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Regulatory Affairs Correspondence Email: <u>electricity.regulatory.affairs@fortisbc.com</u>

October 18, 2013

#### <u>Via Email</u> Original via Mail

B.C. Sustainable Energy Association c/o William J. Andrews, Barrister & Solicitor 1958 Parkside Lane North Vancouver, BC V7G 1X5

Attention: Mr. William J. Andrews

Dear Mr. Andrews:

#### Re: FortisBC Inc. (FBC)

FBC Radio-Off AMI Meter Option Application

Response to the B.C. Sustainable Energy Association and the Sierra Club British Columbia (BCSEA) Information Request (IR) No. 1

On August 30, 2013, FBC filed the Application as referenced above. In accordance with Commission Order G-160-13 setting out the Amended Regulatory Timetable for the review of the Application, FBC respectfully submits the attached response to BCSEA IR No. 1.

If further information is required, please contact the undersigned.

Sincerely,

FORTISBC INC.

Original signed:

**Dennis Swanson** 

Attachments

cc: Commission Secretary Registered Parties (email only)



1	1.0	Topic:	Commission Radio-Off Principles			
2		Referer	nce: Commission Order C-7-13 and Decision; Exhibit B-1, Introduction,			
5						
4		"In acco	ordance with the Commission's CPCN Order and FortisBC's July 31, 2013 letter,			
5		FortisBC	C hereby files its Radio-Off AMI Meter Option Application based on the principles			
6		set out by the Commission in subparagraphs 1(a) to (c) of the CPCN Order." [Exhibit B				
7		1, cover	letter]			
8		1.1 I	For ease of reference, please file a copy of Order C-7-13 and a copy of section			
9		6	'11.4 Opt-Out" of the Commission's Order C-7-13 Reasons for Decision [pp.145-			
10			149].			
11						
12	Resp	onse:				
13	Pleas	e refer to	Attachment 1.1.			
14						





Page 3

1	3.0 To	opic:	Meaning of "radio-off"
2	Re	eference:	Draft Rate Schedule 81, page 3 of 3, Exhibit B-1, Appendix C
3 4 5 6 7 8	"S R/ TE 1. pr [ui	CHEDULE 8 ADIO-OFF A ERMS AND 0 Radio-Off C ovided with nderline add	a1 – RADIO-OFF ADVANCED METER OPTION cont'd DVANCED METER OPTION DETAILS CONDITIONS: ustomers that have applied to the Company for a Radio-Off Meter will be a meter that has the <u>integrated wireless transmit functions disabled</u> ." ed]
9 10 11 12 13 14	3.1 Please Radio- Wide / Area N		confirm that for Radio-Off Option Customers both of the two radios in the Off Meter would be disabled: the radio for communication to the utility's area Network (WAN) and the ZigBee radio for communication to a Home etwork (HAN) and In-Home Devices (IHDs).
15	Confirme	d.	
16 17			
18 19 20 21 22	3.:	2 Please radio ti explain	confirm that "integrated wireless transmit functions <u>disabled</u> " means no ransmissions of any kind coming from the meter. Alternatively, please .
23	<u>Respons</u>	<u>e:</u>	
24	Confirme	d.	
25 26			
27 28 29 30 31 32	3.: <u>Respons</u>	3 Please disable Alterna e:	confirm that "radio-off" and "integrated wireless transmit functions d" mean the same thing, in the context of the Radio-Off Option rate. tively, please explain.
33	Confirme	d.	



1 2	
3 4 5 6 7	<ul> <li>3.4 Please describe the physical process by which FBC will provide a Radio-Off AM meter to a Radio-Off Option Customer.</li> <li>Response:</li> </ul>
8 9	There are two processes depending on when Radio-Off AMI Customer Application form is received:
10 11	<ul> <li>If the application form is received prior to installation of an AMI meter at the customer's premise:</li> </ul>
12 13	<ul> <li>A meter technician will disable an AMI meter radio at the deployment cross dock.</li> <li>The meter is then installed at the noted customer premise.</li> </ul>
14	• Note that all AMI meters are initially installed with the ZigBee radio turned off.
15 16 17	<ul> <li>If the application form is received after installation of the AMI meter at the customer's premise:</li> </ul>
18 19	<ul> <li>A meter technician will visit the customer premise and disable the AMI meter radio.</li> </ul>
20 21	<ul> <li>If the customer had previously enabled the ZigBee radio communicating from the AMI meter to the customer's HAN, the ZigBee radio will also be disabled.</li> </ul>
22 23	Please also refer to the response to CEC IR 1.11.1.
24 25	
26 27 28 29 30	3.4.1 Does changing an AMI meter from Radio-On to Radio-Off require the meter to be opened up, or can it be done onsite without opening the meter?
31	Response:
32	Changing the AMI meter from radio-on to radio-off, or vice-versa, will not require the meter to be

