

23 February 2021

**VIA E-FILING**

Marija Tresoglavic  
Acting Commission Secretary  
BC Utilities Commission  
6th Floor 900 Howe Street  
Vancouver, BC V6Z 2N3



Reply to: Leigha Worth  
ED@bcpiac.org  
Ph: 604-687-3034  
Our File: 7800.311

Dear Ms. Tresoglavic,

**Re: Nelson Hydro Cost of Service Analysis and Rate Design Application  
BCOAPO Information Request No. 1**

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

Enclosed please find the BCOAPO's Information Request 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: **NELSON HYDRO**  
DATE: **FEBRUARY 23, 2021**  
PROJECT NO: **1599166**  
APPLICATION NAME: **COST OF SERVICE AND RATE DESIGN APPLICATION**

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**1.0 Reference: Exhibit B-1, page 14**

**Preamble:** The Application states: "As a result, City Council entered into an agreement with these Rural residents to expand the electrical utility to serve them and also adopted a corresponding bylaw<sup>21</sup>". The footnote refers to Appendix 3-4 of the Application which contains a copy of the referenced bylaw.

1.1 The bylaw does not appear to include any reference or details regarding "an agreement with these Rural residents". Was there any formal agreement entered into at the time and, if so, please provide a copy.

**2.0 Reference: Exhibit B-1, page 14**

**Preamble:** The Application states: "Starting in 1956, small amounts of power were required to be purchased from WKPL, a subsidiary of Cominco Ltd., to satisfy growing utility load, primarily in the rural areas."

2.1 What was the City's (i.e., the Urban area's) electricity usage (kWh) in 1956 and how does this compare to its electricity usage (kWh) in 2019?

2.2 How much electricity (kWh) was generated by Nelson Hydro's facilities in 1956 and how does this compare with the facilities' generation in 2019?

**3.0 Reference: Exhibit B-1, pages 22-23**

3.1 Please confirm that there were no changes to Nelson Hydro's Rural rates between the BCUC Order G-3-95 and Nelson Hydro's 2017 Application leading to BCUC Order G-119-17.

3.1.1 If not confirmed, please indicate what changes were made and when they were approved.

**4.0 Reference: Exhibit B-1, page 37**

**Preamble:** The Application states:

"Relevant to this Application, this legislation prevents the City of Nelson from operating its electrical utility service in a manner that is not to the benefit of the City of Nelson residents. Stated differently, the City cannot

operate the utility in a manner that is to the detriment of municipal residents”.

- 4.1 Does Nelson Hydro interpret the legislation as allowing it to operate the utility to the detriment of the Rural area customers by, for example, allowing it to charge rates to Rural area customers that subsidize electric services provided to municipal customers?

**5.0 Reference: Exhibit B-1, page 38**

**Preamble:** The Application states:

“Section 167 of the Community Charter requires local governments to prepare financial statements each fiscal year in accordance with Generally Accepted Accounting Principles for Local Governments (also known as PSAB standards) and independently audited by a qualified auditor. Financial statements must include a statement of financial position, operations, changes in net debt, and cash flow.”

- 5.1 Does the City of Nelson prepare a separate financial statement each fiscal year for Nelson Hydro?

- 5.1.1 If yes, please provide a copy of Nelson Hydro's 2019 financial statements.

- 5.1.2 If not, please provide a copy of the City of Nelson's 2019 financial statements.

**6.0 Reference: Exhibit B-1, pages 38-39  
Order G-274-19, Appendix A, page 12**

**Preamble:** The Application states:

“Specifically, the MLR prescribes that a municipality such as the City of Nelson may not incur a liability if the total annual servicing cost of the aggregate liabilities is greater than 25 percent of annual revenues.”

Order G-274-19 states:

“Nelson Hydro submits that its debt service expense of \$499,364 reflects payments of long-term debt borrowed to finance its capital projects. The debt service expense is composed of \$251,900 in principal and \$247,500 in interest and the total figure has not changed since 2015”.

- 6.1 Please provide Nelson Hydro's actual 2019 values as used in the Cost of Service Analysis (Appendix 8-1) for: i) annual debt servicing costs and ii) annual revenues with cross references to where Appendix 8-1 the values can be found.

- 6.2 Are the annual debt servicing costs and annual revenues provided in the previous response consistent with the MLR's definitions of i) total annual servicing costs of its aggregate liabilities and ii) annual its revenues?

- 6.2.1 If not, what are the differences?

- 6.2.2 If not, what is the ratio based on Nelson Hydro's actual revenues and debt servicing costs determined in accordance with MLR's definitions?
- 6.3 For 2019 what are the City of Nelson's revenues, debt service costs and the resulting ratio (percentage) based on the MLR's definitions?
- 6.4 Please confirm that the debt servicing costs included in the Nelson Hydro Cost of Service analysis (Appendix 8-1) does not include any principal repayment.
- 6.5 Based on Nelson Hydro's 2019 actual revenues and debt servicing costs and the cost of borrowing from the Municipal Finance Authority in 2019, how much additional debt could Nelson Hydro have taken on in 2019 before annual debt servicing costs exceeded 25% of annual revenues (using the MLR's definition for each)?
  - 6.5.1 Assuming this additional level of borrowing and Nelson Hydro's 2019 rate base (per Appendix 8-1), what would be the resulting debt ratio?

**7.0 Reference: Exhibit B-1, pages 5 and Appendix 7-4**

**Preamble:** The Application states (page 5):

"Finally, a number of policies that the City Council has approved with regards to Nelson Hydro's operations for the non-municipal portion of the utility are described and presented for Commission approval in Section 7."

