

REQUESTOR NAME: **BCPSO**
INFORMATION REQUEST ROUND NO: **1**
TO: **FortisBC**
DATE: **October 26, 2012**
PROJECT NO: **3698682**
APPLICATION NAME: **FortisBC Inc – Application for
CPCN for AMI Project**

**1.0 Reference: Exhibit B1, Executive Summary, page 4 (lines 14-15)
BCUC 1.3.1**

1.1 To-date, what payments has FortisBC made to Itron Canada?

**2.0 Reference: Exhibit B1, Executive Summary, page 3 (lines 27-29)
Exhibit B1, Tab 1, page 6**

2.1 Does the AMI project cost of \$47.7 M include all of the costs associated with integrating the AMI project with existing FortisBC systems? For example, does it include all of the costs associated with making operational-related data available to FortisBC operators (per page 6)?

2.2 If not, what activities and costs are not included?

3.0 Reference: BCUC 1.1 and 1.2

3.1 Did FortisBC's most recent depreciation study specifically address the depreciation rate applicable to smart meters?

3.2 Are the Itron CENTRON Openway meters used by any other utilities? If so, which ones and what is the depreciation rate that these utilities use for such meters?

**4.0 Reference: Exhibit B1, Tab 1, page 6, lines 6-9
Exhibit B1, Tab 1, page 7, lines 15-17
BCUC 1.2.1 and 1.2.2**

4.1 Is the AMI Project totally discretionary such that there is no "need" it is responding to other than the benefits (financial and otherwise) that it offers customers?

5.0 Reference: Exhibit B1, Tab 1, page 12, lines 24-25

5.1 Please provide details regarding the "experienced consultant" engaged by FortisBC to facilitate the AMI system procurement process. Is this the same consultant identified in response to BCUC 1.4.1?

6.0 Reference: Exhibit B1, Tab 3, page 17

6.1 Is the MV-90 system also used for FortisBC's wholesale municipal electric utility customers?

- 6.2 What are the total service lives for electro-mechanical meters and for digital meters respectively?
- 7.0 Reference: Exhibit B1, Tab 3, pages 28-29
BCUC 1.12.3**
- 7.1 Please confirm that the AMI Project will enable FortisBC to fully deploy, without further expenditures (i.e. AMI is necessary and sufficient), the first four components referenced in response to BCUC 1.12.3. If not, what additional expenditures will be required?
- 7.2 Please identify those components for which the AMI Project is required but additional work/spending will be required in order to deploy (i.e. AMI is necessary but not sufficient).
- 8.0 Reference: BCUC 1.8.1.3**
- 8.1 Is the \$0.25 M capital cost of the customer portal included in the overall \$47.7 M project cost?
- 9.0 Reference: BCUC 1.8.1.3.1**
- 9.1 Does FortisBC have any plans to limit the frequency with which it will provide additional printed data to customers?
- 10.0 Reference: Exhibit B1, Tab 3, pages 31-32**
- 10.1 To what extent do FortisBC's costs actually vary by time of use? In responding please distinguish between a) shifts in time of day or the particular days that energy is used and b) reductions in a customer's use at the time of system peak use.
- 11.0 Reference: Exhibit B1, Tab 3, page 32 (lines 20-22)
BCUC 1.16.1**
- 11.1 Please explain how the 2.2 GWh savings in 2015 and 5.3 GWh savings in 2025 were derived.
- 12.0 Reference: Exhibit B1, Tab 3, page 32
BCUC 1.8.1**
- 12.1 Has FortisBC reviewed the nature of the billing enquiries made to its Contact Centre to determine whether or not customers would have been able to address them (independently) through the use of the online customer information portal (without an IHD)?
- 12.2 If yes, what was the result of the review? What specific types of issues can the information portal help a customer resolve and what specific issues can it not help with?
- 12.3 Has FortisBC discussed with other utilities implementing AMI (per page 13) whether or not AMI and customer information portals reduce customer calls/billing enquiries? What has been their experience?

12.4 Have any of the utilities implementing AMI and customer information portals experienced an increase in calls (i.e., the availability of additional information actually triggers more calls/queries)?

