, Scheduling and Work Execution	-	-	6.4	-		3.5	-	2.5	-	
F20-F21	T001637	Asset Investment Planning Tool	-	-	-	-		4.2	0.3	1.0	-	
F20-F21	T001611	Autodesk Substation Design Suite	2.4	1.9	-	-		0.9	1.2	-	-	
F20-F21	T001035	Dam Safety Information System (DSIS)	-	-	2.2	1.9		1.0	0.3	0.9	1.0	
F20-F21	T000625	Fleet Telematics	-	-	2.2	1.9		1.8	0.2	0.1	1.0	
NONE		Power System Projects (26)		15.0		-						
		Programs over $2 million										
		Projects and Programs less than $2 million	13.5	5.6	1.5	4.3	8.2	4.0	5.9	0.4	4.4	8.2
		TOTAL Enhance Business Capability	73.3	22.5	12.3	76.1	8.5	34.4	34.4	4.8	14.3	8.5
		Portfolio Adjustment	(24.6)		(10.5)	(15.0)	(10.0)	(24.6)		(10.5)	(19.0)	(10.0)
		Total	141.0	93.7	75.0	143.4	87.6	93.5	132.1	55.5	69.1	69.0

[84]

142. The CEC submits that given the significant capital investments made by BC Hydro every year, any small % savings or improvements could justify a fairly significant expense for the Asset Investment Planning Tool. The CEC notes that BC Hydro intends to write off $9.3 million in fiscal 2022 which will be recovered from ratepayers.

143. The CEC submits that indefinite deferral is not an appropriate option.

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[81] Transcript Volume 1 page 151

[82] Transcript Volume 1 page 150

[83] Transcript Volume 1 pages 151, 152

[84] Exhibit B-4, BCUC Attachment 1.50.2 page 1 of 2

144. The CEC recommends that the Commission direct BC Hydro to, within one year, revise the business case for the Asset Planning Investment Tool and present a firm timeline for its implementation.

Certificate of Public Convenience and Necessity ("CPCN") for Major Projects

145. In its Final Argument, BC Hydro provides a discussion recommending that the Commission avoid directing it to file CPCNs for any of the 16 projects that have a forecast cost of close to $20 million, which are normally included in Appendix J.[85]

146. Their reasoning is that there are Power System projects already in implementation and which have a cost well below the $100 million CPCN threshold ($35.3 million, $18.9 million, and $40 million), or they are projects that are in the identification phase and have no cost estimate.

147. BC Hydro has independently identified the projects that will or could potentially exceed the major projects threshold in BC Hydro's Capital Filing Guidelines.[86]

148. The CEC agrees that no CPCNs should be required for projects that are well below the CPCN threshold, and acknowledges that future projects can be reviewed in future years.

149. The CEC would prefer to see this deferral of reviewing certain projects be done in a context where BC Hydro is committed to improving its overall processes and systems for examining its own cost-effectiveness in capital investment.

Capital Cost Conclusion

150. The CEC recommends that the Commission approve the capital plan subject to the comments related to the Asset Investment Planning tool and Performance metrics above.

G. PROJECT WRITE-OFFS

151. BC Hydro proposes to recover $9.3 million in Project Write-Off costs in fiscal 2022.

152. In its Previous Application, BC Hydro forecast project write-offs totaling $9.9 million in fiscal 2020, and $9.7 million in fiscal 2021.

153. Actual project write-offs in fiscal 2020 were $11.9 million, which was composed of $15.2 million less customer contributions of $3.3 million.

154. BC Hydro is not seeking recovery of $2.6 million of the $11.9 million as BC Hydro does not believe it would be reasonable for ratepayers to pay for the costs in these instances.

