

REQUESTOR NAME: **BCOAPO**  
INFORMATION REQUEST ROUND NO: **#1**  
TO: **BRITISH COLUMBIA HYDRO & POWER  
AUTHORITY (BCH)**  
DATE: **NOVEMBER 13, 2020**  
PROJECT NO: **1599030**  
APPLICATION NAME: **CUSTOMER CRISIS FUND (CCF) PILOT  
PROGRAM – TWO-YEAR EVALUATION  
REPORT**

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**1.0 Reference: BCH Customer Emergency Fund Application (July 24, 2017),  
page 32  
Exhibit B-1, pages 66, 72 and 73-75  
Exhibit B-5, page 8**

**Preamble:** The initial CEF (now CCF) Application stated:

*BC Hydro proposes to evaluate the CEF Pilot, and will provide the evaluation report to the Commission. This evaluation is expected to be undertaken near the end of the two year pilot period, and to include:*

- 1. Estimates of the costs and benefits of the CEF pilot;*
- 2. Comparison of CEF pilot participants to the population of all BC Hydro customers on the basis of region, housing type and other available parameters;*
- 3. Participation, grant levels and Customer Emergency Fund Regulatory Account balances over time; and*
- 4. Effectiveness of program design and delivery, including eligibility criteria*

With respect to program design and eligibility criteria, BCH noted in the One-Year Evaluation Report (Exhibit B-1, page 66) that “*BC Hydro continues to work with the LIAC to increase program awareness and, to the extent appropriate, simplify the application process*”.

In the same Report BC Hydro also noted:

*“BC Hydro also notes that of surveyed customers who have received a grant and who also indicated eligibility criteria were difficult to understand, only 20 per cent identified that they understood what being ‘at risk’ of disconnection means. This indicates that this may be an area where improvement to help customers understand the program eligibility may be needed, for example, through ongoing refinements to the CCF grant application form and program communications.” (page 72)*

*“the requirement (i.e., a recent life event causing financial hardship) is challenging for customers to understand, and the information required to demonstrate eligibility is considered sensitive by many. .... BC Hydro has continued to improve its*

*explanation of CCF Pilot criteria and also simplify the grant application form” (pages 73-75)*

The Two-Year Evaluation Report (Exhibit B-5) states:

*“the Two-Year Evaluation Report assesses the following questions based on BC Hydro’s experience operating the CCF Pilot from May 1, 2018 to April 30, 2020:*

- *Does providing grants to customers in a temporary financial crisis:*
  - Maintain their electrical service, and*
  - Improve their ongoing ability to pay their bills? and*
- *Are there operational cost savings (including revenue losses and bad debt expenses) that offset program costs to justify the CCF program on an economic or cost of service basis? This Two-Year Evaluation Report also provides operational metrics based on BC Hydro’s experience in operating the CCF Pilot.”*

- 1.1 What additional changes did BC Hydro implement, apart from those specifically referenced in the Year One Evaluation Report to either increase program awareness and/or simplify the application process either one its own or through its continuing collaboration with LIAC (per Exhibit B-1, page 66)?
- 1.2 Did the Two-Year Evaluation Report evaluate the appropriateness and/or effectiveness of these changes?
  - 1.2.1 If not, why not?
  - 1.2.2 If yes, where are findings and conclusions reported?
- 1.3 Following the issuance of the Year One Evaluation Report, what changes/refinements to the CCF grant application form and/or program communications did BC Hydro make to improve customer understanding of the program eligibility (e.g. in terms of “risk of disconnection”, “financial hardship” and “life event causing financial hardship”) per Exhibit B-1, page 72?
- 1.4 Did the Two-Year Evaluation Report evaluate the appropriateness and/or effectiveness of these changes/refinements?
  - 1.4.1 If not, why not?
  - 1.4.2 If yes, where are findings and conclusions reported?

**2.0 Reference: Exhibit B-1, pages 20 and 77  
Exhibit B-5, page 17**

**Preamble:** The One-Year Evaluation Report states:

*“Furthermore, of the customers approved to receive CCF grants 97 per cent had not yet been disconnected at the time the grant application was submitted”*

The Report also states:

*“3 per cent of customers receiving grants were already disconnected when applying for the grant, and were able to be reconnected after receiving the grant;  
97 per cent of customers receiving grants were at an advanced stage of the collections process and were facing disconnection, and these customers were not disconnected after receiving the grant”*

The Two-Year Evaluation Report states:

*“Of customers receiving grants, 85 per cent had not yet been disconnected at the time the grant application was submitted, which indicates that the CCF Pilot was successful in helping these customers avoid disconnection”.*