opened up. It can be done at the customer premise via use of a handheld tool. 33



1 2			
3 4 5 6 7 8	<u>Response:</u>	3.4.2	Can an installed radio-on AMI be changed to radio-off remotely? If so, is there any need for a FortisBC person to attend at the customer's premises?
9	No, a radio-or	n AMI me	ter cannot be changed to radio-off remotely.
10 11			
12 13 14 15 16 17	<u>Response:</u>	3.4.3	Where an AMI meter is not yet installed and the customer has requested a Radio-Off meter, will the customer's new AMI be set to Radio-Off in the shop or at the customer's premises?
18 19	When an AM convert the m	ll meter h leter to ra	has not yet been installed at a customer premises, FortisBC intends to dio-off prior to installation.
20 21			
22 23 24 25 26 27 28		3.4.4	Where a Radio-On meter is installed and the customer requests a Radio-Off meter, will a technician change the meter from Radio-On to Radio-Off at the customer's premises? Or will a Radio-Off meter be brought from the shop and swapped for the customer's Radio-On meter?
29	Response:		
30 31	A meter techr using a handł	nician will neld tool.	change the AMI meter from radio-on to radio-off at the customer premise



#### 1 4.0 Topic: AMI meter firmware updates

#### 2 Reference: None

- 4.1 How will the AMI meter firmware be updated when an AMI meter is radio-off,
  either because it is a Radio-Off Option Customer or because the meter is radiooff for HAN reasons?
- 6

## 7 Response:

- 8 AMI meters that are Radio-off will have firmware updates applied via manual downloads at the
- 9 customer premise. The frequency of firmware updates is not known and the cost of this process
- 10 has not been included in the radio-off fees.



1	5.0 Тор	ic:	Radio-On status of ZigBee radio
2	Refe	erence:	Exhibit B-1, p.1; Appendix B, RADIO-OFF AMI METER CUSTOMER
3			APPLICATION FORM, p.1
4	The	proposed	Radio-Off AMI Meter Customer Application Form states:
5		"1. I w	ill be provided with an AMI meter that has the wireless transmit functions
6		disabl	ed and that transmit functions on that meter will remain disabled until I
7		reques	st to <u>have the transmit function enabled</u> or move to another location."
8		[under	line added]
9	5.1	Please	e confirm that phrases such as "Radio-On" and "the transmit function
10		enable	ed" are intended to refer to the radio in the AMI meter that communicates
11		with th	e FBC WAN being enabled or turned on; that these phrases do not imply
12		that th	e ZigBee radio will be enabled or turned on; and that the ZigBee radio will
13		be 'off	' unless the customer directs that it be 'on.' Alternatively, please explain.
14			
15	Response:		
16	Confirmed.		



FortisBC Inc. (FortisBC, FBC or the Company) Application for Advanced Metering Infrastructure (AMI) Radio-Off Meter Option (the Application)	Submission Date: October 18, 2013
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#### 1 6.0 Topic: Radio-Off Option always available

# 2 Reference: Exhibit B-1, Section 1.1 WHO CAN CHOOSE A RADIO-OFF AMI 3 METER?

- 6.1 Please confirm that in the Company's proposal a customer may choose to
  participate in the Radio-Off Option at any time, including: at the time an AMI
  meter is originally installed at the customer's premises, at a point in time after an
  AMI has been operating on radio-on basis at the customer's premises, and at the
  time the customer moves into new premises where an AMI with radio-on is
  already operating. Alternatively, please explain.
- 10
- 11 Response:
- 12 Confirmed.



