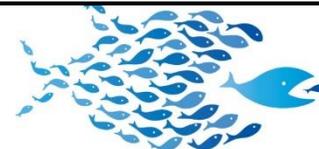


May 2, 2019

VIA E-FILING

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



BCPIAC
Public Interest Advocacy Centre

Reply to: Leigha Worth
lworth@bcpiac.com
Ph: 604-687-3034

Our File: 7500.120

Dear Mr. Wruck,

Re: British Columbia Hydro and Power Authority F2020 to F2021 Revenue Requirements Application - BCOAPO Information Requests No. 1

We represent the 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, known collectively in regulatory processes as "BCOAPO et al." ("BCOAPO").

Enclosed please find the BCOAPO's Information Requests No. 1 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.

REQUESTOR NAME: BCOAPO
INFORMATION REQUEST ROUND NO: 1
TO: BRITISH COLUMBIA HYDRO &
POWER AUTHORITY
DATE: MAY 2, 2019
PROJECT NO: 1598990
APPLICATION NAME: F2020-F2021 RRA

**1.0 Reference: Application, page 1-3 (lines 9-15)
Appendix E, 2019/20 to 2021/22 Service Plan, pages 8 to 15**

1.1 Are the goals set out in the current Service Plan the same as those in BC Hydro's previous Service Plan?

1.1.1 If not, what are differences and why have the utility's goals changed?

2.0 Reference: Appendix E, Government Mandate Letter, page 2

Preamble: The Minister's April 18, 2018 letter sets out as one of the priorities for BC Hydro: "Implement affordability measures, such as low income rates and expanded demand-side management programs targeted to low income rate payers".

2.1 Please outline BC Hydro's actions thus far towards implementing low income rates, including the current state of their development, major future milestones and the timeline for BC Hydro's Application to the BCUC for approval of such rates and additional DSM programs.

**3.0 Reference: Application, page 1-3 (lines 9-15)
Appendix E, 2019/20 to 2021/22 Service Plan, pages 8 to 15**

3.1 Are the performance measures used in the current Service Plan the same as those used for 2017/18 and 2018/19 Service Plans?

3.1.1 If not, what are the differences and why were the performance measures changed?

3.2 Are any of the performance targets proposed for 2019/20 or 2020/21 less aggressive than those set for 2018/19?

3.2.1 If yes, please indicate which ones and why the targets were "lowered".

3.3 Please provide a schedule that sets out the performance measure targets and actual results for 2017/18.

3.4 Please provide a schedule that sets out the performance measure targets and forecast results for 2018/19.

4.0 Reference: Appendix E, 2019/20 to 2021/22 Service Plan, page 17

4.1 What is the implicit net bill increase (i.e., rate increase) associated with the 2021/22 Budget?

5.0 Reference: Application, pages 1-8 and 2-2

Preamble: The Application (page 1-8) states: “Moving forward, this will enable the BCUC to review and make decisions on BC Hydro’s costs, proposed rate increases and almost all regulatory accounts, programs and capital projects”. (emphasis added)

The Application (page 2-2) states: “These repeals mean that most of the matters considered in this application are now subject to full review and oversight by the BCUC”. (emphasis added)

5.1 Please provide a schedule indicating which regulatory accounts, programs and capital projects the BCUC is not able to review and make decisions on.

6.0 Reference: Application, page 1-21 (lines 3-12)

6.1 Please provide a copy of the Morneau Shepell assessment.

6.2 Please provide the compensation metrics similar to those at lines 8-12 for each of BC Hydro’s major employee groups.

7.0 Reference: Application, page 1-33 (lines 12-19) and page 2-32

7.1 Please explain why, when the BCUC has not rescinded Directive 57, BC Hydro has not provided the financial information in the Application in accordance with the Uniform System of Accounts.

8.0 Reference: Application, pages 1-35 to 1-37

8.1 Please provide an alternative version of Table 1-4 that explains the differences between the fiscal 2019 actual results and the fiscal 2021 plan (based on the Gross View).

9.0 Reference: Application, pages 1-38 to 1-41

9.1 Please provide an alternative version of Table 1-6 that explains the differences between the fiscal 2019 actual results and the fiscal 2021 plan (based on the Current View).

10.0 Reference: Application, page 2-10

10.1 Are there any “expenditures for export” included in the proposed F2020 for F2021 revenue requirements?

10.1.1 If yes, please indicate where in the Application these expenditures are described.

11.0 Reference: Application, page 2-17, (lines 2-4 and 9-13)

11.1 At lines 2-4 the Application states that the BCUC can direct BC Hydro to file a CPCN for any projects that are below the financial threshold if they are extensions to BC Hydro's system (emphasis added). However, at lines 12-13 the Application indicates that the BCUC can direct BC Hydro to seek a CPCN for any project below the financial threshold. Please reconcile.