- 2.1 Please confirm that it is BCH's practice not to disconnect customers while their CCF application was being processed (per BCH's web Site - CCF Frequently Asked Questions)?
- 2.2 The Year-One Report appears to indicate that, in the first year of operation, none of the customers that received a CCF grant prior to being disconnected were subsequently disconnected (for non-payment) after having the grant applied to their outstanding balance. Please confirm that was the case?
  - 2.2.1 If not confirmed, in the first year of operation, what percentage of the customers that received a CCF grant prior to being disconnected were subsequently disconnected (for non-payment) after having the grant applied to their outstanding balance?
  - 2.2.2 If not confirmed, in the first year of operation, what percentage of the customers that received a CCF grant prior to being disconnected and were subsequently disconnected (for non-payment) after having the grant applied to their outstanding balance, received their grant after their Final Notice of Disconnection was issued?
- 2.3 Did BC Hydro make any changes in the program communications or otherwise in the second year to increase customers' awareness of program so as to reduce the number of customers applying only after they had been already disconnected?
  - 2.3.1 If yes, what specific changes were made?
- 2.4 In the second year of operation, what percentage of the customers that received a CCF grant prior to being disconnected were subsequently disconnected (for non-payment) after having the grant applied to their outstanding balance?
- 2.5 In the second year of operation, what percentage of the customers that received a CCF grant prior to being disconnected and were subsequently disconnected (for non-payment) after having the grant applied to their

outstanding balance, received their grant after their Final Notice of Disconnection was issued?

2.6 It appears that, in the second year, the percentage of customers applying for a grant after being disconnected increased (i.e., to 15% vs. 3% in year one). Is this the case?

2.6.1 If yes, can BC Hydro explain why this was the case and how this result occurred despite BCH's references/efforts to increasing program awareness and improving program communications in year two.

**3.0 Reference: Exhibit B-5, page 8  
Exhibit B-1, pages 66-67**

**Preamble:** The Two-Year Evaluation Report (Exhibit B-5) states:

*“the Two-Year Evaluation Report assesses the following questions based on BC Hydro’s experience operating the CCF Pilot from May 1, 2018 to April 30, 2020:*

• *Does providing grants to customers in a temporary financial crisis:*

- Maintain their electrical service, and*
- Improve their ongoing ability to pay their bills? and*

• *Are there operational cost savings (including revenue losses and bad debt expenses) that offset program costs to justify the CCF program on an economic or cost of service basis? This Two-Year Evaluation Report also provides operational metrics based on BC Hydro’s experience in operating the CCF Pilot.”*

The Report also states:

*“The Two-Year Evaluation Report does not replicate or update BC Hydro’s summary of the operating model, analysis of BC Hydro customer opinions; analysis of CCF Grant Recipient’s experience, opinion and characteristics; or the operational assessment presented in the Year One Evaluation.”*

The One-Year Evaluation Report states:

*“In this section, BC Hydro evaluates the first year of the CCF Pilot with respect to the following questions posed for the Evaluation Report, as described in section 1.4. The evaluation in this section provides an additional assessment of the appropriateness of certain operational elements of the CCF Pilot from the customers’ and/or BC Hydro’s perspective.*

- *Has the CCF Pilot design enabled easy grant applications?*
- *Has the CCF Pilot achieved a low administrative cost?*
- *Are the program eligibility criteria appropriate?*
- *Are CCF grant levels appropriate?*
- *Will providing grants to customers in a temporary financial crisis:*
  - Maintain their electrical service?*
  - Improve their ongoing ability to pay their bills?*

- *Are there operational cost savings that offset program costs and allow the CCF Pilot to justify itself on an economic or cost of service basis? and*
- *Is the amount of the CCF Rate Rider created to fund the program appropriate given actual program costs and level of participation?"*

3.1 The Two-Year Evaluation Report does not appear to specifically address the question “Does providing grants to customers in a temporary financial crisis: Maintain their electrical service and Improve their ongoing ability to pay their bills” despite this being noted as one of the purposes of the Report (Exhibit B-5, page 8)

3.1.1 If this question is addressed please indicate where in the Report this occurs including the analysis undertaken and the specific conclusions/findings?

3.1.2 If not addressed, please explain why?

3.1.3 If not addressed, what is BCH’s assessment as to whether providing grants to customers in a temporary financial crisis helps to maintain their electrical service and improve their ongoing ability to pay their bills?

3.2 There are a number of questions that were addressed in the One-Year Evaluation Report that BCH has explicitly determined it would not address/update in the Two-Year Report (e.g., Exhibit B-1, Sections 5.1 to 5.4). In each case, please explain why BCH determined it was not necessary to provide an updated response to the “question” based on two years’ experience and the changes made to the program in the second year.