#### 1 7.0 Topic: Radio-Off meters for WAN reasons

#### 2 Reference: Exhibit B-1, p.8; Exhibit B-1, pp.4-5

"As was noted in the AMI CPCN application, and as will be finalized during the
Define/Design stage of the AMI Project, the Company has considered that up to one
percent of customers may not have an economic Wide Area Network (WAN) solution
available to them, resulting in the installation of radio-off AMI meters that have to be
serviced via a continuation of manual meter reading to those specific locations.
Providing manual meter reading as a WAN solution in these cases involves certain costs
that were built into the AMI Project proposal and financial analysis."

- 107.1Is it FortisBC's intention to try to reduce over time the number of regular11customers who have a radio-off AMI meter for WAN reasons? What factors will12influence the rate at which FortisBC reduces the number of radio-off AMI meters13for WAN reasons?
- 14

#### 15 **Response:**

Yes, it is FortisBC's intention to try to reduce over time the number of regular customers who have a radio-off AMI meter because an economic WAN solution is not available to them. FortisBC intends to regularly evaluate WAN options to ensure that, once they become economic, they can be used (subject to a customer choosing the Radio-Off Meter Option).

The factors that will influence the rate at which this transition occurs are the availability of economic WAN solutions (so developments in WAN technology and in the WAN marketplace), and changes in the cost of the network devices.

- 23
- 24
- 25
- 267.2Where a regular customer has a radio-off AMI meter for WAN reasons could the27ZigBee radio still be functional (in relation to a HAN and IHDs)? If so:
- 28
- 29 Response:
- Yes, the ZigBee radio could be enabled in an AMI meter that is being read manually for WAN-related reasons.

However functionality in that instance would be limited to the communication to the customer of
 consumption information only, and would not include other LAN dependent communications
 such as changing rate parameters, updating devices and troubleshooting devices. Importantly,

35 joining and provisioning the HAN device with the AMI meter – which includes the initialization of



1 the security steps required to protect the FortisBC AMI system - is not a function available for 2 non-LAN enabled AMI meters. For these reasons, enablement of the ZigBee radio in an AMI 3 meter that is not communicating to the Company via the LAN, for whatever reason, is not being 4 contemplated. 5 6 7 8 7.2.1 How would the configuration codes for ZigBee/HAN will be input into the 9 AMI meter so that they can be matched to particular In-Home 10 Displays/Gateways to enable them to display Smart Meter information 11 to the consumer in the absence of data from the utility via the WAN? 12 13 Response: 14 Please refer to the response to BCSEA IR 1.7.2. 15 16 17 18 7.3 Will FortisBC inform customers whose AMI meter is radio-off for WAN reasons 19 that their meter is radio-off? 20 21 Response: 22 FortisBC does not intend to disable the AMI meters in areas where there is currently no 23 economic WAN solution in order to minimize the cost of converting the meters once an 24 economic WAN solution becomes available.

Consequently, customers without non-WAN connected meters will be eligible to participate inthe Radio-off option.



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Page 11

- 10 customers who choose the Radio-Off Option rate will not be subsidizing those 11 12 customers who accept a standard AMI meter? If not, please explain.
- 13
- 14 Response:
- 15 FortisBC agrees.



#### 1 9.0 **Topic:** 'No reason required' to opt out

# 2 3

4

#### **Reference:** Exhibit B-1, Section 1.2 HOW DO CUSTOMERS CHOOSE THE **RADIO-OFF AMI METER?**

- "Customers are not required to provide a reason for selecting the radio-off option." [p.3]
- 5 6

9.1 Is it FortisBC's view that the 'no reason required' aspect of the proposed Radio-Off Option is required by the three Commission Radio-Off Principles in Order C-7-13? Why, or why not?