Appendix 7-4 states:

"Nelson Hydro will develop a budget for its operations with the goal to achieve 100% cost recovery and the approved rate of return on its assets for the Rural service area. A contingency of not greater than 5% of its projected expenditures will be budgeted to achieve an ongoing deferral account of this amount. Any actual surplus or deficit in the Rural service area will be charged to the deferral account after the audited financial statements are completed.

Where, after this adjustment, the deferral account is projected to exceed or be less than 5% of budgeted expenditures, rates will be adjusted to achieve a projected deferral account balance of 5% of budgeted expenditures.

Interest at the City's borrowing or investment rates will be credited or debited to the deferral account based on the average between the opening and ending balance in the deferral account in the fiscal year of the City of Nelson."

- 7.1 Please confirm that, as part of this Application, Nelson Hydro is seeking approval of the Nelson Hydro Deferral Account (Non-municipal) Policy and it will only be implemented if BCUC approval is received.
- 7.2 Does the first paragraph of the above referenced portion from Appendix 7-4 mean that the policy requires Nelson Hydro to set Rural rates so as to achieve a Revenue to Cost Ratio of 100% for the Rural Service area?

- 7.3 Is it Nelson Hydro's view that by approving this policy the BCUC has accepted that any actual surplus or deficit in the Rural service area will be charged to the deferral account and subsequently refunded/recovered from the Rural customers or will the BCUC still have role at the time that Nelson Hydro proposes to refund/recover any surplus/deficit in its Rural rates to determine whether the amount are appropriate and the actual expenditures underpinning the balance were prudently incurred?

**8.0 Exhibit B-1, pages 5, 42 & 56 and Appendix 7-4**

**Preamble:** The Application states (page 5):

"Finally, a number of policies that the City Council has approved with regards to Nelson Hydro's operations for the non-municipal portion of the utility are described and presented for Commission approval in Section 7."

Appendix 7.4 states:

"Nelson Hydro will develop a budget for its operations with the goal to achieve 100% cost recovery and the approved rate of return on its assets for the Rural service area. A contingency of not greater than 5% of its projected expenditures will be budgeted to achieve an ongoing deferral account of this amount. Any actual surplus or deficit in the Rural service area will be charged to the deferral account after the audited financial statements are completed.

Where, after this adjustment, the deferral account is projected to exceed or be less than 5% of budgeted expenditures, rates will be adjusted to achieve a projected deferral account balance of 5% of budgeted expenditures.

Interest at the City's borrowing or investment rates will be credited or debited to the deferral account based on the average between the opening and ending balance in the deferral account in the fiscal year of the City of Nelson."

- 8.1 For purposes of the first paragraph in referenced part of Appendix 7.4, what is included in "projected expenditures"?
- 8.2 Does the first paragraph in the referenced part of Appendix 7.4 mean that in the first year the policy is in effect the rates for the Rural customers will include a contingency of 5% and in subsequent year the Rural rates will include a contingency charge/credit as required to maintain a balance in the deferral account equivalent to 5% of expenditures? If not, please explain what the annual implications of the proposed policy are for determining the Rural service area's revenue requirement and the setting of Rural customers' rates.
- 8.3 How will the actual surplus or deficit in each year be calculated? Please provide an illustrative calculation.
- 8.3.1 To the extent the surplus or deficit is calculated as the difference between actual net income and allowed ROE, how will the allowed ROE be calculated (e.g. will it be based on the ROE % approved by the BCUC for

the year concerned and the actual rate based attributed to Nelson Hydro's rural customers)?

- 8.4 Given that surplus/deficits charged to the deferral account are based on audited financial results, please confirm how the budget value for the contingency amount to be included in a given rate year's application will be established. For example, will it be based strictly on the most recently available audited balance or will it be based on the audited balance adjusted for the anticipated surplus/deficit for the year immediately preceding the "rate year"?
- 8.5 For purposes of crediting or debiting interest to the deferral account, how will the City's borrowing or investment rates be determined? Also, if there is a difference between the borrowing rate and investment rate, which one will be used?
- 8.6 For purposes of crediting or debiting interest to the deferral account, why is it appropriate to use the City's borrowing or investment rate as opposed to the Rural service area's overall weighted average cost of capital?

**9.0 Reference: Exhibit B-1, Appendix 7-4  
BC Hydro's F2021-F2022 RRA, Exhibit B-1, page 7-14**

**Preamble:** Appendix 7.4 states:

"Nelson Hydro will develop a budget for its operations with the goal to achieve 100% cost recovery and the approved rate of return on its assets for the Rural service area. A contingency of not greater than 5% of its projected expenditures will be budgeted to achieve an ongoing deferral account of this amount. Any actual surplus or deficit in the Rural service area will be charged to the deferral account after the audited financial statements are completed.

Where, after this adjustment, the deferral account is projected to exceed or be less than 5% of budgeted expenditures, rates will be adjusted to achieve a projected deferral account balance of 5% of budgeted expenditures.

Interest at the City's borrowing or investment rates will be credited or debited to the deferral account based on the average between the opening and ending balance in the deferral account in the fiscal year of the City of Nelson."

In its F2021-F2022 RRA Application, BC Hydro stated the following:

"Regulatory accounts may be used to capture variances between forecast costs or revenues and actual costs or revenues. For BC Hydro, this includes variances between forecast and actual costs due to non-controllable factors such as water inflow levels, interest rates, discount rates, and market prices of energy, which are difficult to forecast. These types of variances are captured in BC Hydro's cash and non-cash variance accounts, which are discussed below.

BC Hydro believes that it should generally assume financial responsibility for controllable risks and create variance accounts for non-controllable risks."

9.1 Does Nelson Hydro agree with BC Hydro's view that the utility "should generally assume financial responsibility for controllable risks and create variance accounts for non-controllable risks."?

9.1.1 If not, why not?

9.2 Please confirm that based on Nelson Hydro's proposed deferral account policy, Nelson Hydro will not be financially responsible for any of the costs associated with the operation of the Rural portion of the utility but rather is assured of eventually recovering such costs for its ratepayers?