3.2.1 If it is BCH’s view that the “answers” would be unchanged after the second year of the pilot, please explain why.

**4.0 Reference: Exhibit B-1, Appendix B, pages 5 and 17-20 of 150 Exhibit B-5, page 8**

**Preamble:** The Year-One Evaluation Report (Appendix B) notes that a number of demographic differences (in terms of employment, income level, and gender) between those customers receiving CCF grants and BCH’s overall Residential customer base.

4.1 It is noted that a similar assessment was not made for the Year-Two Evaluation Report. Please explain why.

4.1.1 Does BCH expect that the same differences would exist based on all successful CCF grant recipients over the full two year period?

4.2 Does BCH expect that the demographic profile (in terms of employment status, income level and gender) of all customers with overdue accounts or facing disconnection would be similar to that of those customers receiving CCF grants?

4.2.1 If yes, please provide the supporting evidence/analysis.

**5.0 Reference: Exhibit B-1, pages 16 and 71  
Exhibit B-5, pages 13, 32 and 37**

**Preamble:** The One-Year Evaluation states:

*“During the first year of the CCF Pilot, BC Hydro has refined how it applied this requirement to address a wide range of scenarios encountered. For instance, in the CEF Application, BC Hydro indicated that being disconnected or receiving a Final Notice of Disconnection collections notification would indicate a customer’s eligibility under this requirement. Shortly after the pilot launch, we realized that the receipt of an Important Notice, a collections notification from BC Hydro prior to the Final Notice, was a more appropriate indication of eligibility. This change allowed customers experiencing financial hardship to apply for a grant several weeks earlier, thereby reducing their concern of being potentially disconnected.” (page 71)*

The Two-Year Evaluation Report states:

*“Six types of FNOD notices define the customers eligible for the CCF Pilot and who form the population from which the matched control group customers were drawn. BC Hydro issues 80,000 to 100,000 FNODs each month. The FNODs also provide the key financial data on which the evaluation is based. Each of the six types of FNOD serves a different purpose and a customer may receive more than one FNOD in any month. The FNOD may be issued between seven days and 30 days after the bill has been issued, depending on the customer’s credit worthiness”. (page 32)*

- 5.1 Please provide a schedule that sets out the various written notices (and other forms of communication, e.g., phones calls, personal visits) issued to a customer whose bill in not paid on the due date up to the point in time of disconnection, indicate the time lines involved (i.e. elapsed time for each notice from the date the bill is overdue) and the cost of undertaking each notice/contact (per customer). If possible, please provide a sample copy of each type of written notice.
- 5.2 For the 2,282 applications approved in Year One, please indicate on the schedule provided in response to the preceding question, the number of grant applications received prior to each type of notice/contact.
- 5.3 For the 4,137 applications approved in Year Two, please indicate on the schedule provided in response to part one of this question, the number of grant applications received prior to each type of notice/contact.
- 5.4 For the 2,797 approved applications included in the test group sample, please indicate on the schedule provided in response to part one of this question, the number of grant applications received prior to each type of notice/contact.

**6.0 Reference: Exhibit B-1, page 77 and Appendix C  
Exhibit B-5, page 30, Footnote 24**

**Preamble:** The One-Year Evaluation Report states (page 77):

*“However, it is not conclusive that customers would have been disconnected had it not been for the CCF grant. In particular:*

- As stated in section 4.3, the short study period provided insufficient data to determine if customers receiving CCF grants had a lower rate of disconnection than similar customers in the control group that did not receive CCF grants. The overlap of the study period and the winter disconnection moratorium further reduced the sample size.*
- Of all customers receiving a Final Notice of Disconnection, only 10 per cent are disconnected. This indicates that a portion of customers receiving CCF grants may have found other sources of funds to pay their outstanding electricity bills, albeit with other impacts to their household. For instance, of surveyed customers receiving CCF grants, 94 per cent indicated that without the grant they would have needed to go without some necessities of living.”*

The Two-Year Evaluation Report states:

*“FNODs are issued once a customer is considered overdue with a payment. The six eligible notice types were:*

- a) Important notice without security deposit warning (INTNSD)*
- b) Important notice with security deposit warning (INTWSD)*
- c) FNOD for non-payment without security deposit request (FNDNSD)*
- d) FNOD for non-payment with security deposit request (FNDWSD)*
- e) FNOD for certified cheque or money order (FNDCM)*
- f) FNOD for a security deposit (FNDFSD)”*

6.1 Are all customers who receive an Important Notice (i.e., notice types a) or b)) experiencing financial hardship as defined/determined by the CCF eligibility criteria?

6.1.1 If yes, please provide the basis/data supporting the response.

6.2 Are all customers who receive a Final Notice of Disconnection (i.e., notice types c) through f)) experiencing financial hardship as defined/determined by the CCF eligibility criteria?

