

REQUESTOR NAME: **BC Sustainable Energy Association and Sierra Club BC**

INFORMATION REQUEST ROUND NO: 1

TO: **BC Hydro**

DATE: **November 6, 2013**

PROJECT NO:

APPLICATION NAME: **BC Hydro Smart Meter Choices Application**

- 1.0 Topic: Electric Tariff s.11.3 proposed Miscellaneous Charges**
Reference: Exhibit B-1, Appendix B, Direction 4; Exhibit B-1, Appendix C, Amended Electric Tariff Pages Black-Lined, section 11.3, pages 19-20 of 20; Exhibit B-1, pages 1-2, 1-2, 1-10, 3-28

Rates

- 3 (1)** In setting rates under the Act for the authority, the commission must ensure that the rates allow the authority to collect sufficient revenue in each fiscal year to enable it to recover the following costs from the following customers:
- (a) program costs, investigation costs and infrastructure costs from
 - (i) applicable customers at applicable premises where a legacy meter or radio-off meter is installed, to the extent that the authority requests recovery of any of those costs from these customers, and
 - (ii) all customers, to the extent that any of those costs are not recovered under subparagraph (i);
 - (b) from all customers, costs incurred with respect to the installation and operation of, and services related to, smart meters;
 - (c) failed installation costs from customers at a premises where a failed installation occurred.

“For those eligible customers who choose a radio-off meter, BC Hydro will install a radio-off meter at the customer’s premises and additional charges will apply as approved by the BCUC. The additional charges are designed to recover the forecast costs of providing services to customers in relation to their choice to have radio-off meters installed at their premises.” [page 1-2, underline added]

“For those eligible customers who choose the legacy meter option, BC Hydro will leave in place the legacy meter currently installed at the customer’s premises and additional charges will apply as approved by the BCUC. The additional charges are designed to recover the forecast costs of providing services to customers in relation to their choice to have legacy meters installed at their premises.” [pages 1-2 to 1-2, underline added]

“...Accordingly, the scope of review relates primarily to determining the quantum of the required charges.” [page 1-10]

- 1.1 Please confirm that BC Hydro is seeking Commission approval in this proceeding of the proposed Miscellaneous Charges set out in section 11.3 of the Electric Tariff “black lined” on pages 19 and 20 of 20 of Appendix C. Alternatively, please explain.

- 1.2 Are all of the proposed Miscellaneous Charges set out in section 11.3 of the Electric Tariff described by subparagraph 3(1)(a)(i) of Direction 4? If not, please explain.
 - 1.2.1 Does BC Hydro assert that the proposed s.11.3 Miscellaneous Charges would allow BC Hydro to recover exclusively “program costs, investigation costs and infrastructure costs from (i) applicable customers at applicable premises where a legacy meter or radio-off meter is installed”? If not, please explain.
- 1.3 In BC Hydro’s view, what legal provisions apply to the Commission’s consideration of approval of the proposed s.11.3 Miscellaneous Charges?
- 1.4 In BC Hydro’s view, does Direction 4, s.3(1)(a)(i) – either generally, or in particular the phrase “to the extent the authority requests recovery” -- mean that the Commission must approve exactly the amount of the Electric Tariff section 11.3 rates for legacy and radio-off services to legacy and radio-off customers for which BC Hydro requests approval?
 - 1.4.1 In BC Hydro’s view, does s.3(1)(a)(i) of Direction 4, or any other legal provision, prevent the Commission from determining that the proposed s.11.3 Miscellaneous Charges would allow BC Hydro to collect more revenue than the corresponding “program costs, investigation costs and infrastructure costs” (as defined)?
 - 1.4.2 If so, why?
 - 1.4.3 If not, is the Commission empowered to reduce the s.11.3 Miscellaneous Charges from the amounts proposed by BC Hydro to amounts that the Commission determines would allow BC Hydro to recover no more revenue than the corresponding costs?
- 1.5 Please explain BC Hydro’s statement that “the scope of review relates primarily to determining the quantum of the required charges.”
 - 1.5.1 In BC Hydro’s view, is the Commission at liberty in this proceeding to allocate recovery of legacy and radio-off costs (as defined) between legacy and radio-off customers under s.3(1)(a)(i) and “all customers” under s.3(1)(a)(ii)?
 - 1.5.2 If so, in BC Hydro’s view, what considerations should the Commission take into account in making such an allocation?
 - 1.5.3 If not, why not?