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[85] BC Hydro Final Argument page 48

[86] BC Hydro Final Argument page 48

155. BC Hydro has therefore deferred $9.3 million ($11.9 million minus $2.6 million) to the Project Write-off Costs Regulatory Account in fiscal 2020, and proposes to recover this amount from ratepayers in fiscal 2022.[87]

156. These were described in Appendix L of Exhibit B-2-2 and include the following:

Project Name	$ Million
Metro North Transmission Project	6.5
Williston Station Service Transfer and AC Panels	3.1
Peace Region to Kelly Lake 500 kV Transmission Reinforcement /Peace to Kelly Lake Capacitors Project (PKCP)	0.9
Comox Puntledge (CMC-PUN) Flow Control Improvement Project	0.7
Prince George to Terrace Capacitors (PGTC)	2.2
Project Write Offs less than $300k	0.3
Total Write off Amounts	9.3

[88]

157. The CEC has reviewed the evidence related to Project Write-Offs and finds the discussion to be acceptable.

158. The CEC recommends that the Commission approve the Project Write-Offs as proposed by BC Hydro.

H. REGULATORY ACCOUNTS

159. BC Hydro proposes limited changes to its regulatory accounts as outlined in Part Seven of its Final Argument.

160. These include:

a) Recovering the balances in the Cost of Energy Variance Account using the DARR table mechanism;

b) Deferring any variances arising in fiscal 2022 arising from the Depreciation study to Amortization of Capital Additions Regulatory Account;

c) Continuing its current treatment of deferring dismantling costs to the Dismantling Cost Regulatory Account;

d) Recover certain amounts and apply interest to the balance of the Project Write Off Costs Regulatory Account;

e) Creation of an Electric Vehicle Costs Regulatory Account; and

[87] Exhibit B-2-2 Appendix L

[88] Exhibit B-2-2 Appendix L

f) Close the Rock Bay Remediation Regulatory Account.

161. The CEC has reviewed the evidence related to BC Hydro's proposed changes to its Regulatory Accounts and finds them to be suitable.

162. The CEC recommends that the Commission approve the changes to the Regulatory Accounts as proposed by BC Hydro.

I. OTHER REVENUE REQUIREMENTS

163. BC Hydro's Other Revenue Requirements are discussed in the Application at Chapter 8.

164. These items include Amortization Expense, Return on Equity, Finance Charges, Taxes, Miscellaneous Revenues, Inter-Segment Revenues, Subsidiary Net Income, the allocation of Business Support Costs, and International Financial Reporting Standards.

165. The CEC finds BC Hydro's review of the above and responses to information requests to be satisfactory.

166. The CEC recommends that the Commission approve the Other Revenue Requirements as presented in the Application.

J. TRANSMISSION REVENUE REQUIREMENTS

167. BC Hydro's proposed Open Access Transmission Tariff ("**OATT**") rates are designed to collect the Transmission Revenue Requirement ("**TRR**") including customer costs.[89]

168. The cost causation methodology that BC Hydro has used to calculate the TRR in the Application is consistent with the method used in previous RRAs.[90]

[89] Exhibit B-5, CEC 1.59.2

[90] BC Hydro Final Argument page 55

Table 9-4 Proposed OATT Rates Fiscal 2022

	Rate Schedule	Rate Class	Reference	F2022 Plan
1	Attachment H	NITS Revenue Requirement ($)	Schedule 3.4 L33	985,900,800
2	RS 00	NITS Monthly Rate ($)	Schedule 3.4 L34	82,158,400
3	RS 01	Long Term Firm Point-to-Point		
4		Yearly - $/MW of Reserved Capacity per year	Schedule 3.4 L42	78,862
5		Short Term Firm and Non-Firm Maximum Price for Delivery		
6		Monthly - $/MW of Reserved Capacity per month	Schedule 3.4 L43	6,571.79
7		Weekly - $/MW of Reserved Capacity per week	Schedule 3.4 L44	1,516.57
8		Daily - $/MW of Reserved Capacity per day	Schedule 3.4 L45	216.06
9		Hourly - $/MW of Reserved Capacity per hour	Schedule 3.4 L46	9.00
10	RS 03	Scheduling, System Control and Dispatch Service ($)		
11		per MW of Reserved Capacity per hour	Schedule 3.4 L49	0.155

[91]

169. All costs that are forecast to be assigned to the transmission system for the test period are included in the TRR and would be incurred regardless of whether or not there were additional customers on the system.