**12.0 Reference: Application, page 1-11, Table 1-1 and page 3-4 (lines 2-5)
Appendix G, pages 2-3
Appendix O, pages 134-135**

12.1 Please reconcile the forecast and actual domestic load volumes for F2017 and F2018 as set out in Table 1-1 with those set out in Appendix O.

13.0 Reference: Appendix P, page 10

13.1 What is the basis for the BC Hydro variances set out in the Table on page 10?

13.2 What is the basis for the EIA and Itron benchmarks (i.e., how were they established?)?

14.0 Reference: Appendix P, pages 15-16

14.1 Is the October 2018 Load Forecast the result of the F2019 load forecast cycle?

14.2 Have all of the Management Actions identified on pages 15 and 16 been completed and incorporated in the October 2018 Load Forecast?

14.2.1 If not, which ones were not incorporated in the October 2018 Load Forecast?

15.0 Reference: Application, page 3-12 (line 8) to page 3-13 (line 8) and page 3-19 (lines 12-23)

15.1 Why aren't electricity prices included as a variable in the "calibration" of the SAE models for the Residential and Commercial sectors?

**16.0 Reference: Application, pages 3-32 to 3-33
Appendix O, pages 118-127**

16.1 At page 120 Appendix O indicates that GDP growth uncertainty is one of the factors included in the Monte Carlo analysis for the Residential sector. Please indicate how GDP growth is incorporated as driver in the Residential load forecast.

16.2 Why isn't uncertainty in household growth used as an input in the Monte Carlo analysis for the Residential sector?

17.0 Reference: Application, page 3-37 – Table 3-3

17.1 Please confirm that the data columns in the table are for the years F2019, F2020 and F2021.

**18.0 Reference: Application, pages 3-37 (Table 3-3) and 3-40
Appendix O, pages 3 and 39**

18.1 Please reconcile the differences between the Residential load forecast for F2019-F2020 set out in Table 3-3 vs. Appendix O.

18.2 Please confirm that the statement (page 3-40, lines 7-9) regarding the use per Residential account remaining flat over the test period refers to use prior to any adjustments for code overlap, EV, fuel switching, price impacts or DSM.

18.3 With respect to Appendix O (page 39), please explain what the adjustment for loss reductions is reflecting.

18.4 With respect to Appendix O (page 39), are the DSM savings for F2020 and F2021 represent incremental saving from DSM program implemented after F2018 (i.e., the last year of historical data used for model calibration)?

18.4.1 If not, what are the savings in each year based on?

18.4.2 Do the savings values used incorporate any assumptions regarding loss of persistence from savings achieved in earlier years? If not, why not?

**19.0 Reference: Application, pages 3-37 (Table 3-3) and pages 3-40 to 3-42
Appendix O, pages 3 and pages 42 to 53**

19.1 Please reconcile the differences between the Commercial & Light Industrial load forecast for F2019-F2020 set out in Table 3-3 vs. Appendix O.

19.2 It is noted that the GDP forecasts used for the Commercial sector were prepared by the Conference Board of Canada (June 2018) while the GDP forecast used for the Light Industrial sector was from the BC Ministry Finance (September 2018). Please provide a schedule that compares the forecast F2019-F2021 real GDP growth rates for BC from the two sources.

19.3 In Appendix O, the section dealing with the Commercial load forecast contains differing forecasts for F2019-F2020: i) on page 3 there is Commercial forecast; ii) on page 49 (top of page) there are two slightly different forecasts presented and then iii) on page 52, the forecasts for F2020 and F2021 differ from either of those on page 49. Please explain/reconcile the differences between these three forecasts.

20.0 References: Appendix O, page 3 and pages 54 to 60

20.1 Please reconcile the F2019 forecast for Light Industrial on page 3 with the forecast on page 58.

**21.0 References: Application, pages 3-37 (Table 3-3) and page 3-42
Appendix O, page 3 and page 100**

21.1 Please reconcile the differing Large Industrial sector load forecasts for F2019 in the following references: i) Application, Table 3-8; ii) Appendix O, page 3 and iii) Appendix O, page 100.

**22.0 Reference: Appendix O, page 26
Application, pages 6-125**

Preamble: The Residential sector is the only sector for which the October 2018 Electric Load Forecast Report provides a forecast for the number of accounts.