7 8

#### 9 **Response:**

10 FortisBC believes that the 'no reason required' aspect of the proposed Radio-Off Option flows 11 from the Commission Radio-Off Principles and the Reasons for Decision of July 23, 2013. 12 There would be no purpose for requiring customers to provide a reason for selecting the Radio-13 Off Option given that this is not a requirement in Order C-7-13. Further, the Commission 14 indicated in its Reasons for Decision that this program should be available in order to mitigate 15 schedule impacts associated with a protracted difference of views. It did not endorse any given reason that a customer might provide for choosing the Radio-Off Option. 16



1	10.0	Topic:	Default Radio-On	
2 3 4		Reference:	Exhibit B-1, Section 1.2 HOW DO CUSTOMERS CHOOSE THE RADIO-OFF AMI METER?; Appendix C, Radio-Off AMI Meter Rate Schedule	
5 6 7		"FortisBC will for which it ha account holde	ensure that radio-off AMI meters are installed at every customer premise is received a completed and signed FBC Radio-Off Option Form from the r for that premise." [p.3]	
8 9 10 11 12 13 14	10.1 Please identify where in the default rate schedules and the proposed Radio AMI Meter Rate Schedule 81 it is made clear that if a customer does not prov a completed and signed FBC Radio-Off Option Form to FortisBC then customer's service will be provided using a radio-on AMI meter or, at FortisE discretion, an AMI meter with radio-off where required for WAN reasons.			
15	Item 1	of Rate Sched	ule 81 Terms and Conditions states:	
16 17	1. Radio-Off Customers that have applied to the Company for a Radio-Off Meter will be provided with a meter that has the integrated wireless transmit functions disabled.			
18 19 20	Exhibi signing	t B-1 Section 1 g and delivering	2 explains the process for applying, including the requirement completing, the FBC Radio-Off Form.	
21 22	For cla followi	arity, FBC has ng:	updated Rate Schedule 81 Terms and Conditions in Errata 1 with the	
23 24 25		1. Radio-Off <u>completing, si</u> <u>use in selecti</u> i	Customers that have applied to the Company for a Radio-Off Meter <u>by</u> gning and delivering the application form provided by FBC to customers for ng the Radio-Off Meter Option, will be provided with a meter that has the	

- 26 integrated wireless transmit functions disabled.
- 27



1	11.0	Topic:		Terminology
2 3		Refere	nce:	Exhibit B-1, Section 1.2 HOW DO CUSTOMERS CHOOSE THE RADIO-OFF AMI METER?
4 5 6	"Customers wh the manner se as <b>Radio-Off (</b>			no have completed, signed and submitted the Radio-Off Option Form in t out in this Application are referred to in the remainder of this Application <b>Customers</b> ." [p.3]
7 9 10 11 12 13 14		11.1	Given the for WA base napproxi reasons using the Option	he Company's estimates that 1% of the customer base will have radio-off N reasons [Exhibit B-1, p.7, lines 3-7] and up to 0.5% of the customer nay choose the Radio-Off Option [Exhibit B-1, p.6], there could be mately twice as many customers whose AMI meter is radio-off for WAN is than because of the Radio-Off Option. Does the Company consider that he term "Radio-Off Customer" to apply only to participants in the Radio-Off rate might cause confusion?
15	<u>Respo</u>	onse:		
16 17 18 19 20 21	The ter FortisE custom the rac	rm "Rad 3C does hers. Fo lio-off op	lio-Off C not inte ortisBC otion" wh	customer" is a defined term used in and for the purpose of the Application. end to use the phrase "Radio-Off Customer" in its communications with will use terms such as "radio-off option" or "a customer who has chosen nen communicating their options.
22 23 24 25	<b>D</b>	11.2	Going f to refer	orward, would it be clearer to use the term "Radio-Off Option Customer" to a customer in the Radio-Off Option rate?
26	<u>Respo</u>	onse:		
27	Please	e refer to	the res	ponse to BCSEA IR 1.11.1.
28 29				
30 31 32 33		11.3	What te meter w	erm does or will FortisBC use to describe customers who have an AMI vith radio-off for WAN reasons?



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#### 1 Response:

FortisBC is unsure of situations (other than in a regulatory context) in which it would have use a standard term to describe customers without WAN-connected meters. If it did, it would use a term such as "manually-read customers" if it was not important to distinguish them from customers who had chosen the Radio-Off Option, or if for some reason it was important to distinguish them from customers who had chosen the Radio-Off Option, a term such as "customers with no WAN access".