170. There may be variable costs and revenues associated with additional customers on the system such as operating costs allocated and revenues from the sale of Point-To-Point Transmission Service and Ancillary Services. However, as part of the cost causation study, these transmission services are established on a forecast basis and additional customers are not expected or included in the forecast for the fiscal 2022 test period beyond known long-term contracts and past short-term usage.[92]

171. The CEC has reviewed the evidence related to the TRR and finds it to be satisfactory.

172. The CEC recommends that the Commission approve the TRR as proposed by BC Hydro.

[91] Exhibit B-2, page 9-17

[92] Exhibit B-5, CEC 1.59.1

K. DEMAND SIDE MANAGEMENT

173. BC Hydro provides an overview of its DSM plans in Section 10 and Appendix M of its Application.

174. BC Hydro provides the following DSM Expenditure Schedule in Table 10-4, which demonstrates increased spending in residential DSM and decreased spending for commercial DSM for F2022 as compared to F2021 RRA and F2021 Forecast.[93]

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[240]	7.6	15.5
Total Expenditures	**96.8**	90.0	97.6

[94]

175. BC Hydro also provides the energy and capacity impacts of its DSM and Low Carbon Electrification activities.[95]

[93] Exhibit B-2, page 10-9

[94] Exhibit B-2, page 10-9

[95] Exhibit B-2, page 10-9

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

	F2021 RRA	F2021 Forecast	F2022 Plan
New Incremental Energy Savings (GWh/year)			
Codes and Standards	411	405	259[241]
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
New Incremental Load Growth (GWh/year)			
Low-Carbon Electrification	61	65	148

[96]

Table 10-6 Fiscal 2021 and Fiscal 2022 Associated Capacity (MW) Impact Summary

	F2021 RRA	F2021 Forecast	F2022 Plan
New Incremental Associated Capacity Savings (MW)			
Codes and Standards	88	88	51
Rate Structures	14	9	9
Programs			
Residential	10	11	11
Commercial	8	8	6
Industrial	16	16	15
Total Programs	34	35	33
Total New Incremental Energy Savings	136	133	93
New Incremental Associated Capacity Growth (MW)			
Low-Carbon Electrification	9	10	29

[97]

176. In CEC IR 1.62.2, BC Hydro provides the following historical DSM spending for the commercial sector.

[96] Exhibit B-2, page 10-10

[97] Exhibit B-2, page 10-10

Commercial Programs	DSM Expenditures ($ million)					
	F2017 Actuals	F2018 Actuals	F2019 Actuals	F2020 Actuals	F2021 RRA	Updated[2] F2021 Forecast
LEM-C	25.0	15.2	13.2	9.1	9.1	9.3
New Construction	8.8	8.9	5.2	3.3	2.4	1.9
Commercial Energy Management Activities	0.7	0.6	0.6	6.1	6.1	5.5
Commercial Sector Total	34.5	24.7	19.0	18.5	17.5	16.8

[98]

177. The CEC notes that the Commercial DSM expenditures have declined significantly over the last five years, resulting in a more than 50% decrease since F2017 actuals.

178. In particular, the Leaders in Energy Management ("**LEM-C**") program has been reduced from $25 million in F2017 to $9.3 million in F2021.

179. The CEC notes that the LEM-C program is extremely cost effective.

	Fiscal 2022 Benefit Cost Ratios[1]	
	Utility Cost Test (Market Price at $33 per MWh)	Modified Total Resource Cost Test (LRMC at $54 per MWh)
LEM-C program	2.2	3.0

A benefit cost ratio greater than 1.0 means that benefits exceed costs; hence, the LEM-C program is cost-effective under both cost tests.