6.2.1 If yes, please provide the basis/data supporting the response.

6.3 In order to address the question of whether customers would have been disconnected had it not been for the CCF grant, isn't it necessary to compare the disconnection rates of customers receiving the CCF grant with the disconnection rate for customers in similar circumstances of financial hardship?

**7.0 Reference:** **CCF Application Form**  
(<https://app.bchydro.com/content/dam/BCHydro/customer-portal/documents/accounts-billing/customer-care/bchydro-customer-crisis-fund-application.pdf> )  
**Exhibit B-1, pages 73-75**

**Preamble:** The CCF Application Form states:

*“To be eligible for the CCF grant, the applicant must meet all of the following criteria:*

- a. receiving electricity service at the address listed in Part 1 from BC Hydro;*
- b. being a BC Hydro customer for the account listed in Part 1;*
- c. using the address as the primary residence as listed in Part 1;*
- d. having a balance in arrears (amount owing) of less than \$1,000 on the BC Hydro account for the address;*
- e. facing disconnection for the BC Hydro account at the address;*
- f. having demonstrated reasonable prior attempt to pay the bill;*
- g. having experienced in the past 12 months or is experiencing an unexpected life event that results in a temporary financial crisis;*
- h. having utilized and exhausted all other financial resources, such as income, liquid assets, and other financial assistance programs;*  
*and*
- i. not having received a CCF grant during the past 12 months.”*

The Form also requires that customers not having participated in any of the identified income qualification programs (per question #7) must provide financial details regarding assets, liabilities, monthly income and monthly expenses (Part 2 of the Application).

- 7.1 For each of Year One and Year Two, please indicate the percentage of the successful applications (after reversals) where the applicant received financial assistance from one of the 12 accepted programs.
- 7.2 What percentage of the 2,797 approved applications included in the test group sample represent the applicants that received financial assistance from one of the 12 accepted programs?
- 7.3 Please explain how, based on the information provided in Part 2 of the Application, BCH determined whether or not a customer was eligible for a CCF grant.

**8.0 Reference:** **Exhibit B-5, pages 9-10**  
**CCF Application Form**  
(<https://app.bchydro.com/content/dam/BCHydro/customer-portal/documents/accounts-billing/customer-care/bchydro-customer-crisis-fund-application.pdf> )

- 8.1 Please provide a schedule that sets out the monthly and cumulative values up to May 31, 2020 for the CCF Rate Rider Revenues and CCF Plot Program Costs (separating out the cost of grants from other costs) that net to (\$4.81) million.

8.2 Do the program costs included in the (\$4.81) million include all grants up to the end of May 2020 including grants provided to customer impacted by the COVID-19 pandemic (e.g., customers who indicated such on their CCF Application Form)?

8.2.1 If yes, for how many of the grants issued had the customer indicated having been impacted by the COVID-19 pandemic?

8.2.2 If yes, how would the overall value recorded in the account change if the cost of these grants was excluded?

**9.0 Reference: Exhibit B-5, pages 13 and 17**

9.1 Table 2 (page 13) indicates that there were 6,385 approved Applications over the two year period. On page 17, BCH states that a total of 5,028 CCF grants were provided. Please reconcile these two numbers.

**10.0 Reference: Exhibit B-5, page 17 and page 30  
Exhibit B-1, page 71**

**Preamble:** Exhibit B-1 states:

*“During the first year of the CCF Pilot, BC Hydro has refined how it applied this requirement to address a wide range of scenarios encountered. For instance, in the CEF Application, BC Hydro indicated that being disconnected or receiving a Final Notice of Disconnection collections notification would indicate a customer’s eligibility under this requirement. Shortly after the pilot launch, we realized that the receipt of an Important Notice, a collections notification from BC Hydro prior to the Final Notice, was a more appropriate indication of eligibility. This change allowed customers experiencing financial hardship to apply for a grant several weeks earlier, thereby reducing their concern of being potentially disconnected”.*

The Two-Year Evaluation Report states (page 30):

*“FNODs are issued once a customer is considered overdue with a payment. The six eligible notice types were:*

- a) Important notice without security deposit warning (INTNSD)*
- b) Important notice with security deposit warning (INTWSD)*
- c) FNOD for non-payment without security deposit request (FNDNSD)*
- d) FNOD for non-payment with security deposit request (FNDWSD)*
- e) FNOD for certified cheque or money order (FNDCM)*
- f) FNOD for a security deposit (FNDFSD)”*

10.1 The change referenced in the Preamble suggests that during most of the two-year pilot customers could apply for a CCF grant prior to receiving a formal Final Notice (e.g. one of items c) through f)) but after receipt of an Important Notice. Please confirm that this is the case.

10.1.1 Would customers receiving an Important Notice subsequently receive a Final Notice, if the arrears amount continued to be unpaid?

10.2 Footnote 24 on page 30 of Exhibit B-5 suggests that Important Notices are considered one of the six types of FNODs – along with the more formal Final Notices. Please clarify.