13.0 Reference: Exhibit B1, Tab 3, page 33

13.1 In those cases where meter reads had to be estimated (lines 4-6) were the meters subsequently read on a later scheduled cycle such that overall customers' total billings were correct?

13.2 Are there currently circumstances where meters fail, bills must be estimated and there is no way to ultimately "true-up" the estimate? If yes, how many such situations arose in 2011?

13.3 Please confirm that there are circumstances under which a meter "read" will have to be estimated with AMI (e.g. failure of communication system, failure of meter, etc.). If not, please explain the role of the Editing and Estimation algorithms referenced on page 42?

13.4 Based on the experience of other utilities, what is FortisBC's understanding as to how frequently such circumstances are likely to arise with AMI-enabled meters?

13.5 After the implementation of AMI, does FortisBC plan to inform customers (on their bills or otherwise) when their monthly reading has been based (in whole or part) on estimated usage?

14.0 Reference: Exhibit B1, Tab 3, page 33 (lines 21-23)

14.1 Please explain why "estimates" of monthly usage are required when customers are on the Equal Payment Plan.

15.0 Reference: Exhibit B1, Tab 3, pages 33-34

15.1 Does the AMI project cost include all of the costs involved in adapting FortisBC's billing systems such that they can integrate the meter reading obtained from the new systems, including consolidation of multiple accounts and flexible billing dates?

16.0 Reference: Exhibit B1, Tab 3, pages 35 (lines 27-33) and 38 (lines 28-30)

16.1 Will the installation of AMI allow FortisBC to monitor electricity flows to customers in real time? If not, what is the "time-delay factor"?

17.0 Reference: BCUC 1.24.1

17.1 Are Worksafe BC premiums paid by Fortis directly related to the number of hours worked/number of employees such that a reduction in labour costs will actually lead to a reduction in premiums?

18.0 Reference: Exhibit B1, Tab 3, page 39 (line 12)

18.1 Please describe more fully the variety of operating conditions that the AMI meters FortisBC will purchase/install will be set to provide alarms for.

19.0 Reference: Exhibit B1, Tab 4, page 40 (lines 11-13)

19.1 Please outline the “existing FortisBC Systems” that the planned project spending includes integration with.

**20.0 Reference: Exhibit B1, Tab 4, page 41 (lines 5-8)
BCUC 1.6.7**

20.1 What are the relative unit cost of the different types of AMI-enabled meters that FortisBC will be installing (i.e., capital and installation cost)?

20.2 Has FortisBC completed a full assessment of the metering required for each customer? If not, what contingency allowance has been included in the project costs to address this uncertainty?

**21.0 Reference: Exhibit B1, Tab 4, pages 43-45 and page 70
BCUC 1.30.1**

21.1 What are the overall HAN-related costs of the project, what are the costs for and what cost category on page 70 includes these costs? Please specifically address the costs associated with providing Zigbee-based capabilities.

21.2 Please break the HAN-related costs down so as to separate out computer equipment costs, computer software and communications equipment.

22.0 Reference: BCUC 1.28.1.1 and 1.28.1.2

22.1 What annual percentage energy savings value is required in order for the TRC B/C ratio to be greater than 1.0?

22.2 Will the results of the pilot be used to assess/confirm the validity of Navigant’s 5.4% savings estimate prior to implementing a full program?

23.0 Reference: Exhibit B1, Tab 4, pages 45-46 and page 70

23.1 What are the overall LAN-related costs of the project and what cost category on page 70 includes these costs?

23.2 Please break down the LAN-related costs so as to separate out meter costs, collectors/range extenders, computer software and other (if any) communications equipment.

24.0 Reference: Exhibit B1, Tab 4, Section 4.1.2

24.1 Has the design been sufficiently completed to confirm that the planned LAN will be able to effectively communicate with all customers’ AMI-enabled meters?

24.2 What are FortisBC’s contingency plans if this does not prove to be the case?

25.0 Reference: BCUC 1.31.2.1 to 1.31.2.5

25.1 In the event that AMI meters and the associated communication infrastructure do interfere with existing devices using wireless communications, how does FortisBC plan to address the problem?