BC Hydro states: “Proposed charges have been developed so that the incremental costs related to the Meter Choices Program are expected to be recovered from those customers choosing the option and not from other BC Hydro ratepayers.” [p.3-28]

- 1.6 Please confirm that it is BC Hydro’s position that all “program costs, investigation costs and infrastructure costs” (as defined) would be

recovered from legacy and radio-off customers if the proposed s.11.3 Miscellaneous Charges are approved.

- 1.6.1 Has BC Hydro identified any “program costs, investigation costs and infrastructure costs” (as defined) that it proposes would be recovered from “all customers” under s.3(1)(a)(ii) of Direction 4? If so, please explain.
- 1.7 In BC Hydro’s view, does s.3(1)(a) preclude the Commission from determining that legacy and radio-off costs (as defined) were not prudently incurred?
- 1.8 Please confirm that s.3(1)(b) of Direction speaks to “smart meter costs,” not to meter choice costs.
- 1.9 In BC Hydro’s view, does s.3(1)(b) preclude the Commission from determining that smart meter costs (as defined) were not prudently incurred?
- 1.10 In BC Hydro’s view, does s.3(1)(b) preclude the Commission from determining that smart meter costs (as defined) should be allocated differentially to different customer classes in a rate rebalancing proceeding?
- 1.11 In BC Hydro’s view, does s.3(1)(c) apply only prospectively? That is, in BC Hydro’s view, does s.3(1)(c) require the Commission to allow rate recovery regarding failed installation costs only where the “failed installation” (as defined) occurs after the effective date of the amendment of the Electric Tariff required by s.3(3) of Direction 4?
- 1.12 More generally, where a customer has a legacy meter due to the customer’s objection to installation of a smart meter and the objection was made at a time prior to the effective date of Order G-166-13, does BC Hydro intend to attempt to recover from the customer the costs related to attendance at the customer’s premises to install the smart meter?

2.0 Topic: Discretion of BC Hydro
Reference: Exhibit B-1, pages 1-1, 1-2

“The Government of British Columbia has decided that BC Hydro will offer new meter options and related services to eligible customers who choose not to have a smart meter installed at their premises, and that eligible customers choosing an alternative meter option will have to pay additional charges designed to recover the costs attributable to providing services in relation to the option. Direction No. 4 was issued on September 25, 2013, and provides direction to the BCUC with respect to implementing the Government policy.

Pursuant to the Government policy, BC Hydro is offering the following meter options to eligible customers that do not have a smart meter installed at their premises:...”

- 2.1 Does BC Hydro agree that Direction 4 binds the Commission in various respects but does not directly bind BC Hydro?
- 2.2 Please file any document(s), apart from Direction 4, that conveys the Government's requirements or requests to BC Hydro concerning the smart meter choices program.
- 2.3 Please provide a table listing key elements of the smart meter choice program and indicating for each element whether it is required by Direction 4, required by some other Government instruction, or the outcome of BC Hydro's exercise of its own discretion.
- 2.4 What directions or instructions has the Government provided to BC Hydro concerning how BC Hydro is to respond in the event that customers refuse or fail to pay the meter choice program charges?
 - 2.4.1 How will BC Hydro respond in the event that customers refuse or fail to pay the meter choice program charges?

**3.0 Topic: Incomplete smart meter installations for 'other reasons'
Reference: Exhibit B-1, page 1-1; Appendix F, "Eligible Customer Factsheet"**

"In addition, there are about 15,000 smart meter installations that have not been completed for various reasons." [page 1-1]

"Eligible Customer Factsheet" states:

Only residential customers who asked to delay the installation of a smart meter are eligible to make this choice.

The amended Electric Tariff states in part:

4.2.1. Meter Types

BC Hydro's standard meter for measuring Electricity consumption and (if applicable) demand at a Customer's Premises is the Smart Meter. Except as set out in section 4.2.2 in all cases BC Hydro will install a Smart Meter at a Customer's Premises.

Notwithstanding the preceding paragraph, but subject to the conditions specified in section 4.2.2 being satisfied in each case, BC Hydro will permit to remain in operation, install, replace, maintain and service Legacy Meters and Radio-off Meters at a Residential Service Customer's Premises for the periods specified in sections 4.2.3 and 4.2.4.