[99]

180. The significant reduction in DSM spending for commercial customers was acknowledged in the oral hearing by Mr. Hobson.[100]

181. Mr. Hobson points out that BC Hydro is following a 'moderation approach' to DSM, making sure that they strike the right balance, with broad opportunities for customers to

[98] Exhibit B-5, CEC 1.62.2 LEM-C is Leaders in Energy Management

[99] Exhibit B-5, Bryenton 1.16.2

[100] Transcript Volume 1 page 164

be able to participate in the programs and have the capability to ramp up if needed, and using market price against utility costs.[101]

182. The CEC submits that the 'moderation approach' appears to have been particularly targeted to commercial rate classes, which have undergone a significant drop in spending, and which are planned to drop again by nearly $1 million from the F2021 RRA of $17.5 million to the F2022 RRA of $16.6 million. In contrast, the residential rate class program spending is forecast to increase from $19.7 million in F2021 RRA to $21 million in F2022 RRA.

183. The CEC submits that this is essentially a transfer of DSM spending from commercial rate classes to the residential rate class.

184. The CEC notes that the benefits vs costs of commercial DSM are very favourable.

185. The following table compares the cost effectiveness of DSM spending by rate class.

The table below breaks out the Program details in Table 10-10 of the Application by rate group (i.e., Residential, Commercial, Industrial).

	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 ($)
Residential	2.2	2.0	-11	-4
Commercial and Light Industrial	2.5	2.7	-0.05	-29
Large Industrial	1.5	2.4	17	-12
Total Programs	2.1	2.4	1	-18

[102]

186. As demonstrated above, the Commercial and Light Industrial classes have the most cost-effective programs of any of the rate classes, and are considerably more cost effective than the programs in the residential sector. The Total Resource Cost is -$29/MWh.

187. Mr. Hobson states that one of the things they 'trade-off' is cost-effectiveness.[103]

[101] Transcript Volume 1 page 164

[102] Exhibit B-5, CEC 1.64.1

[103] Transcript Volume 1 page 164

188. While trading off cost-effectiveness may be reasonable at some level, the CEC submits that it has been overwhelmingly traded-off over the years in an unreasonable manner.

189. The CEC does not consider the reduction in proposed commercial DSM spending to be acceptable.

190. In addition to being extremely cost-effective, the CEC submits that increased DSM spending in the Commercial sector could be important in supporting the rejuvenation of the economy following the pandemic.

191. Mr. Hobson acknowledged that investment in DSM could prove to be a valuable benefit to customers that are able to participate in the initiative.[104]

192. The CEC submits that the ongoing reductions in DSM spending in the commercial and light industrial sectors is inappropriate and particularly egregious in light of the high Revenue to Cost ratios contributed by the commercial sector rate classes and the lack of COVID-19 support provided to MGS and LGS rate classes, as discussed later in these submissions

193. The CEC submits that the Commission should deny BC Hydro's DSM spending plan and identify that it would accept a DSM spending plan that provided more balanced spending for commercial rate classes.

L. ELECTRIFICATION

194. BC Hydro provides a review of its electrification plan, proposed recovery for its EV charging stations, and revenue from low carbon fuel credits in Part Eleven of its Final Argument.

Electrification Plan

195. BC Hydro provides the following Table in its Application at page 10-23. The activities support the BC Energy Objectives.[105]

[104] Transcript Volume 1 page 164

[105] Exhibit B-2, page 10-23

Table 10-11 Low-Carbon Electrification Plan Alignment with B.C. Energy Objectives

Energy Objective	Low-Carbon Electrification Plan
To ensure that BC Hydro's rates remain among the most competitive	The incremental revenue from LCE undertakings reduces forecast rate increases.
To reduce B.C. GHG emissions	BC Hydro's planned low-carbon electrification undertakings up to and including fiscal 2022 are forecast to result in natural gas and other fossil fuel savings. These savings will reduce B.C. GHG emissions by approximately 330,000 tonnes of CO^2e/year.
To encourage the switching from one kind of energy source or use to another that decreases GHG emissions in B.C.	BC Hydro's planned LCE undertakings are focused on reducing GHG emissions.
To encourage economic development and the creation and retention of jobs	BC Hydro's planned LCE undertakings create economic activity and jobs within the province.