9.2.1 If not, why not?

9.2.2 If yes, why is this appropriate (i.e., why shouldn't Nelson Hydro be financially responsible for operating cost over which management has some control)?

9.3 Please confirm that based on Nelson Hydro's proposed deferral account policy, Nelson Hydro is also assured of recovering the approved return on equity associated with its Rural service area.

9.3.1 If not confirmed, please explain why.

**10.0 Reference: Exhibit B-1, page 46 and Appendix 5.1, 2018 Highlights-Reliability Slide (pdf page 239 of 459)**

10.1 Please explain how the values for "IOR" in the 2018 Highlights – Reliability Slide were determined.

10.2 Can Nelson Hydro provide its historical IOR results – excluding not only Major Events but also Loss of Supply from FortisBC?

10.3 Does Nelson Hydro track separately the reliability for its Urban and Rural service areas?

10.3.1 If yes, please provide the historical results for each for the last five years.

**11.0 Reference: Exhibit B-1, pages 47-49 and Appendices 6.1 & 6.2**

**Preamble:** The Application states (page 47):

"InterGroup's Report reviews the Commission's Generic Cost of Capital Reviews ("GCOC") and also Nelson Hydro's previous rate applications where the Commission offered some guidance on an acceptable return for the utility."

11.1 With respect to the InterGroup's Report - "Nelson Hydro – Appropriate Level of ROE", please provide the names of the consultants who prepared the report and copies of their CV's.

11.2 Please indicate in what other regulatory proceedings in Canada the named consultants have provided expert evidence regarding the capital structure and

appropriate ROE for electric utilities, and specifically municipally owned electric utilities.

11.2.1 Please provide electronic links or actual copies of the 2 most recent pieces of expert evidence on capital structure and appropriate ROE for electric utilities authored by each of these consultants.

**12.0 Reference: Exhibit B-1, Appendix 6.1, page 8**

**Preamble:** The Appendix states:

“Some municipality level utilities in Ontario include provision for return on equity based on approved amounts by Ontario Energy Board. For example, utilities with their own small generation sources, Kenora Hydro at 9.58% and Thunder Bay Hydro at 8.78%, and Kingston Hydro at 9.19%.”

12.1 Please confirm that the reason for the variation in approved ROE for these Ontario utilities is because the values were approved for different test years (e.g. for Thunder Bay it was 2017 while for Kingston it was 2016) and that for any given test year all Ontario distribution utilities would have the same approved ROE.

12.1.1 If not confirmed, please provide supporting references.

12.2 What was the 2019 ROE approved by the OEB for Ontario’s electric distribution utilities?

12.3 What is the deemed capital structure used by the OEB for Ontario electric distribution utilities?

**13.0 Reference: Exhibit B-1, Appendix 6.1, pages 8-9**

**Preamble:** At page 8 Appendix 6.1 states:

“It is difficult to use the BCUC’s GCOC Stage 2 risk premium awards as a proxy for Nelson Hydro.”

At page 9 Appendix 6.1 states:

“As a result, from the benchmark ROE, Nelson Hydro should merit a risk premium between 50 basis points and 75 basis points based on approvals for FortisBC Energy (Whistler) Inc. and PNG (N.E.) - FSJ/DC. With 50 basis points the after-tax ROE would be 9.25% [pre-tax ROE would be approximately 12.7%] and 75 basis points the after-tax ROE would be 9.50% [pre-tax ROE would be approximately 13.0%].”

13.1 Please reconcile the Report’s statement on page 8 that “It is difficult to use the BCUC’s GCOC Stage 2 risk premium awards as a proxy for Nelson Hydro” with the fact on page 9 the results of the BCUC’s Stage 2 proceeding have been used to establish the recommended ROE for Nelson Hydro.

**14.0 Reference:** **Exhibit B-1, Appendix 6.1, page 9**  
**BCUC GCOC Stage 1, Exhibit A2-3 (Brattle Group Report),**  
**page 38**  
**BCUC GCOC Stage 2, Exhibit B1-71, Foster Associates**  
**Evidence, page 6.**

**Preamble:** The Brattle Report prepared at the request of Commission Staff and filed in the BCUC Stage 1 proceeding states:

“A common issue in regulatory proceedings is how to apply data from a benchmark set of comparable securities when estimating a fair return on equity for the target/regulated company. On the one hand, it is tempting to simply estimate the cost of equity capital for each of the sample companies (using one of the above approaches) and average them. After-all, the companies were chosen as comparable risk, so why would an investor necessarily prefer equity in one to the other (on average)? The problem with this argument is that it ignores the fact that underlying asset risk in each company is typically divided between debt and equity holders – making them derivatives of the underlying asset return. Even though the risk of the underlying assets may be comparable, a different capital structure splits that risk differently between debt and equity holders, making the equity in one firm potentially more risky than equity in another. Stated differently, increased leverage adds financial risk to a company’s equity.” [Emphasis added]

The Foster Associates Evidence filed in the BCUC GCOC Stage proceeding on behalf of FortisBC Energy (Vancouver Island) Inc. (“FEVI”) and FortisBC Energy (Whistler) Inc. (“FEW”) states:

“The overall cost of capital is also a function of financial risk. Financial risk refers to the additional risk that is borne by the equity shareholder because the firm uses debt to finance a portion of its assets. The capital structure, comprised of debt and common equity, can be viewed as a summary measure of the financial risk of the firm. The issuance of debt carries unavoidable servicing costs which must be paid before the equity shareholder receives any return. As more debt is added to the capital structure, the potential variability of the equity shareholder’s return increases, the potential for bankruptcy rises and the company’s financial flexibility declines. Thus, as the debt ratio rises, so do the cost of debt and the cost of equity. As a result, the cost of equity, and thus the fair ROE, depends on the capital structure.” [Emphasis added]

14.1 Does InterGroup agree with the views of both the Brattle Group and Foster Associates that the cost of equity and thus the fair ROE depends on the capital structure and that higher debt ratios increase the cost of equity?