22.1 Please provide a schedule that compares the Residential account forecast through to F2021 from the F2017-F2019 RRA with the actual/forecast number of Residential accounts per the current RRA. (Note: If available, please update the F2019 value in Appendix O, Table 4-3 for the actual number of Residential Accounts)

22.1.1 If the actual number of Residential accounts for F2017-F2018/F2019 is less than forecast in the last RRA, please reconcile this with the claim on page 6-125 regarding higher housing starts.

22.2 Please provide a schedule that set out for the years F2017-F2021: i) the forecast number of accounts from the F2017-F2019 RRA and ii) with the actual/forecast number of accounts per the current RRA:

- Commercial Sector
- Light Industrial Sector
- Large Industrial Sector

22.2.1 If the actual number of for F2017-F2018/F2019 is less than forecast in the last RRA, please reconcile this with the claim on page 6-125 regarding the unprecedented growth in distribution customer connections.

23.0 Reference: Application, page 3-56

23.1 While not discussed in Chapter 3, please confirm that the BC Hydro's approved regulatory accounts capture any differences between forecast and actual revenues for the test years.

24.0 Reference: Appendix A, page 38 (Schedule 4.0)

24.1 Please explain why line losses as a percentage of Sales are increasing throughout the F2017 to F2021 period.

25.0 Reference: Application, page 4-24

25.1 Please explain why the F2020 value for the Columbia River Treaty Related Agreements is positive when in all other years it is negative.

**26.0 Reference: Application, pages 5-16 to 5-18
F2017-F2019 RRA, BCUC IR 2.213.04**

26.1 Please update the table provided in response to BCUC IR 2.213.04 in the last RRA so as to include the actual capacity savings for F2016-F2018 and the forecast values for F2019-F2021.

26.2 Please provide a schedule that sets out the cumulative F2018 capacity savings by Business Group.

26.3 If there are sufficient “capacity savings” in a particular Key Business Unit could this lead to not having to replace/fill a vacant position and result in cost savings?

27.0 Reference: Application, page 5-20 and page 5-28

27.1 Please provide a schedule similar to Table 5-8 that reconciles Net Operating Costs and Gross Operating Costs.

27.2 Please provide a schedule similar to Table 5-8 that reconciles Net Operating Costs and Current Operating Costs.

28.0 Reference: Application, pages 5-21 to 5-22

28.1 With respect to Table 5-4, please provide references to the relevant BC Hydro Application and/or BCUC Decision supporting the values for: i) Compliance Filing Adjustment, ii) Waneta 2/3rd Operating Costs, and iii) Customer Crisis Funds Operating Costs.

28.2 The Supply Chain Applications project is forecast to be in-service in F2020 (Appendix J, page 121). How/where have the anticipated cost savings from this project been incorporated into the Operating cost forecast for F2020 and F2021?

29.0 Reference: Application, page 5-29

29.1 Please provide a schedule of the number of incremental FTEs in each year since F2016 due to the Workforce Optimization Program.

**30.0 Reference: Application, pages 5-29 to 5-32
F2017-F2019 RRA, page 5-16**

30.1 Please provide a schedule that sets out for each year in Figure 5-6 the actual number of FTEs, breaking out those attributable to SMI and Site C.

30.2 How many additional FTEs are associated with the costs and savings set out in Table 5-9?

30.3 With respect to page 5-32 (lines 7-13), please describe the “total cost” labour model and how it reduces BC Hydro’s operating costs.

30.4 In the F2017-F2019 RRA BC Hydro noted that while the Work Force Optimization Program will result in net savings, these will occur primarily in terms of capital costs and that operating costs may increase. With respect to Table 5-9, please break down the costs, savings and net savings for F2020 as between capital and operating costs.

30.4.1 What is the net impact on the F2020 Revenue Requirement?

31.0 Reference: Application, pages 5-35 to 5-38

31.1 Please provide a schedule that sets out annually for F2019 to F2021 the total incremental FTEs attributable to the Workforce Optimization Program. (Note: If the total for F2021 is not approximately 706, please explain why)

32.0 Reference: Application, pages 5-22, 5-25 and 5-40 to 5-41

32.1 At page 5-25, the Application states that \$7 M of the \$8.2 M in annual savings due to the Accenture repatriation were achieved prior to the test period. Since Figure 5-5 is based on the F2019 RRA Plan, please provide the relevant references to the Plan that indicate it reflected the Accenture Repatriation and included \$7 M in savings.