26.0 Reference: Exhibit B1, Tab 4, Section 4.1.3

26.1 What are the WAN-related costs of the project and what cost category on page 70 includes these costs?

26.2 Please break these costs down so as to separate out computer equipment costs, computer software and communications equipment.

26.3 This section sets out a range of approaches that can be used for the WAN and indicates that the final choice will be made at the time of deployment (page 48). Has FortisBC included any contingency allowance to address unforeseen costs related to this aspect of the project?

**27.0 Reference: Exhibit B1, Tab 4, Section 4.1.3, page 49
BCUC 1.33**

27.1 Please confirm that for this 1% of customers the customer information portal will not provide timely access to usage data.

27.2 Does the financial cost/benefit evaluation include both the meter reading labour and equipment costs required to manually download the data from these customers' meters?

28.0 Reference: Exhibit B1, Tab 4, Section 4.1.4

28.1 What are the HES-related costs of the project and what cost category on page 70 includes the HES costs?

28.2 Please break these costs down so as to separate out computer equipment costs, computer software and communications equipment.

29.0 Reference: Exhibit B1, Tab 4, Section 4.1.5

29.1 What are the overall MDMS-related costs of the project and what cost category on page 70 includes these costs?

29.2 Please break these costs down so as to separate out computer equipment costs, computer software and communications equipment.

30.0 Reference: Exhibit B1, Tab 4, Section 4.1.6 and page 70

30.1 What are the overall Customer Information Portal-related costs of the project and what cost category on page 70 includes these costs?

30.2 Please break these costs down so as to separate out computer equipment costs, computer software and communications equipment.

31.0 Reference: Exhibit B1, Tab 4, pages 53 - 54

- 31.1 Will FortisBC ultimately own/operate the MDMS repository? If not, will this be Itron's responsibility?
- 31.2 In both instances (MDMS and AMI) was Itron's the lowest (compliant) cost bid? If not, on what basis was it considered superior and selected?

32.0 Reference: Exhibit B1, Tab 4, page 57

- 32.1 The schedule indicates that deployment of AMI-enabled meters will start Q2 2014 and that final implementation will be Q4 2015. For a customer where the AMI-enabled meter is installed in say Q3 2014, please confirm the following:
- When will the AMI-enabled meter be declared in-service and subject to depreciation?
 - When will the existing meter be declared as a "surplus/stranded" asset and how will it be treated for purposes of depreciation?
- 32.2 The schedule calls for transition of the responsibility for the operation of the HES and MDMS to FortisBC in Q4 2015. Who is responsible for operation of these prior to this date?

33.0 Reference: Exhibit B1, Tab 4, page 58

- 33.1 Does the project cost include an allowance for the additional range extenders and/or collectors that may be necessary in order to optimize the communications system? If yes, what is the size of the allowance?

34.0 Reference: Exhibit B1, Tab 4, pages 67 and Tab 5, page 70

- 34.1 Which of the cost categories on page 70 is the 6.4% contingency applicable to?
- 34.2 How was the 6.4% value for project contingency established?

35.0 Reference: Exhibit B1, Tab 5, page 70

- 35.1 The Application states that the cost of meters is fully contracted for at firm prices (line 4) and that meters includes deployment costs (lines 16-17). Does the contract for meters and meter installation include any allowance for difficult meter installations (e.g. situations where the physical removal of the existing meter and/or installation of the AMI-enabled meter may be non-standard and require additional time)? If yes, how does this affect the "fixed" price?
- 35.2 What are the "sunk costs" of Project assuming that the BCUC was to deny the CPCN Application?
- 35.3 The page notes that FortisBC has completed fixed price contracts for a number of aspects of the Project. Does FortisBC have any existing financial obligations under these contracts or, in all cases, are FortisBC's financial obligations under the contracts subject to BCUC approval of the CPCN?

36.0 Reference: Exhibit B1, Tab 5, pages 70-71

- 36.1 What is the per customer cost of the AMI project? Please compare this cost with that in other jurisdictions that are implementing AMI and indicate the sources used to obtain the costs for other jurisdictions.
- 36.2 Please explain what additional metering is required on the system in order for loss/theft detection benefits to be achieved. Is this the metering for Energy Balancing discussed at page 88?
- 36.3 Is the cost of this additional metering included in the financial analysis of the project?