14.1.1 If not, why not?

14.1.2 If yes, how has InterGroup accounted for the significantly lower debt ratio proposed for Nelson Hydro versus those approved for FortisBC Energy (Whistler) Inc. and PNG (N.E.) - FSJ/DC in making its recommendation regarding the appropriate ROE for Nelson Hydro?

**15.0 Reference: Exhibit B-1, Appendix 6.1, pages 9 & 11-12 and Appendix 7-4**

15.1 Please discuss the impacts of Nelson Hydro’s proposed Deferral Account Policy (see Appendix 7.4) on the various risk categories set out in the Risk Matrix in Appendix A of Appendix 6.1.

15.2 Assuming the Deferral Account Policy is approved, would this change InterGroup’s assessment of the relative risk associated with Nelson Hydro as compared to FortisBC Energy (Whistler) Inc. and PNG (N.E.) - FSJ/DC?

15.2.1 If not, why not?

15.2.2 If yes, how would this change InterGroup’s recommended ROE for Nelson Hydro?

**16.0 Reference: Exhibit B-1, pages 58-59  
Exhibit B-1, Appendix 8-1  
Exhibit B-2, Nelson Hydro COSA Spreadsheet Model, Capital Tab**

**Preamble:** The Capital Tab of the COSA Spreadsheet Model sets out the following breakdown for Substations:

<b>2019 Year End Capital Asset Summary - by area</b>	
	<b>NBV</b>
<b>Substations</b>	
Urban - Bonnington	594,069
Urban - Other	2,684,166
Rural	145,935
Common	1,635,454
<b>Total</b>	<b>5,059,624</b>

Appendix 8-1 (page 8) states: “The Mill street and Granite substations are used by both Urban and Rural customers and assigned as common cost. The service areas will share the cost related to these substations based on COSA outcomes.”

16.1 Please confirm that the “Urban-Bonnington” Substation referred to in the Preamble is associated with the Bonnington Falls Power Plant.

16.2 Please describe the facilities that have been categorized as “Urban-Other”. In doing so please explain: i) where the power delivered to each of the associated stations is sourced and at what voltages, ii) what parts of the Nelson Hydro service area do the feeders from each associated station serve and iii) why none of feeders from the associated stations are viewed as serving load in the Rural area.

- 16.3 Please describe the facilities that have been categorized as “Rural”. In doing so please explain: i) where the power delivered to each of the associated stations is sourced and at what voltages, ii) what parts of Nelson Hydro service area do the feeders from each associated station serve and iii) why none of feeders from the associated stations are viewed as serving load in the Urban area.
- 16.4 Please describe the facilities that have been categorized as “Common”. In doing so please explain: i) where the power delivered to each of the associated stations is sourced and at what voltages, ii) what parts of Nelson Hydro service area do the feeders from each associated station serve and iii) why the feeders from the associated stations are viewed as serving load in both the Urban and Rural areas.

**17.0 Reference: Exhibit B-1, pages 58-59  
Exhibit B-1, Appendix 8-1  
Exhibit B-2, Nelson Hydro COSA Spreadsheet Model,  
COS (Common) Tab and Capital Tab**

- 17.1 What is the primary voltage at which Nelson Hydro’s distribution plant operates and does the entire system operate at the same primary voltage?
- 17.1.1 If not, do Nelson Hydro’s assets include any transformers that step power down from one primary voltage to the other and, if so, what is 2019 year-end net book value for these assets and in what row(s) of the Capital Tab are they included?
- 17.2 Do any of Nelson Hydro’s customers own the transformer that serves them?
- 17.2.1 If yes, please provide a schedule, broken down between Rural and Urban, which sets out: i) the number of such customers by customer class (i.e., Residential, Small Commercial and Commercial) and ii) their average monthly demand for 2019.
- 17.3 It is noted that while there are common substation assets there are no common distribution plant assets (per rows 17-19 of the COS (Common) Tab. Do all of the feeders from Nelson Hydro’s substations uniquely serve only the Urban area or the Rural area (i.e. there are no feeders that serve both areas either on a regular basis or, while serving just one area on a regular basis, could be reconfigured to do so serve the other area as well in the event of a system outage)?
- 17.4 If there is distribution plant (i.e., poles, underground vaults, overhead/underground cable) that does/could serve both Urban and Rural areas, what proportion of total distribution plant poles, cable and vault (in terms of dollars or km of line) do these assets represent?
- 17.5 If there is distribution plant (i.e., poles, underground vaults, overhead/underground cable) that does/could serve both Urban and Rural areas, on what basis was this plant categorized as Urban vs. Rural?

**18.0 Reference: Exhibit B-1, pages 58-59  
Exhibit B-1, Appendix 8-1  
Exhibit B-2, Nelson Hydro COSA Spreadsheet Model,  
Tables Tab**

Preamble: The Tables Tab provides the following breakdown for 2019 purchases from FortisBC:

	2019 Actuals, \$	Urban		Rural	
		% share	\$	% share	\$
Total Power Purchase Cost	6,636,295	33.5%	2,225,155	66.5%	4,411,139
Energy Purchases	3,856,159	29.2%	1,125,954	70.8%	2,730,205
Demand Purchases	2,708,441	39.1%	1,058,097	60.9%	1,650,345
Basic Charge	71,694	57.3%	41,105	42.7%	30,589

The Tables Tab also includes the following breakdown of Own Generation and Power Purchases for 2015-2019:

	2015-2019 Average	Own Generation	Nelson Hydro Generation Share	Purchased Power	Share of Purchased Power
	MW.h	MW.h	%	MW.h	%
	A	B	C	D=A-B	E
Total Generation and Power Purchases	170,809	87,487		83,322	
Power Sales to Fortis BC/BC Hydro	4,679	4,679			
Net Utility Load	166,130	82,808		83,322	
Urban Sales	93,350	70,161	88.9%	23,189	29.2%
Rural Sales	65,018	8,789	11.1%	56,228	70.8%
Total Sales	158,368	78,950		79,417	

18.1 Were there any power sales to FortisBC/BC Hydro in 2019?

18.1.1 If yes, what were the volumes involved, the total revenues received and the overall average \$/kWh received for such power sales in 2019?