33.0 Reference: Application, page 5-42

33.1 With respect to Figure 5-8, please explain what “Deferred FTEs” represent.

33.2 Please confirm that the FTE values shown for F2019-F2021 are forecast and not actual values as the titles used in Figure 5-8 suggest.

33.3 Given the Workforce Optimization Program has increased FTEs by approximately 706, please confirm that without this Program (and excluding the Accenture Repatriation, Site C and SMI) BC Hydro’s FTEs would be lower in F2020 and F2021 than they were in F2016.

33.3.1 If not confirmed, please explain why given the FTE values set out in Figure 5-8.

34.0 Reference: Application, page 5-69 (lines 7-17)

34.1 The Application states that condition-based maintenance is planned annually and that work is prioritized based on risk. Will the total work to be undertaken in each of F2020 and F2021 be determined by: i) The budget levels approved through the RRA process (i.e., the approved budget will be used to complete work according to its prioritization) or ii) All prioritized work exceeding a certain risk level will be undertaken, regardless the budget?

35.0 Reference: Application, page 5-70

35.1 The Application states that all transmission structures are inspected at least once per year. However, there is no similar indication as to how frequently distribution structures are inspected. Please describe the inspection cycle for distribution structures.

36.0 Reference: Application, page 5-75

36.1 Please provide a schedule that for each year shown in Table 5-22 breaks the Capitalized Costs (line 49) down by KBU.

37.0 Reference: Application, page 5-76

37.1 With respect to the Integrated Planning Business Group, it is noted that in Table 5-23 the increase in FTEs in each of F2018 (actual) and F2019 (forecast) over the year is not accompanied by an increase in net operating costs (per Table 5-22). However, such is not the case in F2020 where the FTE increase is accompanied by an increase net operating costs. Please explain why.

37.2 With respect to the Capital Infrastructure Project Delivery Business Group, it is noted that the increase in FTEs in F2019 (actual) is not accompanied by an increase in net operating costs (per Table 5-22). Please explain why.

37.3 With respect to the Operations Business Group, please explain why there is an 11% increase in net operating costs in F2020 even though the number of FTEs is declining (F2020 Plan vs. F2019 Forecast).

37.4 With respect to the Safety Business Group, please explain why there is a slight increase in net operating costs in F2020 even though the number of FTEs is declining materially (F2020 Plan vs. F2019 Forecast).

38.0 Reference: Application, page 5A-2

38.1 BC Hydro indicates (page 6-64) that there are four phases to a capital project: i) Initiation Phase, ii) Identification Phase, iii) Definition Phase, and iv) Implementation Phase. Which of these phases are carried out by the Integrated Planning Business Group?

38.1.1 Is the Capital Infrastructure Project Delivery Business Group involved at all in phases (i), (ii) or (iii)? If yes, what are the relative roles of the two Business Groups?

38.1.2 Does the budget for the Integrated Planning Business Group include any costs associated with the Implementation Phase? If yes, please explain what the relative roles of this Business Group versus the Capital Infrastructure Project Delivery Business Group are with respect to the execution of capital spending plans.

38.2 Does the Integrated Planning Business Group's budget include the costs of actually carrying out the planned maintenance activities?

38.2.1 If not, which Business Group/KBU's budget includes these costs?

39.0 Reference: Application, page 5A-6, Table 5A-3

39.1 It is noted that the F2019 RRA Plan includes \$123.9 M for Reorganizational Impacts. Please provide a schedule that sets out the Reorganizational Impacts attributed to each Business Group's F2019 RRA Plan.

39.1.1 If the total over all Business Groups does not net to "zero", please explain why.

39.2 It is noted that the Continuity Schedule includes \$9.2 M for Budget Transfers Between Business Groups to arrive at the F2019 RRA Forecast. Please provide a schedule that sets out the comparable Budget Transfers attributed to each Business Group for F2020.

39.2.1 If the total over all Business Groups does not net to "zero", please explain why.

39.3 It is noted that the Continuity Schedule includes \$5.7 M in F2020 for Budget Transfers Between Business Groups. Please provide a schedule that sets out the Budget Transfers attributed to each Business Group for F2020.

39.3.1 If the total over all Business Groups does not net to "zero", please explain why.

40.0 Reference: Application, pages 5A-7 to 5A-12

Preamble: It is understood that the Energy Planning Department is responsible for coordinating the annual capital planning process for all Integrated Planning investments (page 5A-8).

40.1 Is the Integrated Planning Business Group responsible for all investment (capital expenditure) planning for the Corporation or are there some areas of capital spending (e.g., IT) that other Business Groups are responsible for?