10.3 For purposes of the Two Year Evaluation Report and the use of the term “FNOD” throughout section 3 – does FNOD also include Important Notices?

10.3.1 If not, please reconcile with the fact that all grant recipients may not have received a Final Notice (i.e., a formal Notice of Disconnection).

10.3.2 If not, would it have been possible for successful grant applicants to have received their grant prior to a FNOD being issued and, if yes, did such situations occur and how many were there in each year?

10.3.3 If such situations occurred, please reconcile this with the results shown in Table 3 (Exhibit B-5) which suggest that there were FNODs associated with all grants issued.

**11.0 Reference: Exhibit B-5, page 18  
CCF Application Form  
(<https://app.bchydro.com/content/dam/BCHydro/customer-portal/documents/accounts-billing/customer-care/bchydro-customer-crisis-fund-application.pdf> )**

11.1 Table 4 indicates that 2,174 Applications were rejected as the Applicant was not experiencing a temporary financial crisis. However, it is noted that identification of a financial crisis is a specific requirement (Question #5) of the CCF Application Form. Please explain how/why such rejections occurred.

**12.0 Reference: Exhibit B-5, page 18**

12.1 Table 4 shows “Account is not in arrears or is not facing disconnection” and “Account is not experiencing a temporary financial crisis” as two separate reasons for rejecting an application. Were all of the applications shown as rejected based on the “Applicant is not experiencing a temporary financial crisis” deemed to be applications that met the requirement of being in arrears and facing disconnection?

12.1.1 If not please explain how the potential for overlap between these two reasons for rejection is addressed.

12.2 Table 4 shows a substantial number of applications were rejected for “Other” reasons. What were some of the common Other reasons?

**13.0 Reference: Exhibit B-5, page 21**

13.1 The Report notes that “*in some cases, the CCF Team may identify an application for audit, for example, based on other information available in BC Hydro’s SAP billing system*”. What types of information from the SAP billing system was used to identify an application for audit?

**14.0 Reference: Exhibit B-5, pages 22-23**

14.1 At page 23 (lines 9-11) the Year-Two Evaluation Report indicates that improvements in the CCF Application helped contribute to an improved audit failure rate in the second year. However, Table 6 indicates that the audit success rate (i.e., grants deemed successful after audit) fell from 67% in Year One to 58% in Year Two. Please reconcile.

**15.0 Reference: Exhibit B-5, pages 24-26  
Exhibit B-1, pages 36-37**

15.1 Please confirm that Table 7 excludes the \$267,271 in set-up costs referenced on page 24.

15.1.1 If not confirmed, for each of the rows in Table 7, please provide a breakdown between initial set-up costs and ongoing operating costs.

15.1.2 If confirmed, does Table 7 reflect the costs BCH would expect to incur if the program continued for another year? If not, how would the values change?

15.2 Which of the operating cost categories set out in Table 7 will vary with the number of applications processed vs. which ones are essentially “fixed” regardless of the number of applications processed/approved.

15.3 For Year One, Year Two and the two years overall, please indicate: i) the total variable costs, ii) the number of grants issued (after reversals) and iii) the average variable cost per grant issued.

**16.0 Reference: Exhibit B-5, pages 23 and 27**

16.1 The Two-Year Evaluation Report notes that 88% (page 23)/85% (page 27) of audit failures were due to the requested audit documentation not being provided. What were the types of audit documentation that were most commonly not provided?

**17.0 Reference: Exhibit B-5, page 28**

17.1 With respect to the hypothesized benefits and related research questions, please confirm that the relevant “question” is what is difference in the outcomes as result of the customers receiving the CCF grant as compared to if they had not received a CCF grant?

17.1.1 If not confirmed please, explain what BCH considers the relevant comparison to be and why.

**18.0 Reference: Exhibit B-5, page 28  
CCF Application Form  
(<https://app.bchydro.com/content/dam/BCHydro/customer-portal/documents/accounts-billing/customer-care/bchydro-customer-crisis-fund-application.pdf> )**

Preamble: The Report states:

*"In this case the matched control group was not created from a random sample of the population of all residential customers but rather from a subset of customers with specific financial status criteria as defined by the eligibility criteria of the CCF Pilot Program, i.e., the eligible group". (Emphasis Added)*

The CCF Application Form (Part 3) set out the following eligibility criteria:

*"To be eligible for the CCF grant, the applicant must meet all of the following criteria:*