#### 1 12.0 **Topic:** Notification of Radio-Off Option

2 3

#### **Reference:** Exhibit B-1, Section 1.3, HOW WILL CUSTOMERS BE NOTIFIED OF THE RADIO-OFF OPTION?

- 4 5
- 12.1 Will FortisBC inform a new customer of the existence of the Radio-Off Option when he or she opens a new account?
- 6

#### 7 Response:

8 As stated in the response to BCPSO IR 1.1.2, FortisBC intends to have communications 9 directed at customers throughout the AMI project timeline. These communications will generally 10 include a statement that customers with concerns should visit the FortisBC AMI website or call

11 our contact centre.

12 Both during and after the initial deployment of the AMI meters, information regarding the Radio-

13 Off Option will be offered through the contact centre where it may alleviate customer concerns,

- 14 including new customer concerns.
- 15
  - 16
  - 17
- Where a customer has a radio-off AMI meter for WAN reasons and FortisBC 18 12.2 19 intends to change the meter to radio-on, will FortisBC inform the customer of the 20 existence of the Radio-Off Option?
- 21
- 22 Response:

23 Please refer to the response to BCSEA IR 1.7.3.

24 FortisBC intends to install standard radio-on AMI meters at those premises that have manual

25 meter reading for WAN-related reasons.



1 13.0 **Topic: Cross-subsidization** 2 **Reference:** Exhibit B-1, Section 1.6 WHAT IS THE INCREMENTAL COST THAT 3 WILL BE CHARGED TO RADIO-OFF CUSTOMERS? 4 13.1 Can FortisBC confirm that the charges proposed in Section 1.6 ensure no cross-5 subsidization (either way) between customers who choose the radio-off option 6 and customers who accept a standard AMI meter? If not, please explain. 7 8 Response: 9 The charges proposed in Section 1.6 are intended to ensure no cross-subsidization (either way) 10 between customers who choose the radio-off option and customers who accept a standard AMI 11 meter. 12 13 14 15 13.2 Please confirm that the proposed per-premise set-up fee applies when a 16 customer first goes on the Radio-Off Option rate, including both where the AMI 17 meter replaces a non-AMI meter and where there is already an installed radio-on 18 AMI meter. 19 20 Response: 21 Confirmed. 22 23 24 25 13.2.1 Is the proposed pre-premise set-up fee applicable when a customer first 26 opens an account on the Radio-Off Option rate at premises where there 27 is an installed radio-off AMI meter? Please explain why or why not. 28 29 Response: 30 Please refer to the response to BCPSO IR 1.6.4. 31 32 33



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13.3 Please confirm that when a Radio-Off Option Customer chooses to leave the Radio-Off Option rate there is a per-read fee that covers both a final manual meter read and turning on the WAN radio in the AMI meter.

#### 5 **Response:**

6 For clarity, the meter radio is part of the LAN (local area network), not the WAN (wide area 7 network).

8 Confirmed. When a customer leaves the radio-off option there is a need to acquire a final read 9 from the meter. That read is obtained manually. At the same time as obtaining the final read, 10 for little additional time or cost the meter technician obtaining the final manual read will enable 11 the LAN radio. Therefore the final manual meter read charge is considered sufficient to capture 12 the cost of enabling the LAN radio.

- 13.3.1 It appears that there is no cost-recovery for turning on the WAN radio in the AMI meter. Why? Is it so as not to impose a disincentive for a Radio-Off Option Customer to leave the Radio-Off Option rate?
- 18 19

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- 20 Response:
- 21 Please refer to the response to BCSEA IR 1.13.3.



# 1 14.0 Topic: Frequency of meter reading

# Reference: Exhibit B-1, Section 1.4 HOW WILL DATA BE COLLECTED FROM THE RADIO-OFF METERS?; Section 1.6 WHAT IS THE INCREMENTAL COST THAT WILL BE CHARGED TO RADIO-OFF CUSTOMERS?; Exhibit D-1-1