18.2 Does the \$6,636,295 represent the total (gross) Power Purchase costs for 2019 or does it represent the cost of power purchases net of revenues received for sales to FortisBC/BC Hydro?

18.2.1 If it represents the gross cost of purchases: i) what were the revenues received by Nelson Hydro for power sales to FortisBC/BC Hydro and ii) where in the revenue requirement being allocated in the COSA are the revenues from the sales to FortisBC/BC Hydro accounted for?

18.2.2 If it represents the net cost of purchases then: i) please provide a breakdown of the gross purchases from FortisBC as between energy, demand and basic charge and ii) explain how the revenues from sales to FortisBC/BC Hydro were classified as between energy, demand and

basis charge so as to arrive at the values set out in the first table in the Preamble.

**19.0 Reference: Exhibit B-1, pages 58-59  
Exhibit B-1, Appendix 8-1  
Exhibit B-2, Nelson Hydro COSA Spreadsheet Model,  
Capital Tab**

**Preamble:** It is noted that Transmission Assets are all categorized as Common (per the Capital Tab).

Appendix 8-1 (page 1) states: "The City of Nelson through Nelson Hydro owns and operates a 16 MW hydroelectric generation facility located at Bonnington Falls on the Kootenay River. Nelson Hydro also owns and operates approximately 25 km of 63 kV transmission line that links the plant and supply points from FortisBC to substation facilities in the service areas".

19.1 Does the value for transmission assets in the Capital Tab represent the value of the approximately 25 km of 63 kV transmission line referred to in Appendix 8.1?

19.1.1 If not, please explain the difference.

19.2 Is all of the power Nelson Hydro purchases from FortisBC delivered to Nelson Hydro's substations?

19.2.1 If not, how else is the power delivered from FortisBC supplied to Nelson Hydro's system?

19.2.2 If not, please provide a schedule that for 2019 sets out for each of these other supply points: i) the volume of power supplied by FortisBC (demand and energy), ii) and gross cost of purchases paid to FortisBC (demand, energy and basic charges) and iii) whether the supply point is considered as Urban, Rural or Common.

19.3 To which of Nelson Hydro's substations is the supply from FortisBC delivered?

19.3.1 For 2019 please provide a schedule that sets out, by Nelson Hydro substation: i) the volume of power supplied by FortisBC (demand and energy), ii) and gross cost of purchases paid to FortisBC (demand, energy and basic charges) and iii) whether the substation has been categorized as Urban, Rural or Common.

**20.0 Reference: Exhibit B-2, Nelson Hydro COSA Spreadsheet Model,  
Tables Tab & Supplies and Services Tab**

20.1 In the Tables Tab 2019 Power Purchases are \$6,636,295 while in the Supplies and Service Tab Power Purchases are \$6,528,199. Please reconcile.

**21.0 Reference: Exhibit B-2, Nelson Hydro COSA Spreadsheet Model, Supplies and Services Tab & Salaries and Wages Tab**

- 21.1 Are all of Nelson Hydro's customers billed on a monthly basis?
- 21.1.1 If not, what other billing frequency is used and how many customers in each class are billed on a basis other than monthly?
- 21.2 Where in the Supplies and Service Tab and the Salaries and Wages Tab are the costs associated with customer billing and collecting reported?
- 21.2.1 If these costs do not represent a separate line in each of these Tabs, can they be separated out in aggregate and can they be further separated between Urban and Rural?
- 21.3 Where in the Supplies and Service Tab and the Salaries and Wages Tab are the costs associated with customer care (i.e., call centre costs, cost of customer service staff, etc.) reported and what are the total costs in each Tab for this function?
- 21.3.1 Does Nelson Hydro have customer service staff that is dedicated to dealing with its larger commercial customers? If so, where in the Salaries and Wages Tab are these costs reported and what were the total costs for 2019?
- 21.4 Are there any costs in either the Supplies and Services Tab or the Salaries and Wages Tab related to the operation and maintenance of Nelson Hydro's distribution transformers?
- 21.4.1 If yes, in which rows are of each Tab are these costs included and how much were they for 2019?

**22.0 Reference: Exhibit B-1, Appendix 8.1, page 10**

**Preamble:** The Application states:

"Nelson Hydro generation costs and the purchased power costs are assigned to Urban and Rural service areas based on allocation factors shown in Table 6. Table 6 is prepared based on a feeder loading study conducted by Nelson Hydro for the period from 2015 to 2019, the previous five-year actuals, and shows five-year averages."

- 22.1 Please confirm that the referenced feeders are the feeders from the Nelson Hydro's substations discussed in the responses to question 16 above. If not, please explain what feeders were covered by the study.
- 22.2 Do any of Nelson Hydro's substations receive power from both the Bonnington Falls Power Plant and FortisBC? If yes, how did Nelson Hydro determine the extent to which each of the substation's feeders was delivering power from Nelson Hydro's own generation vs. power purchased from FortisBC?