40.1.1 If not, what group/business unit is responsible for the assessment and overall prioritization of all of BC Hydro's capital projects?

40.2 With respect to Table 5A-5, please explain the increase in both operating costs and FTEs as between F2018 actual and F2019 forecast.

40.3 It is noted (page 5A-12) that for F2020 there was a transfer of staff from other KBUs to Energy Planning. Were the work responsibilities of these five staff also transferred to Energy Planning? If not, were any of the five positions in Stations Field Operations or Project Delivery replaced?

41.0 Reference: Application, page 5A-19

41.1 With respect to Table 5A-7, please explain the increase in both operating costs and FTEs for the Dam Safety KBU as between F2018 actual and F2019 forecast.

42.0 Reference: Application, pages 5A-19 to 5A-25

42.1 It is noted that there are no FTEs associated with the \$85.7 M in Stations Asset Maintenance for F2019 (Table 5A-8). Is all of this work contracted out? If not, where and how are the associated internal FTEs accounted for?

42.2 Please provide a schedule that sets out the historic (F2017 and F2018) and forecast (F2019-F2021) total operating costs for Stations Asset Management (i.e., comparable to the F2019 value of \$85.7 M per Table 5A-8). In doing so, please set out separately the spending on substations vs. generating stations.

42.3 What metrics are used to monitor the performance of BC Hydro's substations for purposes of maintenance planning?

42.3.1 Please provide their historical values for F2017 and F2018 as well as the year-to-date values for F2019.

42.4 What metrics are used to monitor the performance of BC Hydro's generating stations for purposes of maintenance planning?

42.4.1 Please provide their historical values for F2017 and F2018 as well as the year-to-date values for F2019.

43.0 Reference: Application, pages 5A-25 to 5A-31

43.1 Please provide a schedule that sets out the historic (F2017 and F2018) and forecast (F2019-F2021) total operating costs for Line Asset Management (i.e., comparable to the F2019 value of \$100.5 M per Table 5A-10).

43.1.1 In doing so, please set out separately the spending on distribution lines, transmission lines and telecommunications assets.

43.1.2 Also, please report separately, vegetation management spending for distribution lines and transmission lines

43.2 What metrics are used to monitor the performance of BC Hydro's transmission and distribution lines for purposes of maintenance planning?

43.2.1 Please provide the historical transmission and distribution values for F2017 and F2018 as well as the year-to-date values for F2019.

43.3 Please identify those specific maintenance programs where funding is being increased in F2020 (per page 5A-31, lines 1-3), the specific reasons for the additional funding requirements and the amounts of the increases.

44.0 Reference: Application, page 5A-36

44.1 With respect to Table 5A-13, please explain the increase in both operating costs and FTEs for the Interconnections and Shared Assets KBU as between F2018 actual and F2019 forecast.

45.0 Reference: Application, pages 5A-41, Table 5A-15

45.1 How much of the increase in operating costs and FTE's between the F2019 forecast and the F2020 Plan is due to the FTE transfers discussed on page 5A-39 (lines 23-24)?

46.0 Reference: Application, page 5A-44

46.1 Please explain why, for F2018 and F2019 the actual/forecast values for operating costs are materially higher than the RRA values.

47.0 Reference: Application, pages 5B-2

47.1 Please provide additional details as to which capital projects are "delivered" by the Capital Infrastructure Project Delivery Business Group.

47.2 What other Business Groups are responsible for delivering capital projects and, in each case, what types of projects are they responsible for?

48.0 Reference: Application, page 5B-4 to 5B-5

48.1 To what extent is the increase in Capital Infrastructure Project Delivery FTEs from the F2018 actuals to the F2019 forecast (per Table 5B-2) attributable to the Workforce Optimization Program?

48.2 Please provide the underlying reasons for that portion of the increase that is not attributable to the Workforce Optimization Program.

49.0 Application, pages 5B-4 to 5B-5 and 5B-11

Preamble: At page 5B-11 the Application states: "Approximately 83 per cent of total Project Delivery KBU labour costs are capitalized to capital projects and not included in the KBU's operating costs".

49.1 Are the operating costs set out in Table 5B-1 net of capitalized labour costs?

49.1.1 If yes, do the FTEs in Table 5B-2 include FTEs whose labour costs are capitalized?

50.0 Reference: Application, page 5C-2 (lines 10-21) and page 5C-3

50.1 How does the Integrated Planning Business Group determine which maintenance projects and small capital projects will be directed to the Operations Business Group (per page 5C-2)?

50.2 With respect to the distribution system improvement and end of life asset replacement programs (per page 5C-2), is the need for these projects also identified by the Integrated Planning Business Group and then directed to the Operations Business Group?