[106]

196. BC Hydro is currently developing a five-year electrification plan which will provide a broader view of BC Hydro's electrification activities. BC Hydro proposes to file the plan[107] and associated performance metrics in its next RRA.[108] BC Hydro will be consulting stakeholders on the plan in 2021.[109]

197. BC Hydro 'is not waiting' for the electrification plan,[110] and has already commenced certain electrification activities such as the introduction of new industrial electrification rates, implementation of electric vehicle ("**EV**") charging stations, Low Carbon Electrification ("**LCE**") Projects/Programs and larger infrastructure projects such as the Peace Region Electric Supply Project and the North Montney Region electrification project.[111]

198. BC Hydro's electrification plan will bring all these current efforts together, along with different opportunities and tools, with a business case for the costs and resources needed to meet electrification plan targets.[112]

199. The CEC supports the identified intended benefits of the electrification activities and the development of the electrification plan. The CEC is always cautious when significant spending occurs before plans are fully considered or complete, and before the business case is fully developed.

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[106] Exhibit B-2, page 10-23

[107] Exhibit B-5, CEC 1.61.1

[108] BC Hydro Final Argument page 65

[109] Exhibit B-2, page 10-2

[110] BC Hydro Final Argument page 66

[111] BC Hydro Final Argument page 66

[112] BC Hydro Final Argument page 66

200. The CEC submits that it is important that BC Hydro complete the electrification plan with the associated business case and submit it for BCUC approval in the next RRA.

201. The CEC submits that it would be appropriate for the Commission, in this Decision, to have BC Hydro identify the requirement for the electrification plan and metrics to be included in the next RRA or otherwise provide an explanation as to why it has not scoped the requirements for the plan.

202. The CEC submits that establishing a separate review of the electrification plan could be an appropriate measure and ensure adequate time and attention is provided to this important and impactful plan.

EV Charging Station Recovery

203. BC Hydro is building a network of direct current fast charging EV charging stations across BC, and expects to have 155 'eligible' charging stations by the end of fiscal 2022.[113]

204. BC Hydro forecasts total costs of $4.8 million over fiscal 2020 to fiscal 2021 for EV charging stations that are prescribed undertakings, and BC Hydro is seeking recovery of these costs.[114] The costs were deferred to the Electric Vehicle Costs Regulatory Account, and BC Hydro proposes to 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. BC Hydro expects that there may be a balance remaining in the account in the fiscal 2022 test period that will need to be recovered over the subsequent test period. BC Hydro will propose to close the account once the balance in the account is fully recovered and the account is no longer required.[115]

205. BC Hydro provides an overview of why its EV charging stations fall within the definition of a prescribed undertaking in Section 5 of the *Greenhouse Gas Reduction (Clean Energy) Regulation* in its Final Argument at pages 67-71.

206. The CEC submits that the stations are appropriately considered to be prescribed undertakings.

207. BC Hydro goes on to review the legal principles behind the interpretation of Section 18 of the *Clean Energy Act* which requires recovery of all costs incurred with respect to prescribed undertakings.[116]

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[113] BC Hydro Final Argument page 68

[114] BC Hydro Final Argument page 78

[115] BC Hydro Final Argument page 79

[116] BC Hydro Final Argument pages 71-79

208. The CEC has reviewed the evidence and accepts BC Hydro's argument as being appropriate and resting on a solid legal foundation.