- 6 "[Radio-Off Option Customers'] Meter readings and operational data will be [manually]
  7 downloaded <u>at the period prescribed in the rate schedule</u> under which the Radio-Off
  8 Customer receives electrical service." [p.4, underline added]
- 9 "The per-read fee of \$22 <u>bimonthly</u> is based on 0.5% of customers choosing the radio-off
  10 AMI meter option, and covers all incremental vehicle and labour costs incurred for the
  11 ongoing manual download process." [p.6, underline added]
- In a letter of comment dated September 12, 2013 [Exhibit D-1-1], Christina Postnikoff
   states:
- 14 "2) Why is Fortis BC charging customers with radio-off meters extra and not simply allowing those customers to read their own meters and report it to Fortis 15 16 BC. Many customers in remote locations do this now and see the meter reader 17 once a year. West Kootenay Power used to let its customers in remote areas 18 send in readings by mail and have meter readers go out occasionally at no extra 19 cost. Fortis BC already allows customers to submit meter readings online. Or 20 Fortis BC can use the annual payment method based on last year's usage and have a reading at the end of the year." [p.1 of 2] 21
- 22 In the Application, FortisBC states:
- 23 "Since a radio-off AMI meter will have its transmitting functions disabled,
  24 consumption and operational data must be retrieved by FortisBC directly from the
  25 meter. The data will be securely retrieved by FortisBC personnel using a
  26 handheld device that will download the information through the optical port on the
  27 AMI meter." [p.4]
- 2814.1Are all of the residential and commercial customers who will receive an AMI29meter on a bimonthly meter reading schedule? If not, please describe the types30of customers whose meters are not read bimonthly and on what schedules their31meters are read.
- 3233 **Response:**
- 34 Please refer to the below table.



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			Rate Class	Meter Read Schedule	
			Residential	Bimonthly	
			Small Commercial	Bimonthly	
			Commercial	Monthly	
			Large Commercial	Monthly	
			Irrigation	Bimonthly	
1 2					
3 4 5 6		14.1.1	Please confirm that " context.	bimonthly" means once	every two months, in this
7	<u>Response:</u>				
8	Confirmed.				
9 10					
11					
12	14.2	What is	FortisBC's response	to Ms. Postinikoff's qu	estion, "Why is FortisBC
13		charging	customers with radio	o-off meters extra and	not simply allowing those
14 15		custome	ers to read their own me	eters and report it to For	tis BC?"
15 16	Response:				
4 <del>- 7</del>					
17	Please refer t	the resp	onses to BCPSO IRs ?	1.2.1 and 1.2.2.	
18					
19					
20					
20 21		14 2 1	Is there a way in whic	h a customer could use	a handheld device (of the
22		17.2.1	type used by FBC per	rsonnel) and retrieve co	nsumption and operational
23			data from his or her ra	adio-off AMI meter and s	end the data electronically
24			to FortisBC?		
25					
26	Response:				
27	FortisBC doe	es not be	elieve it is a feasible	approach or one tha	t would be in the public

28 interest. There are very significant practical, security and cost issues, including as follows:



#### 1 <u>Security issues</u>

Due to the strong security of the AMI system, user credentials need to be updated
 several times per year. Thus the user (customer) would have to get access through
 Fortis firewall to update credentials to their laptop. This introduces security risks.

#### 5 <u>Cost issues</u>

Please see the response to CEC IR 1.8.4.3 for a description of the equipment that would
 be required by each radio-off customer if this approach were adopted.

#### 8

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1114.3Can FortisBC confirm Ms. Postnikoff's statement that "Many customers in remote12locations do this [read their own meters and report it to Fortis BC] now and see13the meter reader once a year"?

# 15 **Response**:

FortisBC confirms that some residential customers in remote locations read their own metersand report them to FBC while seeing the meter reader once a year. These customer choose to

- 18 do so for many different reasons.
- 19 Some of the reasons are:
- Do not want anyone on their property;
- Choose to not provide access for the purpose of reading the meter once every two 22 months; and
- Their dog can be vicious or generally unsafe, therefore they do not want anyone to be put in harm's way.

25

In the current metering system, customers that do not wish to have a manual read from the reading staff must be approved by FortisBC to be able to read their own meter. Before selfreads are approved, the Company determines whether a "drive-by" wireless meter that can be read by a handheld device from the property boundaries will resolve the customer issue. If the premises meter base does not allow a "drive-by" meter to be installed or the customer refuses the meter, FortisBC will grant the customer to read their own meter with the expectation that we will obtain a meter reading once per year.