**23.0 Reference: Exhibit B-1, Appendix 8-1, pages 8 and 10**

Preamble: Appendix 8.1 sets out Nelson Hydro’s allocation of own generation and purchases from FortisBC as follows:

**Table 6: Allocation Factors for Own Generation and Power Purchases**  
 (\$000)<sup>20</sup>

	2015-2019 Average	Own Generation	Nelson Hydro Generation Share	Purchased Power	Share of Purchased Power
	MW.h	MW.h	%	MW.h	%
	A	B	C	D=A-B	E
Total Generation and Power Purchases	170,809	87,487		83,322	
Power Sales to Fortis BC/BC Hydro	4,679	4,679			
Net Utility Load	166,130	82,808		83,322	
Urban Sales	93,350	70,161	88.9%	23,189	29.2%
Rural Sales	65,018	8,789	11.1%	56,228	70.8%
Total Sales	158,368	78,950		79,417	
Losses	7,762	3,858		3,905	
Losses % of sales	4.9%	4.9%		4.9%	
Demand Purchases					
Urban					39.1%
Rural					60.9%

The Table indicates that despite the fact that total sales to the Urban and Rural areas exceeds Nelson Hydro’s own generation, there are periods of time when Nelson Hydro has surplus generation available in excess of the requirements of the Urban and Rural areas and makes sales to FortisBC/BC Hydro.

- 23.1 Please describe the circumstances that give rise to Nelson Hydro having surplus power available to sell to FortisBC/BC Hydro. As part of the response, please outline the extent to which such sales are only made when Nelson Hydro would otherwise have to “spill” water and whether Nelson Hydro is able to store hydro/water resources or must the resources be used as they are available.
  - 23.1.1 How frequently during each of the years 2015-2019 did the circumstances leading to sales to FortisBC/BC Hydro arise?
- 23.2 If Nelson Hydro had not sold power to the Rural area during the period 2015-2019 would the circumstances under which sales would be made to FortisBC/BC Hydro have occurred more frequently, and if so, how much more often?
  - 23.2.1 Can Nelson Hydro estimate what additional sales would have been made to FortisBC/BC Hydro in each of the years 2015-2019 if there had been no sales to Rural area? (Note: If the calculations are overly onerous please provide the results for just 2019).

**24.0 Reference: Exhibit B-1, Appendix 8-1, page 2**

**Preamble:** The rates schedules on page 2 indicate that for both the Urban and Rural areas Nelson Hydro has two commercial customer classes: i) Small Commercial and ii) Commercial

- 24.1 Please describe the basis on which a customer would be classified as “Small Commercial” versus “Commercial” and is it the same for both the Urban and Rural service areas.
- 24.2 Please provide a schedule that for 2019 sets out for each of the Rural and Urban service areas: i) the number of “Small Commercial” vs. “Commercial” customers and ii) the kWh sales to “Small Commercial” vs. “Commercial” customers.
- 24.3 Please explain why the COSA does not include separate customer classes for “Small Commercial” and “Commercial” customers but rather combines the two.

**25.0 Reference: Exhibit B-1, Appendix 8-1, pages 14-15 and 17**

**Preamble:** The Appendix explains that the Residential and Commercial CP and NCP values by customer class were based on values from FortisBC’s 2009 COSA.

The load parameters used in Nelson Hydro’s COSA are (per page 17):

**Table 9: Load Parameters used for COSA<sup>28</sup>**

Customer Class	NCP Load Factor	Coincidence Factor
Residential	40%	80%
Commercial	43%	75%
Streetlight	47%	100%

- 25.1 Please describe how the Residential Coincidence Factor of 80% was derived from the values in Schedules 8.1 and 8.2 of FortisBC’s 2009 COSA.
- 25.2 Please confirm that similar to Nelson Hydro FortisBC has both a “Small Commercial” customer class and a “Commercial” customer class.
  - 25.2.1 Are the definitions for FortisBC’s “Small Commercial” customer class and a “Commercial” customer class the same as those used by Nelson Hydro? If not, what are the differences?
- 25.3 Please confirm that in its COSA Nelson Hydro has used the FortisBC’s NCP values for FortisBC’s “Commercial” customer class (as opposed to FortisBC’s “Small Commercial” class or some weighting of the two).
  - 25.3.1 If not confirmed, please explain the basis for the 43% NCP load factor used by Nelson Hydro for its Commercial class.

25.3.2 If confirmed, please explain why the values for FortisBC's "Commercial" class were used as opposed to FortisBC's "Small Commercial" class or some weighting of the two.

25.4 Please describe how Nelson Hydro's Commercial Coincidence Factor of 75% was derived from the values in Schedules 8.1 and 8.2 of FortisBC's 2009 COSA.

25.5 How would the Commercial load parameters, used in Nelson Hydro's COSA, change if they were based on FortisBC's values for its "Small Commercial:" class?

**26.0 Reference: Exhibit B-1, Appendix 8-1, pages 8&13  
Exhibit B-2, Nelson Hydro COSA Spreadsheet Model,  
COS(Common) Tab**

26.1 Please confirm that, per pages 8 and 13, Transmission is treated as a Common cost and is classified as Demand-Related based on Coincident Peak (CP).

26.2 Please explain why in the COS(Common) Tab of the COSA while there are \$5,875,762 in Transmission assets classified as Demand-CP (cell E315): i) There is no Accumulated Depreciation associated with Transmission and Distribution Plant that is classified as Demand-CP (cell E32); ii) There are no Expenses associated with Transmission and Distribution Plant that are classified as Demand-CP (cell E66) and iii) No Amortization Expense associated with Transmission and Distribution Plant is classified as Demand-CP (cell E92).