- a. receiving electricity service at the address listed in Part 1 from BC Hydro;*
- b. being a BC Hydro customer for the account listed in Part 1;*
- c. using the address as the primary residence as listed in Part 1;*
- d. having a balance in arrears (amount owing) of less than \$1,000 on the BC Hydro account for the address;*
- e. facing disconnection for the BC Hydro account at the address;*
- f. having demonstrated reasonable prior attempt to pay the bill;*
- g. having experienced in the past 12 months or is experiencing an unexpected life event that results in a temporary financial crisis;*
- h. having utilized and exhausted all other financial resources, such as income, liquid assets, and other financial assistance programs;*
- and*
- i. not having received a CCF grant during the past 12 months."*

18.1 Does BCH agree that criteria d), e), f), g), and h) could all be viewed as financial status criteria?

18.1.1 If not, why not?

18.2 Which of the criteria listed in the preceding question were used to select/define the matched control group?

**19.0 Reference: Exhibit B-5, pages 33-34**

**Preamble:** The purpose of the following questions is to better understand how to interpret Figure 7. BCH is also invited to provide any additional explanation, beyond that solicited by the specific questions, that it considers would be helpful.

19.1 Please confirm that whether the use of the term FNODs in Figure 7 includes Important Notices.

19.2 Please confirm that the value shown in Figure 7 for month "G" represents the average overdue amount for all participants in month they received

the grant, where the participants include all CCF applicants receiving grants (after reversals) in the months May 2018 to February 2020.

19.2.1 If not confirmed, please fully explain what the value shown of month “G” represents.

19.3 Does the value shown in Figure 7 for “G-6” represent:

- The average overdue amount in the 6<sup>th</sup> month preceding the grant month for those customers that received an FNOD in that month (i.e., the numerator is the total overdue amount for all FNODs issued in 6<sup>th</sup> month preceding the grant and the denominator is the number of customers receiving FNODs), or
- The average overdue amount in the 6<sup>th</sup> month preceding the grant month for all customers receiving grants (i.e., the numerator is the total overdue amount for all FNODs issued in the 6<sup>th</sup> month preceding receipt of the grant and the denominator is the number of customers receiving grants 6 months later), or
- Some other calculation and, if so, please explain?

19.4 Footnote 27 states: “For example, the bars at G-21 and G+21 represent participants who received the grant in February 2020, which is about 200 to 300 customers”. Please explain how the G+21 bar can represent participant who received a grant in February 2020 as opposed to those who received a grant in May 2018.

19.5 Please provide a schedule that, for each bar in Figure 7, indicates: i) which months of the period when participants received grants are included and ii) the number of associated grants/participants and iii) the number of FNODs issued to the participants.

19.6 Please explain the circumstance under which a customer could receive an FNOD up to 21 months prior to receiving a grant.

19.6.1 Does this only occur when there was an earlier FNOD for which the amount overdue was fully paid such that the FNOD associated with grant represents other/separate overdue event?

**20.0 Reference: Exhibit B-5, pages 36-37**

20.1 The Report indicates that a sample size of 462 was too small for the results to be statistically significant whereas with a sample size of 2,797 the results are statistically significant. Please provide the basis for these two conclusions.

**21.0 Reference: Exhibit B-5, pages 39-40**

**Preamble:** The Report states (page 39):

*“Although the test and control groups were matched as closely as possible with available data, some selection bias may exist, such as income disparity and whether members of the matched control*

*group were also impacted by an ‘unplanned life event’. To limit the potentially confounding extraneous effects and selection bias, the DID technique was applied to measure the differences between the test and matched control groups over time. The DID technique effectively reduces the impact of unexplainable changes that affect both the test and matched control groups. The DID technique provides an estimate of the net effect of the CCF Pilot, controlling for the variables described above”.*

- 21.1 Please explain what is meant by “some selection bias may exist, such as income disparity and whether members of the matched control group were also impacted by an ‘unplanned life event’”.
- 21.2 Does the DID technique address/control for the fact that the income of the members and whether the members were impacted by an unplanned life event were not factors used in the selection of the control group?
- 21.2.1 If yes, please explain how.

**22.0 Reference: Exhibit B-5, pages 41-44**

**Preamble:** The Report states (page 41):

*“The methodology employed to determine the loss of revenue avoided was to compare the average disconnection rate of the matched control group to that of the test group, and then to estimate the average loss of revenue due to disconnections in the population of eligible customers (defined above in Table 11 as residential customers served by one of the CCF eligible rates and who received any of the six types of dunning notice). The total reduction in lost revenue would be the difference in disconnection rates multiplied by the average lost revenue per customer for each month after disconnection for the first two years of the CCF Pilot.”*

The Report also states (page 42):

*“Although some tests failed to show significance at both the 90 per cent and 80 per cent confidence levels, estimates of the annual savings were calculated for each test”.*

The Report further states (page 43):

*“The data indicated that the test group had about a 10 percent higher disconnection rate than the matched control group. The DID estimator showed that there were on average 0.002 more disconnections per customer from the test group than there were from the matched control group”*

- 22.1 With reference to the quote from page 41, how is the lost revenue calculated for an eligible customer that is disconnected after receiving any of the six types of dunning notices?
- 22.2 What was the average lost revenue for eligible customers who received a dunning notice (FNOR) during the 22 months of the test period and were subsequently disconnected?