- 3.1 What are the "various reasons" for the 15,000 incomplete smart meter installations?
- 3.2 When does BC Hydro expect to complete all smart meter installations apart from premises where the customer elects a legacy or radio-off meter or is deemed to elect a legacy meter?
- 3.3 Please explain fully the proposed treatment of situations where customers do not have an installed smart meter for reasons other than the customer's objection to installation of a smart meter.

- 3.4 How does the existence of some 15,000 incomplete smart meter installations jibe with the requirement in Electric Tariff 4.2.1 that “Except as set out in section 4.2.2 in all cases BC Hydro will install a Smart Meter at a Customer’s Premises”?
- 3.5 Does BC Hydro have authority to allow a legacy meter to remain in operation for a reason not referred to in section 4.2.2? If so, please explain. If not, what is BC Hydro going to do about any as-yet incomplete smart meter installations?
- 3.6 Does section 4.2.2(d) have the effect of causing a customer who has a legacy meter for one of the “various reasons” other than the customer’s objection to having smart meter to be deemed as of December 1, 2013 to have elected to retain the existing legacy meter, thereby triggering the requirement that the customer “shall pay the charges for having a Legacy Meter...”?
- 3.6.1 If not, why not?
- 3.6.2 If so, is BC Hydro intending to apply Legacy Meter monthly charges to residential customers who retain a legacy meter for reasons other than the customer’s objection to a smart meter?
- 3.7 The “Eligible Customer Factsheet” says that “Only residential customers who asked to delay the installation of a smart meter are eligible to make the choice [to retain a legacy meter or to have a radio-off meter].” Is this provision incorporated in the amendments to the Electric Tariff? If so, please provide a reference to the applicable Tariff provision.
- 4.0 Topic: Eligible Customer Factsheet**
Reference: Exhibit B-1, Appendix F, “Eligible Customer Factsheet”
- 4.1 Please identify any provisions of the “Eligible Customer Factsheet” that are not implemented in the amended Electric Tariff.
- 5.0 Topic: Order requested**
Reference: Exhibit B-1, Appendix D, Draft Order; Exhibit A-1, Order G166-13
- 5.1 Please provide a table showing (a) Electric Tariff amendments (approved) and other Commission orders per Order G-166-13 and (b) requested Electric Tariff amendments and Commission orders. (The intention is to understand exactly what Commission decisions BC Hydro is seeking that have not already been made in Order G-166-13.)
- 6.0 Topic: Smart meter refusals**
Reference: Exhibit B-1, p.1-1; 2.3.3.2 Reminder Letters to Eligible Customers
- “Despite BC Hydro’s efforts, approximately 60,000 customers are continuing to request the meter exchange at their premises be put on hold. In addition, there are about 15,000 smart meter installations that have not been completed for various reasons.”

- 6.1 What is the current status of the number of smart meter refusals?
- 6.2 Please provide the number of smart meter refusals as a percentage of customers by rate class and by geographic sub-area of BC Hydro's service territory.
- 6.3 Of the 1.9 million smart meter installations, how many are 'radio-on' and how many are 'radio-off'?
 - 6.3.1 If any installed smart meters are 'radio-off,' please provide the reasons and the corresponding numbers.
 - 6.3.2 How many installed smart meters are 'radio-off' due at the request of the particular customer?
- 6.4 With reference to "2.3.3.2 Reminder Letters to Eligible Customers," please quantify how many such letters were sent, how many responses were received, how many responses indicated objection to a smart meter, how many smart meters have been installed at these customers' premises, and how many smart meters remain to be installed at these customers' premises.