**27.0 Reference: Exhibit B-1, Appendix 8-1, page 15  
Exhibit B-2, Nelson Hydro COSA Spreadsheet Model,  
Capital Tab  
BCUC Order G-47-16, Appendix A, page 13 of 56**

**Preamble:** Appendix 8-1 states:

"In order to develop a reasonable approach that can be applied to Nelson Hydro without requiring new asset classification categories, and that is representative of the BC experience, the classification factors used by BC Hydro were determined to be appropriate. These factors lead to all distribution assets being classified as 73% demand related and 27% customer related."

Order G-47-16 describes BC Hydro's classification of distribution plant as follows:

BC Hydro's classification of the sub-functionalized distribution assets is as follows: (1) Meters: 100% customer; (2) Secondary and Services: 50% demand and 50% customer; (3) Direct Assignment of Transformers: 50% demand and 50% customer; (4) Substations and Primary: 100% demand. This results in overall Distribution classification before substations as 71% demand and 29% customer, and overall with substations (which are classified as 100% demand) as 73% demand and 27% customer.

- 27.1 Given that Nelson Hydro has based its load parameters on values from ForticBC's 2009 COSA why were not the classification factor for Nelson Hydro's distribution plant also based on ForticBC's 2009 COSA?
- 27.2 Please confirm that BC Hydro's 73% demand and 27% customer classification for its distribution assets (including substations) will be reflective of the proportions of BC Hydro distribution assets that are made up of meters vs. secondary and services vs. transformers vs. substations and primary.
- 27.2.1 Please confirm that if the percentages noted in the reference from G-47-16 were applied to Nelson Hydro's mix of distribution assets a different demand/customer split would likely result.
- 27.2.2 Please provide a schedule that sets out the capital values (per the Capital Tab) of Nelson Hydro's distribution assets broken down into the categories referenced in G-47-16 and then, using BC Hydro classification factors for each, calculate the overall demand/customer classification percentage for Nelson Hydro's Distribution Plant.
- 28.0 Reference: Exhibit B-2, Nelson Hydro COSA Spreadsheet Model, COS(Urban), COS(Rural), COS(Common) and Capital Tabs**
- 28.1 Please confirm that the Nelson Hydro COSA uses a different customer allocation basis for Meters and Transformers versus the other assets categorized as Transmission and Distribution Plant.
- 28.2 Please confirm that the classification of the Urban Rate Base for Distribution and Transmission Plant (per COS(Urban) – cells P24 to V24) is also used to classify: i) Urban Expenses for Distribution and Transmission Plant (per COS(Urban) – cells E66 to K69) and ii) Urban Amortization for Distribution and Transmission Plant (per COS(Urban) – cells E92 to K92).
- 28.3 Please provide a schedule that sets out: i) the % contribution of Meters and Transformers to the overall rate base for Distribution and Transmission Plant (per the Capital Tab) and ii) the % contribution of Meters and Transformers to the overall amortization for Distribution and Transmission Plant (per the Capital Tab).

**29.0 Reference: Exhibit B-2, Nelson Hydro COSA Spreadsheet Model, COS(Common)**

**Preamble:** The referenced tab provides the following load and customer breakdown for 2019:

Nelson Hydro - Common Costs							Based on 2019 Actuals	
COST OF SERVICE								
Exhibit 3 - Analysis of Load Data								
for the Period of:								
	Sales (MW.h)			Energy Alloc. Factor % of total			# of Customer	
	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural
Residential	44,779	57,522	102,301	49%	88%	65%	5,166	4,203
Commercial	46,202	7,688	53,889	50%	12%	34%	924	329
Street Lighting	658	226	884	1%	0%	1%	23	35
Total	91,639	65,435	157,074	100%	100%	100%	6,113	4,567
Share	58%	42%					57%	43%
Hours in Year				8,760				
				Total				
<b>Residential</b>				<b>Commercial</b>			<b>Street Lighting</b>	
kWh Sales at the Meter	102,300,839			kWh Sales at the Meter			53,889,359	
Load Factor	40%			Load Factor			43%	
Individ. Noncoincident Peak (NCP)(kW)	29,195			Individ. Noncoincident Peak (NCP)(kW)			14,306	
System Coincidence Factor	80%			System Coincidence Factor			75%	
Coincident Peak (CP) at Meter (kW)	23,356			Coincident Peak (CP) at Meter (kW)			10,730	
				kWh Sales at the Meter			884,000	
				Load Factor			47%	
				Individ. Noncoincident Peak (NCP)(kW)			215	
				System Coincidence Factor			100%	
				Coincident Peak (CP) at Meter (kW)			215	

29.1 It is noted that in FortisBC's 2009 COSA the NCP factor for Lighting is 27%. Why is not this value used for Nelson Hydro?

29.2 How are the NCP Load Factor and System Coincidence factor for Street Lighting determined?

29.3 What does the customer count for Street Lighting represent? Is it the number of Street Light fixtures, the number of Street Light connections (recognizing that more than one fixture maybe connected to the system at the same point) or the number of customers accounts for Street Lights?

**30.0 Reference: Exhibit B-1, Appendix 8-1, pages 13-14 FortisBC's 2017 COSA&RDA Application, Exhibit B-1, page 49**

**Preamble:** The Appendix states:

“In the case on Nelson Hydro, two overriding considerations drive the choice of classification factors:

- 1) Use of factors that recognize the very seasonal nature of the hydraulic generation owned by Nelson Hydro, which provides far more summer energy and much more limited winter peak capacity output; and
- 2) Use of factors that have an established and accepted role in BC rate setting.

Based on these considerations, it is recommended use classification factors for generation as approved for Fortis BC, i.e. 20% to demand and 80% to energy.”

30.1 Footnote 23 of the Appendix notes that FortisBC's demand/energy classification for generation was determined by treating the output from its Kootenay River plants as if it were purchased at the BC Hydro 3808 rate.