**37.0 Reference: Exhibit B1, Tab 5, page 70
FortisBC's December 2007 AMI CPCN Application, page 29,
Table 6.3**

- 37.1 Please provide a schedule that breaks down the current AMI Project costs (\$47.7 M) down using the same categories as were used in Table 6.3 from the 2007 AMI CPCN Application.
- 37.2 Please explain the change in costs by category particularly noting where the scope of the project has changed.

38.0 Reference: Exhibit B1, Tab 5, page 72

- 38.1 Are the increases in operating expenses set out in Table 5.1.b shown for prior to 2016 due to the fact that a portion of the AMI-enabled meters are in-service prior to 2016 or are any of them implementation-related operating costs?
- 38.2 If any are implementation related, please provide a schedule that sets out the costs by year and explain what they are for.
- 38.3 Are the decreases in Meter Growth and Replacement costs for 2014-2016 attributable to not having to replace existing meters on a like for like basis over this period?
- 38.4 Are there Measurement Canada compliance costs associated with the new AMI-enabled meters? If yes, are they included in the New Operating Costs?

39.0 Reference: Exhibit B1, Tab 5, pages 72-73

- 39.1 What is the "life of the project" for purposes of amortizing the CPCN Development/Approval Costs?
- 39.2 Do the costs in Table 5.1.1.a include the carrying costs for the deferral account balances?

40.0 Reference: Exhibit B1, Tab 5, pages 74-75

- 40.1 What are "all of the benefits" referred to on page 74, line 3?

40.2 Why is the WAN identified as a new operating and maintenance cost category but the LAN, MDMS and HES are not?

41.0 Reference: Exhibit B1, Tab 5, pages 12 and 76

41.1 What are the depreciation rates/estimated service lives for AMI-enabled meters that are used by Fortis Alberta, Fortis Ontario and Southern California Edison?

**42.0 Reference: Exhibit B1, Tab 5, page 76
BCUC 1.69.1.1**

Preamble: A recent Application by Ontario's IESO (EB-2012-0100, Exhibit C, Tab 1, page 2) indicates that the asset service life of its MDM/R (the equivalent of FortisBC's MDMS) is 10 years and that this estimate is "based on industry practice and consistent with service lives used for comparable meter processing and database systems".
http://www.rds.ontarioenergyboard.ca/webdrawer/webdrawer.dll/webdrawer/rec/333014/view/IESO_SME_A_PPL_20120615.PDF

42.1 Did FortisBC investigate the service lives adopted by other jurisdictions implementing AMI for their computer equipment and software or communications structures and equipment? If yes, what were the findings with respect to the service lives used?

43.0 Reference: Exhibit B1, Tab 5, page 77

43.1 Does the revenue requirement/rate impact analysis include the costs of writing off the existing meters?

43.2 If not, what is the cost of the write-off and how would it impact the overall net benefit calculation?

44.0 Reference: Exhibit B1, Tab 5, page 80

44.1 Please explain what assumptions were made regarding the future treatment of the existing 20 employees in the meter reading workforce in deriving the Net Meter Reading Savings. To what extent are they assumed to be redeployed elsewhere, retired or terminated?

44.2 Does the determination of savings include the employee costs associated with each of these actions?

45.0 Reference: Exhibit B1, Tab 5, pages 83-84

45.1 Please confirm the basis for the 8% theft discovery rate on page 83 (lines 8-9).

45.2 Could a more aggressive (and cost effective) theft protection program be implemented under the status quo approach? If not, why not? If yes, how would it change the results set out in Table 5.3.2.c

45.3 Will implementation of AMI also assist in the identification of (paying) premises that are illegal grow ops? If not, why not?