50.2.1 If not, how and where is the need for these projects established?

50.3 What portions (i.e. types of programs and activities) of the Operations Business Group's work are not identified and budgeted for by the Integrated and Planning Business Group and by which groups is the need for these programs identified?

50.3.1 How are the capital projects and maintenance requirement prioritized overall, given that the need for some of the work is identified by the Integrated Planning Business Group and some by the Operations Business Group?

50.4 Please provide a schedule that sets out which Business Groups/KBUs are responsible for each of the phases (Initiation, Identification, Definition and Implementation) of different types of capital projects undertaken by BC Hydro.

50.5 Please provide a schedule that sets out which Business Groups/KBUs are responsible for: i) determining the need for and ii) executing the different types of maintenance programs undertaken by BC Hydro.

51.0 Reference: Application, pages 5C-6 to 5C-15

51.1 Please explain the increase in Program and Contract Management FTEs between the F2018 actual and the F2019 forecast values (per Table 5C-2)?

52.0 Reference: Application, pages 5A-27 to 5A-30; 5C-6 to 5C-15; 5C-17; 5C-24 and 5C-38

Preamble: It would appear that the budget for maintenance programs related to transmission and distribution assets are held by various Business Groups and KBUs. Also, in some cases the budgets shown include both spending on both capital and maintenance spending.

52.1 Please provide a schedule that sets out the total spending on maintenance for the years F2017-F2021 related to Transmission Substations, Transmission Lines, Distribution Lines, Distribution Substations and Vegetation Management. In each case, please break down the amount by Business Group/KBUs.

53.0 Reference: Application, page 5C-30 (lines 11-13 and lines 18-18)

53.1 The explanation of the Stations Field Operations operating cost changes and FTE changes between the F2019 forecast and the F2020 Plan suggest that operating costs are increasing due to the September 2018 re-organization and, at the same time, FTE's are decreasing because of the re-organization. Please reconcile.

54.0 Reference: Application, page 5C-38

54.1 Please explain the increase in operating cost for the Distribution Design Customer Connections KBU as between F2018 actual and the F2019 forecast.

55.0 Reference: Application, page 5C-58

55.1 Please explain the increase in operating cost for the Business Support Unit KBU as between F2018 actual and the F2019 forecast.

56.0 Reference: Application, page 5E-31

56.1 Please explain the increase in operating cost for the Technology KBU as between F2018 actual and the F2019 forecast.

57.0 Reference: Application, page 5G-12 (lines 15-19)

57.1 Please indicate to which Business Groups/KBUs the \$7.0 M referenced at lines 15-16 was "repurposed" to.

57.2 Is the \$7.9 M referenced at lines 17-19 part of the \$9.2M budget transfer shown in Table 5A-3?

**58.0 Reference: Application, pages 6-6 and 6-7
Appendix G, pages 18 and 21-48**

58.1 Please provide the reasons for the variances between the capital expenditures forecast for F2019 per the last RRA and the current forecast.

58.2 Please provide the reasons for the variances between the capital additions forecast for F2019 per the last RRA and the current forecast.

**59.0 Reference: Application, page 6-7
Appendix G**

59.1 Appendix G focuses on variance by year as opposed to variances on an overall project basis. Please provide a schedule that identifies each capital project with in-service additions in the F2017-F2019 period with an original approved cost of \$20 M or more. In the schedule please set out the original approved capital cost and the actual cost (or forecast cost in the case of projects with a F2019 in-service date) and provide explanations for variances greater than +/- 5%.

60.0 Reference: Application, pages 6-11 to 6-13

60.1 Please re-do Figure 6-2 based on the absolute value of the cost variance (i.e., the value of the cost variance regardless of whether it was +/-) for each project.

61.0 Reference: Application, pages 6-20 (Figure 6-5) and 6-26 (lines 1-13)

61.1 For each of the Sustaining and Growth expenditure categories, please indicated the areas where spending was reduced for the years F2020 to F2024 in the Current Plan relative to the Previous Plan.

62.0 Reference: Application, page 6-30 (lines 1-6)

**Appendix I
Appendix H, page 15**

62.1 With respect to the projects identified in Appendix I, please indicate which projects fell into each of the three categories: Mandatory, Committed and Investments to be Prioritized.

62.2 For those projects in the “Investments to be Prioritized” category please indicate where each fits on the Capital Allocation Risk Matrix (Appendix H, page 15).