209. The CEC recommends that the CEC approve the recovery of BC Hydro's EV charging station costs as prescribed undertakings as requested by BC Hydro.

M. PERFORMANCE METRICS

210. BC Hydro reviews its performance metrics in Appendix O of Exhibit B-2-2.

211. Each business unit has a set of metrics for F22 Target which relate to Safety, Financial, Compliance, People, Operational Service Delivery, and are established for the business unit.

212. The Performance Targets for 'Operations' are reproduced below:

Operations

Metrics	F22 Targets
Safety	
• Zero Fatality & Serious Disabling Injury (#) - Employees	0
• Lost Time Injury Frequency	1.39
• Timely Completion of Corrective Actions (%)	97%
• Lost Time Injury (#) - Employees	28
• Medical Attention – Treatment (#) - Employees	34
• Lost Time Injuries and Medical Attention – Treatment (#) - Contractors	Info Only
Financial	
• O&M ($M)	$261.4
• Total Capital Delivered by Operations ($M)	$723.3
• Total Capital Delivered by Program and Contract Management ($M)	$437.8
• Total Maintenance Delivered by Operations ($M)	$208.8
• Total Maintenance Delivered by Program and Contract Management ($M)	$201.7
Compliance	
• Mandatory Reliability Standards – Violation Reduction Against F21 (%)	20%
• Timely Completion of Mandatory Reliability Standards' Corrective Actions (%)	95%
• Priority Environmental Incidents (#)	≤ 6
People	
• Headcount Equivalent (HCE) - Active employees only (#)	2,538.9
• Training Hours (excluding safety training) per HCE (Hours)	45.0
Operational / Service Delivery	
• SAIDI (System Average Interruption Duration Index)	3.20
• SAIFI (System Average Interruption Frequency Index)	1.40
• 5-Year Rolling Average Forced Outage Factor (FOF) Performance (Key Generating Stations) (%)	1.80%
• Connect Time Met - Express Connect (% met in 10 Days)	85%
• Estimated Time of Restoration (ETR) Compliance (%)	75%
• Estimated Time of Restoration (ETR) Accuracy (% within 60 minutes)	80%
• Clean Energy (%)	93%

[117]

213. The CEC does not find these metrics to be a suitable end stage for BC Hydro's metrics, particularly for Commission oversight. The CEC has taken up BC Hydro's offer to work with the CEC to obtain the CEC's input to the BC Hydro metrics process. The CEC has found the initial meetings with BC Hydro staff to be encouraging and hopes to help BC Hydro with respect to what it may file in its next RRA filing in this regard. The CEC is continuing to participate in this activity on an ongoing basis so long as there is progress toward improvement and BC Hydro continues to find it useful to their process.

[117] Exhibit B-2-2, Appendix O page 3 of 6

214. The CEC recommends that the Commission commend BC Hydro for seeking customer input on its metrics and encourage BC Hydro to continue the consultation process.

N. COVID-19 SUPPORT

215. The CEC requested that BC Hydro provide a complete list of actions that BC Hydro undertook for each rate group to provide relief from COVID-19 in CEC 1.15.1. The following summarizes their response.

216. For residential customers, BC Hydro offered bill credits of three times their monthly bill for customers who lost their job or were unable to work. Customers did not have to pay back the credited amounts. BC Hydro provided $37.2 million in bill credits to residential customers.

217. For small business customers, BC Hydro waived electricity charges for up to three months for small businesses that fully closed for at least 14 days as a result of the pandemic. BC Hydro provided $6.3 million in relief to small business customers.

218. For industrial customers, BC Hydro implemented three initiatives which included bill deferral, average billing demand, and non-recurring downtime as described in the Information Request response.

219. BC Hydro provided additional measures for all distribution customers.

220. The CEC submits that BC Hydro has consistently failed to provide adequate assistance to medium and large commercial ratepayers.