- 45.4 If yes, please revise Table 5.3.2 by appropriately reducing the number of paying sites assumed in the AMI Forecast.
- 46.0 Reference: Exhibit B1, Tab 5, page 88**
- 46.1 Are AMI-enabled meters on customers' premises required in order to gain the benefits from energy balancing? If yes, please explain why.
- 46.2 If not, would the installation of such feeder meters be cost-effective under the status quo? If yes, please re-do Table 5.3.2.c assuming the Status Quo approach includes such meters and the related benefits.
- 47.0 Reference: Exhibit B1, Tab 5, pages 89-91**
- 47.1 What portion of FortisBC's annual disconnects (e.g. 7,700 in 2011) are for non-payment as opposed to for vacant premises?
- 47.2 Please provide a brief summary (similar to page 90) of the process for disconnect in the case of non-payment.
- 47.3 Please explain more fully how and why the "consumption that would previously have been unbilled" is included in the analysis (page 91, lines 18-20).
- 47.4 Please provide the details supporting the results in Table 5.3.3.a.
- 48.0 Reference: Exhibit B1, Tab 5, pages 93 & 95**
- 48.1 Please explain the derivation of the \$68.86 incremental capital cost for AMI enabled meters.
- 48.2 In the analysis what has FortisBC assumed regarding the service life of electro-mechanical meters relative to AMI-enabled meters?
- 48.3 Please explain the basis for the six-year period after which compliance and meter exchange activities will resume.
- 48.4 Please explain why, in Table 5.3.5.a, some years' values are negative while others are positive.
- 49.0 Reference: Exhibit B1, Tab 5, pages 97-98**
- 49.1 Would the implementation of feeder meters (as discussed on page 88) help identify losses on the distribution system – even without AMI-enabled customer meters?
- 50.0 Reference: Exhibit B1, Tab 5, pages 102-103
BCUC 1.103.1**
- 50.1 Would pre-pay require the installation of a new/different meter?
- 50.2 Are there currently AMI-enabled meters on the market that provide the functionality FortisBC requires and allow for pre-payment?

51.0 Reference: Exhibit B1, Tab 5, page 104

51.1 It seems counter intuitive that capacity savings would be less under a CPP type of rate (which focuses on peak usage) than under a TOU type rate (which typically used the same price for a number of pre-defined peak hours). Is this apparent inconsistency reconciled in the supporting documentation?

52.0 Reference: Exhibit B1, Tab 6, pages 105-107

52.1 Are there enhanced theft detection practices (e.g., energy balancing meters) that could be adopted under the Status Quo alternative?

52.2 If yes, how would their implementation impact the costs and benefits as set out in Table 7.1.a?

53.0 Reference: Exhibit B1, Tab 8, page 131

53.1 After the implementation of AMI-enabled meters, will FortisBC's billing process still pro-actively review bills in order to determine if they are potentially in error (see lines 20-22)? If so, how will this be done and will the process differ from that used currently?

53.2 If different, has this been factored into the cost/benefit analyses in Tab 6?

54.0 Reference: Exhibit B1, Tab 8, page 141

54.1 Please confirm that, per page 91 (lines 17-18), there will be at least one visit to the premise prior to disconnect. Please also describe what, if any, follow-up will take place if this one visit does not result in any actual (one on one) contact with the customer.

54.2 Please provide a schedule that integrates both the customer service and billing/collections activities leading up to a service disconnection.

**55.0 Reference: Exhibit B1, Tab 8, pages 142-143
BCUC 1.117.1**

55.1 Does FortisBC have any information regarding the "opt out rate" (i.e., % of customers that choose to opt-out) in those jurisdictions where there is a choice?

55.2 On what other bases (page 143, lines 5-6) does FortisBC expect there to be refusals?

56.0 Reference: Exhibit B1, Appendix C1, page 8 of 65

56.1 In Table ES-1 are the "peak savings" % MW savings at the time of system peak or % MWh savings over a broadly defined peak period?

56.2 Please reconcile the comment in this report about FortisBC's plans to roll out TOU rates in 2014 with FortisBC's stated plans for AMI-enabled innovative rate structures as discussed at page 104 of the main Application.

57.0 Reference: Exhibit B1, Appendix C4, pages 12 and 21 of 44

- 57.1 Please compare the methodology and assumptions used by FortisBC to estimate Theft Protection savings (starting at page 80 of main Application) with those of BC Hydro?
- 57.2 Please describe the similarities and differences between FortisBC's AMI Project and BC Hydro's in terms of the scope of the project (resulting capabilities) and sources of potential benefits.