7.0 Topic: Rationales for program features
Reference: Exhibit B-1, page 1-2

"Pursuant to the Government policy, BC Hydro is offering the following meter options to eligible customers that do not have a smart meter installed at their premises:

- 1. the installation of a standard smart meter
- 2. the installation of a **radio-off meter**³ or
- 3. the existing **legacy meter**⁴ can remain installed at the premises"

- 7.1 Please confirm that the meter choice program is not available to a residential customer who has a smart meter currently installed under the following circumstances:
 - 7.1.1 the customer respected BC Hydro's legal authority to replace the legacy meter with a smart meter and therefore did not obstruct or otherwise refuse to allow BC Hydro to install a smart meter at the customer's premises,
 - 7.1.2 the customer was unaware that BC Hydro intended to replace the legacy meter with a smart meter and therefore did not obstruct or otherwise refuse to allow BC Hydro to install a smart meter at the customer's premises, or
 - 7.1.3 the customer was persuaded by BC Hydro to allow the legacy meter to be replaced by a smart meter at the customer's premises and therefore did not obstruct or otherwise refuse to allow BC Hydro to install a smart meter at the customer's premises.

- 7.2 In its communications with customers about the impending installation of smart meters did BC Hydro or Corix inform customers that if they successfully obstructed or refused to allow BC Hydro to install a smart meter they would be eligible to choose to retain their legacy meter or have a radio-off smart meter?
- 7.3 What rationales, other than Direction 4, do BC Hydro offer for the following aspects of the proposed smart meter choice program:
- 7.3.1 A residential customer with an installed smart meter is not allowed to choose (and pay the fees for) a radio-off smart meter; but a residential customer with a legacy meter is allowed to choose (and pay the fees for) a radio-off smart meter at any time [s.4.2.3(c)].
- 7.3.2 A new residential customer moving into premises that have an installed smart meter is not allowed to choose (and pay the fees for) a radio-off smart meter; but an existing residential customer who has a legacy meter in place and who is moving into premises that have an installed smart meter is allowed to choose (and pay the fees for) a radio-off smart meter in the new premises [s.4.2.3(d)].
- 7.3.3 A new residential customer moving into premises that have an installed smart meter is not allowed to choose (and pay the fees for) a radio-off smart meter; but an existing residential customer with a radio-off meter who is moving into premises that have an installed smart meter is allowed to choose (and pay the fees for) a radio-off smart meter in the new premises [s.4.2.4(b)].
- 7.3.4 A new or existing residential customer who does not have a legacy meter in place is not allowed to elect to have a radio-off meter in his or her new or existing premises; but a customer who once had a legacy meter in place and whose service was terminated for any reason is allowed to take residential service again with a radio-off meter at either the same premises or new premises [s.4.2.3(e)].
- 7.3.5 A residential customer with a smart meter who requires a replacement meter is not allowed to have (and pay the fees for) a radio-off replacement; but a residential customer with a radio-off meter that requires replacement is allowed to have a radio-off replacement meter [s.4.2.4(a)].
- 7.3.6 A residential customer who does not have a radio-off meter in place and who moves to vacated residential premises is not allowed to have a radio-off meter at the vacated residential premises; but a residential customer who is eligible to have a radio-off meter who moves to vacated residential premises is allowed to have a radio-off meter at the vacated premises [s.4.2.4(b)].

- 7.3.7 A customer who does not have a legacy meter or a radio-off meter in place, whose service is terminated for any reason and whose service is resumed at the same or different premises is not allowed to have a radio-off meter upon the resumption of service; but a customer with a radio-off meter in place whose service is terminated for any reason whatsoever and who again takes residential service at that same or another premises is allowed to have a radio-off meter upon the resumption of service [s.4.2.4(c)].
- 7.4 Please confirm that Electric Tariff s.4.2.3 (e) means that a residential customer with a legacy meter whose service is terminated for any reason and who later takes residential service at the same or different premises can elect to have a radio-off meter upon resumption of service – even if the customer’s election to have a radio-off meter installed occurs many years after the termination of the legacy meter service.
- 7.4.1 If not confirmed, please explain why not.
- 7.4.2 If confirmed, what is the rationale for this provision? Was this outcome BC Hydro’s intention?
- 7.4.3 Is a customer to whom Electric Tariff s.4.2.3 (e) applies entitled to the benefit of s.4.2.3.(e) for life?
- 7.5 Please confirm that Electric Tariff s.4.24 (c) means that a residential customer with a radio-off meter whose service is terminated for any reason and who later takes residential service at the same or different premises can elect to have a radio-off meter upon resumption of service – even if the customer’s election to have a radio-off meter installed occurs many years after the original termination of the radio-off meter service.
- 7.5.1 If not confirmed, please explain why not.
- 7.5.2 If confirmed, what is the rationale for this provision? Was this outcome BC Hydro’s intention?
- 7.5.3 Is a customer to whom Electric Tariff s.4.2.4 (c) applies entitled to the benefit of s.4.2.4 (c) for life?
- 7.6 Please confirm that upon the death of a residential customer who has (and is paying fees for) a legacy meter or a radio-off meter in place a new customer taking service at the premises, including a resident in the household of the deceased customer, would be required to take service from a radio-on smart meter. If not confirmed, please explain why, with reference to the provisions of the Electric Tariff.
- 7.7 Can BC Hydro confirm that a major intention of the design of the legacy and radio-off meter choice program is to phase out legacy meters and to phase out radio-off smart meters over time?
- 7.7.1 If confirmed, why does the program allow an installed radio-on smart meter to be converted to radio-off status, and why does the