221. The CEC submits that BC Hydro's COVID-19 relief measures for commercial customers have not been equitable relative to residential ratepayers, which is particularly egregious given the excessive contributions commercial customers make relative to their cost of service as discussed later in these submissions.

222. The CEC submits that BC Hydro has unreasonably withheld assistance from the MGS and LGS ratepayer groups and that this should be rectified as quickly as possible.

223. The CEC notes that many travel and tourism-related industries may be included in the MGS customer base and have been seriously negatively impacted by the pandemic. The rental industry has consequences with respect to payments for rents and costs. The hospitality industry of restaurants, bars and entertainment has been particularly hard hit. The CEC submits that BC Hydro's approach to COVID-19 impacts on customers has approached unfair and discriminatory.

224. The CEC recommends that the Commission direct BC Hydro to examine options to assist medium and large general service customers and report back to the Commission with a plan for assistance forthwith.

O. REBALANCING

225. The CEC recognizes that rate rebalancing is not applied for in this RRA.

226. BC Hydro has never undertaken to rebalance rates[118] and has planned to file its Fiscal 2020 Fully Allocated Cost of Service study before the end of February 2021.

227. The CEC nonetheless brings the current revenue to cost ratios for each rate class to BC Hydro's and the Commission's attention.

	1	2	3	4	5	6	7	8 = 6 ÷ 5
Rate Class	Generation Costs	Transmission Costs	Distribution Costs	Customer Care Costs	Total Cost	Total Revenue	Revenue - Cost ($ million)	Revenue: Cost Ratios (%)
Residential	1,108.1	432.5	528.9	72.3	2,141.8	2,025.2	-116.6	94.6
GS Under 35 kW	226.4	71.9	101.4	7.9	407.6	492.6	85.0	120.9
MGS < 150 kW	192.7	56.9	71.3	2.0	322.9	371.7	48.7	115.1
LGS > 150 kW	615.9	174.2	152.8	2.3	945.3	968.0	22.8	102.4
Irrigation	3.4	0.1	4.0	0.1	7.6	6.3	-1.3	83.4
Street Lighting BC Hydro	3.0	1.2	6.1	0.4	10.7	22.6	11.9	211.9
Street Lighting Customer	11.1	4.5	4.9	0.5	20.9	18.5	-2.4	88.4
Transmission	741.8	195.1	0.0	1.6	938.6	890.3	-48.2	94.9
Total	2,902.3	936.4	869.4	87.1	4,795.2	4,795.2	0.0	100.0

[119]

228. The CEC submits that the R:C ratios for small General Service and Medium General Service far exceed an appropriate level, while Residential and Transmission R:C ratios are unreasonably low, even considering a 5% 'fudge factor'.

229. The CEC acknowledges that the BCUC may not set rates for BC Hydro for the purpose of changing the revenue to cost ratio for a class of customers, but notes that BC Hydro is not precluded from filing an application to rebalance rates.[120]

230. The CEC submits that it is well within the purview and indeed responsibility of BC Hydro to ensure that each customer group contributes fairly to the overall revenue requirement based on their cost of service.

231. The CEC considers that it would be appropriate for BC Hydro to file an application as quickly as possible after the upcoming FACOS study to rectify the extensive and ongoing over-contribution from the GS, MGS and to some extent LGS customer classes.

[118] Exhibit B-5, CEC 1.3.5

[119] Exhibit B-5, CEC 1.3.1. BC Hydro Fiscal 2019 Fully Allocated Cost of Service Study May 2020.

[120] Exhibit B-5, CEC 1.3.4

III. CONCLUSION

232. The CEC finds the Application to be generally well-supported and adequate for a single year revenue requirement.

233. The CEC recommends that the Commission approve the rate increase as requested by BC Hydro subject to the comments itemized in these submissions, but deny BC Hydro's DSM Plan at this time.

ALL OF WHICH IS RESPECTFULLY SUBMITTED

David Craig

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