- 22.3 What were the average disconnection rates for the test group and the matched control group?
- 22.4 What was the average disconnection rate for the all eligible customers over the same period?
- 22.5 Please demonstrate that the 0.002 more disconnections per customer from the test group as compared to the matched control group is consistent with the test group having a 10% higher disconnection rate than the matched control group.
- 22.6 Page 42 indicates that annual savings were calculated even when the results were not considered to be statistically significant. What were the calculated annual savings in terms of reduced lost revenues? Please provide the calculations supporting the reported results.
- 22.7 Please recalculate the annual savings in lost revenues assuming the average disconnection rate for the matched control group was 0.4 (i.e. 40% of the customers are subsequently disconnected). Please provide the supporting calculations.

**23.0 Reference: Exhibit B-5, pages 40 and 42-44**

- 23.1 For purposes of assessing the lost revenue due to disconnections what is the dependent variable (y) used in the regression model and how many observations (i.e., the number values for “y” this resulted in).
- 23.2 Please provide the result of the actual regression model including the values for coefficient estimators and the regression statistics (e.g., R-squared, adjusted R-squared, coefficient standard error and the coefficient t-values).
- 23.3 Using results from the preceding question please provide the calculation of the p-value for each coefficient.

**24.0 Reference: Exhibit B-5, pages 41 and 44-46**

**Preamble:** The Report states (page 41):

*“The reduction in cost of collection notifications was determined by comparing the average cost of notifications to the matched control group to the average cost of notifications to the test group after the CCF grant was provided. A decrease in the average number of collections notification indicates a reduction in the costs. The reduction in costs would be the decrease in average number of collections multiplied by the average cost per notification, by month after the CCF grant was provided”.*

The Report also states (page 42):

*“Although some tests failed to show significance at both the 90 per cent and 80 per cent confidence levels, estimates of the annual savings were calculated for each test”.*

The Report further states (pages 44 & 45):

*“Figure 10 shows the average number of FNOD collection notice letters issued for the test and matched control Groups over the nine-months analyzed”.*

*“The DID estimator indicated that there were on average 0.006 more FNOD letters for the Test Group than there were for the Control Group”*

- 24.1 Do all notifications regarding overdue accounts and pending disconnection take the form of letters/e-mails or is some of the notification done by phone and/or in person?
  - 24.1.1 If not all by letter/e-mail, why weren't these other forms of notification also included in the analysis?
- 24.2 Is the Important Notice the first communication (apart from the regular bill) that is sent to a customer with an overdue amount?
- 24.3 Assuming a customer continued to be in arrears after receiving the FNOD letter, what additional notifications or contacts would FBC initiate prior to disconnection and when would they occur prior to the ultimate disconnection.
  - 24.3.1 Would all such notifications be delivered in the four month period following the dunning letter and therefore be captured in BCH's analysis?
  - 24.3.2 Would the customer continue to receive “collection” notices from BCH after disconnection and, if so, would these “notices” also be captured in the four months following the dunning letter and therefore be captured in BCH's analysis?
  - 24.3.3 If the number and types of subsequent notifications depend on the type of FNOD initially sent, please: i) provide a response to the foregoing questions for each type of initial FNOD/dunning letter and ii) indicate for eligible customers who received a dunning notice (FNOR) during the 22 months of the test period the and were subsequently disconnected the percentage of customers that initially received each type of dunning letter?
- 24.4 Page 42 indicates that annual savings were calculated even when the results were not considered to be statistically significant. What was the calculated average of further notifications (after the initial dunning letter) per customer for the test group and for the matched control group? Please provide the calculations supporting the reported results.
- 24.5 Assuming a customer continued to be in arrears after receiving the initial FNOD, on average how many notifications per month would an eligible customer receive over the next four months?
  - 24.5.1 Would the average cost of these notifications be similar to average cost calculated for the test group and the matched control group?

24.6 Please recalculate the annual savings in costs associated with collection notifications the average disconnection rate for the matched control group was 0.4 (i.e. 40% of the customers are subsequently disconnected). Please provide the supporting calculations.

**25.0 Reference: Exhibit B-5, pages 40 and 44-46**

25.1 For purposes of assessing the cost of collection notices what is the dependent variable (y) used in the regression model and how many observations (i.e., the number values for “y” this resulted in).

25.2 Please provide the result of the actual regression model including the values for coefficient estimators and the regression statistics (e.g., R-squared, adjusted R-squared, coefficient standard error and the coefficient t-values).