**63.0 Reference: Application, pages 6-41 to 6-44
Appendix K, pages 15-16**

Preamble: At pages 6-43 and 6-44 reference is made to Facility Asset Plans being developed for BC Hydro’s generating and synchronous condenser stations. Appendix K states that discrete facility plans are reviewed collectively and prioritized.

63.1 Please provide additional details regarding the process and framework used to review and prioritize the elements of the individual plans.

64.0 Reference: Application, page 6-55 (lines 26-28)

64.1 For the F2020 to F2024 capital plan and, in particular, the years F2020 and F2021 is it the labour or financial constraints that prove to be the limiting factor?

64.2 What form did the “financial constraints” take (e.g., was there a maximum spend set per year) and what specifically were the financial constraints used in the prioritization?

64.3 What analysis was performed to determine if all of the project and programs that could be completed within the set financial and labour constraints were actually needed or whether some could be deferred?

65.0 Reference: Application, pages 6-66 to 6-67 and pages 6-69 to 6-74

65.1 Are the cost references on these pages (i.e. the \$10 M, \$50 M and \$100 M) the P50 or the P90 cost estimates?

66.0 Reference: Application, page 6-88 and Appendix I, page 1

66.1 With respect to Project A, Appendix I shows that there is no capital spending in either F2018 or F2019. However, capital spending of \$0.5 M

in F2020 leads to capital additions of \$14.5 M. Please explain how this is possible.

- 66.2 Is there any additional information that BC Hydro can provide publically with respect to Project A and, in particular, why it is needed in the current RRA's timeframe.

67.0 Reference: Application, pages 6-90 to 6-92

- 67.1 Please provide BC Hydro's understanding as to why the BCUC did not accept the costs associated with the Maintenance and Emergency Stockpile of riprap.
- 67.2 Given the response to part 1, is it BC Hydro's view that the reasons set out on page 6-92 address the BCUC's concerns? If yes, why?

**68.0 Reference: Application, page 6-131
Appendix K, Attachment 1, page 88**

- 68.1 Is the LED Street Light Conversion project targeting those locations that are known/suspected to contain PCBs?
- 68.2 Is the LED Street Light Conversion project addressing any locations where the municipalities have expressed an interest or requested conversions as a cost/energy saving initiative?
- 68.2.1 If yes, are the municipalities being asked to make a contribution to the cost of the project and, if not, why not?

69.0 Reference: Application, page 6-151

- 69.1 It is noted that for each of the years F2017-F2019 the actual/current forecast capital additions are materially less than those forecasted at the time of the last RRA. Please explain why.
- 69.2 Are there any systemic reasons for the lower level of capital additions (relative to forecast) that could affect the realization of the forecast additions for F2020-F2021?

**70.0 Reference: Application, page 7-10
Appendix A, Schedule 2.2 (line 55)**

- 70.1 Please provide the derivation of the \$21.8 M in additions to the Amortization of Capital Additions variance account in F2019.

71.0 Reference: Application, page 8-2

- 71.1 Where is the amortization of the \$1.2 B cost for the purchase of the remaining 2/3's interest in the Waneta Dam reflected in Table 8-1 and Appendix A?

72.0 Reference: Application, page 8-11

72.1 Is the October 2018 Treasury Board Forecast still the most recent one available?

72.1.1 If not, please provide the forecast interest and foreign exchange rates from the most recent forecast.

72.2 With respect to Table 8-6, what period is associated with the Canadian short-term and long-term interest rates?

73.0 Reference: Application, pages 8-12 to 8-13

73.1 What is the “interest during construction rate” for each of F2020 and F2021?

73.2 Are these rates greater or less than the actual cost of borrowing in F2020 and F2021 respectively?

74.0 Reference: Application, page 8-17

74.1 What is the basis for the forecast \$120.6 M in Powerex Net Income for each of F2020 and F2021, given that the actual values for the preceding three years are all higher than \$120.6 M.

75.0 Reference: Application, page 10-5

Preamble: The Application states: “The average portfolio utility cost of the DSM Plan is less than the market price of export electricity”

75.1 Does the reference to the “DSM Plan” portfolio include low-carbon electrification undertakings that BC Hydro now considers to be part of its overall DSM plan?

75.1.1 If yes, please explain how low-carbon electrification undertakings are factored into the determination of average portfolio utility cost.

75.1.2 If yes, please explain with market price of export electricity it the relevant cost-effectiveness measure.

76.0 Reference: Application, page 10-7

76.1 With respect to Table 10-2, what are the reasons for the material underspending on DSM in F2017 and F2018?

76.2 With respect to Tables 10-2 and 10-3, what is the forecast spending for F2019?

77.0 Reference: Application, page 10-8

77.1 With respect to the Low Income Program, please outline the revised criteria and new measures that now allow more homes to qualify.