program allow a radio-off smart meter to be installed in new premises?

7.7.2 If not confirmed, what is the intention of the design of the meter choice program?

7.8 Can BC Hydro confirm that a major intention of the design of the meter choice program is to accommodate the interests of residential customers who have refused to allow the installation of a smart meter on their premises specifically because of concerns due to radio transmissions from a smart meter?

7.8.1 If confirmed, why does the program allow a customer to retain a legacy meter rather than allowing a customer to have (and pay the charges for) a radio-off smart meter?

7.8.2 If not confirmed, what is the purpose of the meter choice program?

7.9 Does BC Hydro agree that, on grounds of non-discrimination, eligibility for a radio-off smart meter should be available to all BC Hydro residential customers and not only to those customers who prevented installation of smart meter at their premises? If not, why not?

7.10 Does BC Hydro assert that the smart meter choices amendments to the Electric Tariff comply with the requirements of s.59 in terms of not being “unjust, unreasonable, unduly discriminatory or unduly preferential”?

7.10.1 If so, please provide any rationale BC Hydro relies upon for this conclusion in addition to Direction 4.

7.10.2 Does BC Hydro rely on section 3(2) of the *Utilities Commission Act* for the proposition that Direction 4 overrides or otherwise takes precedence over s.59 of the *Utilities Commission Act*?

8.0 Topic: Failed installation of legacy meter
Reference: Exhibit B-1, 2.4 Meter Access – Failed Installations

“A failed installation occurs when BC Hydro or its contractor attends at a customer’s premises to install a legacy meter, radio-off meter or smart meter but the installation is not carried out because of either an objection made by a customer or an obstruction.” [p.2-8, underline added]

8.1 Under what circumstances would BC Hydro attend at a customer’s premises to install a legacy meter?

9.0 Topic: Meaning of radio-off
Reference: Exhibit B-1, 2.3.1 Overview of Program

“For eligible customers who choose a radio-off meter, BC Hydro will install an Itron OpenWay meter adjusted so that the meter’s components that transmit data by radio are deactivated.”^{13,}

“¹³ All OpenWay meters are installed with the home area network in “quiet mode” and remain that way until the customer requests pairing with an in-home device. A firmware update is needed to turn off the field area network radio.”

- 9.1 Does “deactivated” mean no radio transmissions? If not, please explain.
- 9.2 Please confirm that the reference to “the home area network” in footnote 13 refers to the ZigBee radio in the smart meter.
- 9.3 Does the statement that the ZigBee radio in the smart meter is in “quiet mode” mean that the ZigBee radio is not producing any radio transmissions? If not, please explain.
- 9.4 Please confirm that the reference to “the field area network radio” refers to the radio in the smart meter that communicates (if it is enabled) with the utility via a local area network and a wide area network. If not confirmed, please explain.
- 9.5 Does the reference to ‘turning off’ the “field area network radio” mean the same thing as disabling the field area network radio? Do these conditions mean that the field area network radio in the smart meter produces no radio transmissions?
- 9.6 Please describe how a firmware update to turn off the field area network radio in a smart meter can be accomplished and how it will be accomplished for smart meters that are to be made ‘radio-off.’
 - 9.6.1 When a smart meter is to be made radio-off will this be done with a hand-held device communicating with an optical port on the smart meter at the customer’s premises?