25.3 Using results from the preceding question please provide the calculation of the p-value for each coefficient.

**26.0 Reference: Exhibit B-5, pages 41 and 46-48**

**Preamble:** The Report (page 41) states:

*“The reduction in cost of borrowing from delayed revenues was determined by comparing the average amount in arrears for the matched control group to the average amount in arrears for the test group after a CCF grant was provided. A decrease in the average in arrears equates to a reduced need for BC Hydro to borrow funds because of delayed payments.”*

The Report also states (page 42):

*“Although some tests failed to show significance at both the 90 per cent and 80 per cent confidence levels, estimates of the annual savings were calculated for each test”.*

The Report further states (pages 46-47):

*“The general trend for the test group was a slight decrease in the overdue amount during the four months following the grant, while the control group was slightly higher. The DID estimated saving was \$28.66...”*

26.1 For purposes of Figure 11 are the number of letters issued each month equal to the number of participants in each group (i.e., are the number of letters per month the same for the test group and the matched control group)?

26.2 Following the FNOD what was the average amount of monthly arrears per participant (as opposed to per letter) for the test group versus the matched control group for each of the following four months?

26.3 Please provide the calculations supporting the \$28.66 savings cited.

26.4 What would have been the average monthly arrears per participant for the matched control group in each of the following four months if the

disconnection rate for the group was 0.4 (i.e., 40% of the customers are subsequently disconnected and the other half have average arrears similar to customers in the matched control group that were not disconnected)?

26.4.1 Based on this amount what be the benefit in reduced borrowing for the test group versus the matched control group? Please provide the supporting calculations.

**27.0 Reference: Exhibit B-5, pages 40 and 46-48**

27.1 For purposes of assessing the cost of borrowing from delayed revenues what is the dependent variable (y) used in the regression model and how many observations (i.e., the number values for “y” this resulted in).

27.2 Please provide the result of the actual regression model including the values for coefficient estimators and the regression statistics (e.g., R-squared, adjusted R-squared, coefficient standard error and the coefficient t-values).

27.3 Using results from the preceding question please provide the calculation of the p-value for each coefficient.

**28.0 Reference: Exhibit B-5, pages 42 and 48**

**Preamble:** The Report states (page 42):

*“The reduction in bad debt expense was determined by comparing the average amount in bad debt for the matched control group to the average amount in bad debt for the test group after a CCF grant was provided. A decrease in the average bad debt indicates a reduction in BC Hydro’s costs thereof.”*

The Report also states (page 48):

*“The DID methodology could not be applied to the bad debts benefit evaluation, as no pre-test data are available. Instead, a simple comparison between the number of bad debt cases and amounts for the test and control groups was made. This means the result does not control for the variables described in section 3.5.2, and to the extent those variables may impact bad debt, there may be bias in the result.”*

28.1 Since the matched control group was selected to mirror the test group in terms of the variables described in section 3.5.2, please explain why “*the result does not control for the variables described in section 3.5.2*”.

**29.0 Reference: Exhibit B-5, pages 49**

**Preamble:** Table 29 sets out, for both the test group and the matched control group, the number of bad debt accounts and the amounts.

29.1 Are unpaid accounts closed and expensed as bad debt before or after the customers are disconnected?

- 29.2 Are the values set out in Table 20 for the 22 month period (May 2018-February 2020) or are they for the entire first two years of the pilot.
- 29.3 For the eligible customer group, what proportion of disconnected accounts is eventually expensed as bad debt?
- 29.4 For the eligible group, what are the average arrears at the time of disconnection and what is the average arrears expensed as bad debt?
- 29.5 Please provide a schedule that for the same period as used in Table 20 sets out the number of accounts in the test group and the control group that were disconnected broken down between Year One and Year Two.
- 29.6 Are all of the bad debts associated with the test group related to customers receiving grants in Year Two?
- 29.6.1 If not, please indicate the number of accounts associated with customers receiving grants solely in Year One that were expensed as bad debt.
- 29.6.2 If not, please explain why when (per Exhibit B-1, page 77) the 3% of customers that were disconnected at the time of their application were all able to subsequently reconnect and none of the 97% that were connected at the time of their application were subsequently disconnected.
- 29.7 What would have been the bad debt expense for the matched control group if the disconnection rate for the group was 0.4 and the values for the percentage of those accounts expensed as bad debt along with the average bad debt per account were the same as those provided in response to the preceding questions for all eligible customers?

**30.0 Reference: Exhibit B-5, page 51**

**Preamble:** The Report states:

*“The survey was divided into three regions (Greater Vancouver, Greater Victoria, Rest of BC), three age groups (18 to 34, 35 to 54, 55+), and gender (male, female) to provide general demographic information.”*

- 30.1 Was the “Rest of BC” region restricted to BCH’s service territory?