78.0 Reference: Appendix X, pages 8 to 9

78.1 Please provide revised versions of Tables 4 and 5 that exclude TMP.

79.0 Reference: Appendix X, page 29

79.1 With respect to the Residential Low Income program, for the years F2017 – F2019 what were/are the planned expenditures, actual expenditures, planned savings and actual savings? (Note: For F2019, please provide best estimates as to the actual expenditures and savings)

80.0 Reference: Appendix X, page 65

80.1 Should BC Hydro decide to formally introduce capacity-focused DSM programs, how would the cost-effectiveness of such programs be determined?

81.0 Reference: Appendix X, pages 73-74

81.1 Are the GWh/year savings set on page 74 for the Stepped Transmission Service rates, incremental annual savings?

81.1.1 If yes, please explain why incremental annual savings are assumed to continue to be achieved in F2020 to F2022 for the Stepped Transmission Service rates but not for the Residential Inclining Rate.

81.1.2 Please provide any studies/analyses supporting the view there will continue to be incremental savings from the Stepped Transmission Service rates.

82.0 Reference: Appendix Y, pages 6 to 7

82.1 How did BC Hydro determine that the projects identified under subsection 4(3)(c) were appropriate to fund as under the LCE program?

82.1.1 Were there other project opportunities that were not funded and, if so, why?

83.0 Reference: Appendix Y, pages 8 and 11

83.1 Are the project expenditures set out in Table 2-1 included in the program expenditures set out in Table 3-2?

83.1.1 If yes, please reconcile the annual totals as between the two tables (i.e., in some year the total in Table 2-1 exceeds that in Table 3-2).

84.0 Reference: Appendix Y, page 13

84.1 With respect to the calculation of the NPV for each project, please indicate: i) the value and basis for the discount rate used and ii) the assumptions regarding the annual increase in domestic rates through to F2031 used to forecast future revenues.

**85.0 Reference: Application, pages 10-20, 10-31 and 10-33
Appendix X, page 7**

- 85.1 Please indicate what BC Hydro considers to be the “specified DSM programs”.
- 85.2 At page 10-20 the Application indicates that “specified DSM programs” were excluded from the market priced screening filter used to determine cost effectiveness. With respect to the Benefit Cost ratios set out in Appendix X (Table 3) the footnote indicates that capacity focused DSM trials/pilots and codes and standards were excluded. Please clarify whether “specified DSM programs” were also excluded from Table 3.
- 85.2.1 If yes, please re-do Table 3 inclusive of “specified DSM programs”.
- 85.3 Please clarify whether portfolio level costs (as discussed on page 10-33) are included in any of the rows in Table 10-13.
- 85.3.1 If portfolio level cost are not include in the calculation of the benefit-cost ratios and net levelized costs for the overall Total Portfolio, please provide revised calculations that include these costs.

86.0 Reference: Application, page 11-14 (lines 11 – 13)

- 86.1 In BC Hydro’s view, can an appropriate peer group be established that would be applicable to it?

87.0 Reference: Application, page 11-46 and pages 4-13 to 4-18

- 87.1 At page 11-46 the Application states that BC Hydro’s Cost of Energy is largely uncontrollable. However, Chapter 4 describes how the monthly Energy Studies are used to optimize the operation of BC Hydro’s generation. If Energy Costs are “carved out” does this reduce the incentive for BC Hydro to efficiently operate its system of generating stations?

88.0 Reference: Application, page 11-50

- 88.1 If Finance costs are “carved out”, does this reduce BC Hydro’s incentive to implement debt management strategies that reduce overall borrowing costs?

89.0 Reference: Transcript Volume 1, page 106

Preamble: MR. WILLIS: Paul Willis. You've had smart meters in place for quite a while. Are you finding that smart meters help you with your capital planning?

MR. KUMAR: Absolutely. So this partly because we are starting to get data that is allowing the planning groups to make decisions based on actual data that we are getting from the

meters, as well as from the field, which actually is an import into our capital planning process, absolutely.

- 89.1 Please elaborate how smart meters helped with capital investment planning.
- 89.2 Please provide examples of how smart meters specifically have a) precipitated new projects or b) changed the timelines of BC Hydro's planned capital investment projects. In this response, please provide a description of how the smart meters involved provided information that would not have or could not have otherwise be gathered by BC Hydro's employees or authorized agents or reported by BC Hydro's ratepayers.