“Once the radio has been deactivated, the meter will indicate a standard message on the display confirming that the radio has been deactivated.”
[p.3-14]

- 9.7 Please confirm that the OpenWay smart meters in question have an LED display that indicates whether or not the field area network radio is ‘on’ or ‘off.’ If not confirmed, please explain.
- 9.8 Please provide a photo of a radio-off smart meter showing the LED display that confirms that the radio is actually off.

10.0 Topic: Commercial customers
Reference: Exhibit B-1, Table 2-2, Customer Notification and Program Enrolment – September 2, 2013 to December 1, 2013

Week of September 16	Letter to commercial customers
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- 10.1 Regarding the referenced letter to commercial customers circa “week of September 16, please confirm that the letter was sent.

- 10.1.1 Please confirm that it was sent to commercial customers who did not at that time have a smart meter installed.
- 10.1.2 Was the letter sent only to those commercial customers who did not have a smart meter installed because of customer objection, or was it also sent to commercial customers did not have a smart meter for other reasons?
- 10.1.3 Please provide a copy of the letter (with customer identification redacted).
- 10.1.4 Please confirm that the letter informed the commercial customer that legacy meter and radio-off meter options are not available to the commercial customer.
- 10.1.5 Please quantify how many such letters were sent, how many responses were received, how many responses indicated objection to a smart meter, how many smart meters have been installed at these commercial customers' premises, how many smart meters remain to be installed at these commercial customers' premises, and by what timeframe BC Hydro intends to have smart meters installed at all of these customers' premises.

11.0 Topic: Program principles

Reference: Commission Order C-7-13, FortisBC Advanced Metering Infrastructure CPCN Decision

- 11.1 Please confirm that on July 23, 2013, the issued Order C-7-13 on the Application of FortisBC Inc. (FBC) for a Certificate of Public Convenience and Necessity (CPCN) for FBC's Advanced Metering Infrastructure (AMI) Project.
- 11.2 Please confirm that the Commission's CPCN for FBC's AMI project was subject to the condition that FBC confirm that it would file an application for an opt-out provision by November 1, 2013 based on the following principles ("Commission Radio-Off Principles"):
 1. Customers may choose to opt-out of accepting a wireless transmitting meter.
 2. Customers who choose to opt-out will be provided with an AMI meter that has the wireless transmit functions disabled. Transmit functions on these meters will remain disabled until the individual chooses to opt back in to the AMI program; in the event that the customer moves to a new property, the opt-out choice will move with the customer.
 3. The incremental cost of opting-out of the AMI program will be borne by the individual choosing to opt-out.
- 11.3 Did BC Hydro consider the Commission's Radio-Off Principles in Order C-7-13 in the course of communicating with the Provincial Government regarding the content of what became Direction 4?
 - 11.3.1 If so, what was the result?

11.3.2 If not, why not?

11.4 Does BC Hydro agree that three major differences between the FBC Radio-Off Meter program and the BC Hydro Meter Choice program are as follows:

11.4.1 The BC Hydro Meter Choice program allows legacy analog meters to remain in place while supplies last; whereas the FBC Radio-Off program requires analog meters to be replaced with radio-off or radio-on smart meters.

11.4.2 The BC Hydro Meter Choice program is designed so that eventually there will be no legacy meters or radio-off meters; whereas the FBC Radio-Off program contemplates radio-off smart meters being available (for a fee) indefinitely.

11.4.3 The BC Hydro Choice program restricts eligibility for a legacy meter or radio-off meter to residential customers who happen to have successfully objected to installation of a smart meter at their current premises; whereas the FBC Radio-Off program is available to any residential customer who chooses to pay the required fees.

**12.0 Topic: Theft detection benefits of smart metering infrastructure
Reference: Exhibit B-1,**

“Since theft detection relies on electricity balance analysis using interval data collected by smart meters and radio-off meters (in conjunction with event alarms and energy profiles), legacy meters remaining in the field will reduce the accuracy of the electricity balance analysis to estimate the areas where theft is occurring. As a consequence, additional efforts are required to mitigate the impact to theft detection benefits. BC Hydro believes that the most cost effective mitigation approach is the deployment of additional field investigation teams.”

12.1 Does BC Hydro agree that short of full implementation of radio-on smart meters the most cost-effective approach to retaining theft-detection benefits is to install radio-off smart meters where necessary due to customer objections and to manually read interval usage data from the radio-off smart meters? If not, why not?