30.1.1 Please explain why this is the appropriate basis for classifying Nelson Hydro's generation costs.

- 30.2 The Appendix cites the classification factors used by four different utilities. While FortisBC classifies 20% of generation costs as demand-related the demand classification factors for the other three utilities range from 40% to 55%. Can InterGroup generally explain the basis for the demand/energy classification used by these other utilities, particularly BC Hydro?
- 30.3 Please explain how the considerations cited led to the recommendation to use FortisBC's generation classification factors as opposed to those used by BC Hydro, particularly when BC Hydro's classification factors are used for Distribution Plant?

**31.0 Reference: Exhibit B-1, Appendix 8-1, page 16  
Exhibit B-2, Nelson Hydro COSA Spreadsheet Model,  
Tables Tab (cells D240-H246)**

- 31.1 Please confirm that purchases from FortisBC are classified in accordance with FortisBC charges (e.g., energy charges from FortisBC are classified as energy-related).
- 31.2 Please confirm that the demand-related portion of FortisBC's purchase costs is allocated on the basis of 1 CP.
- 31.3 Please confirm that FortisBC bills Nelson Hydro on a monthly basis for any purchases and that FortisBC's demand charge is applied to the purchases in each month.
- 31.3.1 If confirmed, please explain why is appropriate to use the 1CP demand allocator for FortisBC's purchase costs as opposed to a 12CP demand allocator.
- 31.3.2 Please provide a schedule that compares the values for the 1CP vs. 12CP demand allocators for the Residential, Commercial and Street Lighting classes.

**32.0 Reference: Exhibit B-1, page 58 and Appendix 8-1, page 10**

**Preamble:** At page 58 the Application states:

"The allocation of the demand portion of purchased power costs are also prepared based on a feeder loading study conducted by Nelson Hydro that shows based on years 2015-2019 that the actual peak numbers the Urban customers share are about 39.1% of demand portion of power purchase costs, while Rural customers share the remaining 60.9%."

- 32.1 Was the feeder study based on the annual peak demands by feeder attributable for purchased power to Urban vs. Rural or was it based on the monthly peak demands on each feeder attributable to Urban vs. Rural?
- 32.1.1 If annual, please explain why when the demand charges for purchases from FortisBC on based on monthly usage.

**33.0 Reference: BCUC Order G-274-19, page 8  
Exhibit B-1, Appendix 8-1, pages (i) – (iv)  
Exhibit B-2, Nelson Hydro COSA Spreadsheet Model**

**Preamble:** At page 8 the BCUC Order states:

“Nelson Hydro has one integrated electrical distribution system which serves all of its customers regardless of their location. Energy from Nelson’s generating facility and energy purchased from FBC is pooled and indistinguishable once it enters that distribution system. All Nelson Hydro customers share all the energy whether it comes from Nelson’s generating facility, from FBC or from other sources. Further, the total energy costs have in the past been pooled and shared equally between Rural and Urban customers. The Panel is not persuaded that it is reasonable for Nelson Hydro to arbitrarily assign the higher cost power purchased from FBC predominately to Rural customers.”

33.1 Please provide the results (i.e., Table E-1 through E-3 of Appendix 8-1 and a revised Nelson Hydro COSA Spreadsheet Model) based on an alternative allocation of generation and purchased power costs where both are classified per Nelson Hydro proposals but then the total costs for each pooled and allocated to customer classes. (For example, energy-related generation cost and energy-related purchased power costs would both be allocated to all customer classes based on their energy usage).

**34.0 Reference: Exhibit B-1, Appendix 8-1, page 18**

34.1 Please provide a revised version of Table 10 that also includes Street Lighting-Rural and Street Lighting-Urban.

34.2 Overall, what is the aggregate Revenue to Cost Ratio, taking into consideration the total revenues for all customer classes and the total costs allocated to all customer classes.

34.3 If the aggregate Revenue to Cost ratio does not equal 100%, what implications does this have for interpreting and applying the results of the COSA?

**35.0 Reference: Exhibit B-1, page 59 and Appendix 8-1, page 7**

**Preamble:** At page 5 the Application states:

“There is no uniform range of reasonableness and, for this Application, Nelson Hydro proposed a range of reasonableness of 95% to 105%, but in the longer term is targeting 100% cost recovery.”

At page 7 the Appendix states:

“It is important to recognize that COSA is not an exact science. All cost of service studies are recognized to report results with a “Range of Reasonableness” (typically either +/- 5% or +/- 10%). For this reason, a balanced effort is required in producing COSA, and increased efforts at precision in cost of service can ultimately be counterproductive if (a) considerable additional effort is required, (b) the data required to perform

the extra analysis is not available or is not reliable, and (c) the impact on the results are unlikely to exceed the degree of imprecision or Range of Reasonableness inherent in the study. For a small utility such as Nelson Hydro, these effects can be particularly magnified.”

- 35.1 Please confirm that, for CoS and Rate Design purposes, BC Hydro and FortisBC currently use a Range of Reasonableness of +/-5%.
- 35.2 Please confirm that for purpose of classifying Nelson Hydro’s generation costs and also its distribution costs, the COSA relies on classification factors developed by other utilities as opposed to one’s developed specifically for Nelson Hydro.
- 35.3 Please confirm that the load profiles factors (i.e., the NCP and CP values) used for the Residential and Commercial customer classes are based on the load characteristics of FortisBC’s customer classes.
- 35.4 Based on the preceding responses and the overall level of detail used in the Nelson Hydro’s COSA relative to that used by BC Hydro or FortisBC, does InterGroup consider the results of the Nelson Hydro COSA to be less “precise” than those of either FortisBC’s or BC Hydro’s COSA?
  - 35.4.1 If InterGroup views Nelson Hydro’s COSA to have the same or a greater level of precision than the COSA performed by BC Hydro or FortisBC, please explain why.