12.1.1 Does BC Hydro agree that a theft detection approach using radio-off smart meters is more cost effective than an approach using combination of legacy meters, radio-off meters and check meters?

12.1 BC Hydro states that “radio-off meters ... record and store the same interval data as smart meters.” [p.3-10] Does BC Hydro agree that interval usage data from a radio-off smart meter can be combined with interval usage data from radio-on smart meters to enable the utility to identify unusual losses that may indicate theft? If not, please explain.

- 12.2 Are all of BC Hydro's legacy meters currently in place analog meters? If not, please explain and quantify.
- 12.2.1 What number and proportion of BC Hydro's legacy meters currently in place are capable of recording interval usage data that can and would be retrieved manually?
- 12.3 Does BC Hydro assert that the theft-detection benefits of the smart meter infrastructure program will be fully retained by the use of the proposed additional check meters to compensate for retention of legacy meters?
- 12.4 Does BC Hydro agree that the ongoing presence of legacy meters potentially jeopardizes the theft-reduction benefits of the smart meter initiative?
- 12.5 What are BC Hydro's estimates for the numbers of legacy meters and radio-off meters, at April 1, 2014 and December 31, 2015?
- 12.6 Has BC Hydro considered the effect of the retention of (a) legacy meters and (b) installation of radio-off smart meters on BC Hydro's ability to comply with the smart grid requirement to be able to identify the location of unmetered loads referred to in section 4(1)(a)(iv) of the Smart Meters and Smart Grid Regulation? If so, what conclusions did BC Hydro reach? If not, why not?

13.0 Topic: Smart meter definition in Direction 4
Reference: Exhibit B-1, Appendix B, Direction No. 4 to the BCUC

Section 1 of Direction 4 defines "radio-off meter" and "smart meter" as follows:

"radio-off meter" means a smart meter adjusted so that the meter's components that transmit data by radio are deactivated;

"smart meter" means a meter that

- (a) meets the requirements set out in section 2 of the Smart Meters and Smart Grid Regulation, B.C. Reg. 368/2010, and
- (b) has components that transmit data by radio and those components are activated.

- 13.1 Please confirm that a smart meter has the ZigBee radio de-activated by default.
- 13.1.1 Please confirm that the ZigBee radio in a smart meter is not activated except at the request of the customer.
- 13.2 Please confirm that when an ostensible smart meter has the ZigBee radio off by default it cannot be said that the meter's "components that transmit data by radio... are activated."

13.2.1 If so, does it follow that OpenWay meters by default do not meet the definition of "smart meter" in Direction 4? Please explain.

14.0 Topic: Monthly charge

Reference: Exhibit B-1, Chapter 3, Meter Choices Program -- Costs

- 14.1 Please provide a table summarizing the cost-recovery breakdown of the proposed installation and on-going charges for the legacy meter and radio-off meter service.
- 14.2 Please indicate what proportion of the proposed monthly charges for legacy meter and radio-off meter service is due to manual meter reading costs.
- 14.3 Does BC Hydro agree that the cost-recovery rationale for the ongoing charges for legacy meter and radio-off meter service would be conveyed more effectively if the charges were set on a bi-monthly basis corresponding to bi-monthly manual meter reading?
- 14.4 What would be the downsides of setting the ongoing charges for legacy and radio-off meters on a bi-monthly basis?

15.0 Topic: Revision of meter choice charges

Reference: Exhibit B-1, Chapter 3, Meter Choices Program -- Costs

- 15.1 Please confirm that on a cost-recovery basis the monthly charges for legacy and radio-off customers would vary considerably depending on the number of customers in each category.
- 15.2 Please confirm that BC Hydro acknowledges that an accurate estimate of the number of customers who will choose legacy and radio-off service is difficult to make at this time.
- 15.3 Does BC Hydro intend to review the actual costs and recovered revenue associated with implementing the meter choices program?
 - 15.3.1 If so, how?
 - 15.3.2 If not, why not?
- 15.4 How, and when, would BC Hydro come to the Commission for approval of changes in the meter choices program charges in the event that costs and revenues do not balance out?

16.0 Topic: Reporting requirements

Reference: none

- 16.1 In BC Hydro's view, what reporting requirements would be appropriate for the Commission to impose concerning the meter choice program?