33 The reads own option provides numerous challenges to FortisBC which include:



1	•	Reads	are not s	submitted on a timely manr	er,	
2 3 4 5		0	In the ca meter da access read.	ases where customer have ata analyst will try to get in for a FBC reader to read	not submitted a re communication w the meter or have	ad for quite some time, the ith the customer to provide the customer submit their
6	•	Enterii	ng these i	reads into the customer inf	ormation system is	a manual process,
7 8		0	Routinel the billin	ly the reads submitted are ng department will have to a	inaccurate with the inalyze and re-bill t	e premise history, therefore he account,
9 10	•	The h	nigh bills ner call to	that are created from the FortisBC's call center to r	customer inaccura solve the issue.	ate reads often end with a
11 12		0	The reso that For	olution is either that a pictu tisBC will roll a truck to rea	e of the meter is su the meter.	ubmitted by the customer or
13 14 15 16 17 18 19 20 21	Althou custor be gre custor find ar minim	igh self- ner con eatly re- ner refu n accep um and	reads wil cerns will duced ar ises an A table reso will discc	Il no longer be an (accept be addressed by the AMI nd non-standard meter ba AMI meter (radio-on or rad olution, but ultimately Fortis onnect service as a last res	able) option, Fortis project since proper ses will be addres o-off) FortisBC will BC needs to recein ort if access is not p	BC expects that the above rty access requirements will ssed. In cases where the work with the customer to ve meter data bi-monthly at provided.
22 23 24 25 26 27	Respo	onse:	14.3.1	What is FortisBC's plan fo (if any) who currently read	or implementation o I and report their ov	of AMI meters for customers
28 29 30 31 32	Fortis curren those interva theft a	BC plan htly bille that cu al data f and elim	s to insta d using th rrently re rom every inate billir	all AMI meters for all custo he MV90 system as discu ad their own meters. It y AMI meter. The data fror ng estimates and by custor	ners (aside from la ssed in the AMI C s important that F n the meters will be ners to help them m	arge commercial customers PCN application), including ortisBC retrieve the hourly used by FortisBC to detect nanage their consumption.

- 33
- 34
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1 2 3 4	<u>Response:</u>	14.3.2	If some remote customers read and report their own meters, how frequently do they report to FortisBC and how frequently are they billed?
5 6	There are ap meters on a b	oproximate oimonthly	ely 140 residential customers who routinely read and report their own basis, and are billed every two months based upon those reads.
7 8			
9 10 11 12 13 14	14.4	Would it radio-off say, eve the Radi	t be feasible to allow Radio-Off Option Customers to elect to have their AMI meter read by a FortisBC employee less frequently than bimonthly, ery six months or annually, in order to reduce the cost of per-read fees to io-Off Option Customer?
15	Response:		
16	Please refer t	to the resp	oonse to BCUC IR 1.9.4.
17 18			
19 20 21 22 23	Response:	14.4.1	Would there be an impact on the theft-prevention and line loss benefits of the AMI program?
20	Yes please r	efer to the	e response to BCSEA IR 1 14 4
25 26	, p		
27 28 29 30	14.5 Been	If there be eligib	will be customers whose AMI meters are not read bimonthly, would they le to participate in the Radio-Off Option rate?
31	<u>Response:</u>		
32	Yes.		



1 2			
3 4 5 6 7 8	<u>Response:</u>	14.5.1	Would such customers remain on a non-bimonthly meter reading schedule once on the Radio-Off Option rate? If so, please confirm that the standard per-read fee [proposed to be \$22] would apply.
9 10 11	All radio-off of schedule, tha monthly. The	customers t is eithe fee for al	s would be read at the frequency prescribed in their applicable rate r monthly or bi-monthly. For residential customers, the frequency is bi- Il radio-off customers is \$22 per read.
12 13			
14 15 16 17 18 19	<u>Response:</u>	14.5.2	Would customers whose AMI meters are not read bimonthly and who choose to participate in the Radio-Off Option rate be allowed to choose to have their meters read (manually) bimonthly?
20 21 22	No. As stat downloaded a receives elect	ted in Ex at the per crical serv	whibit B-1, Section 1.4 "Meter readings and operational data will be iod prescribed in the rate schedule under which the Radio-Off Customer ice."
23 24			
25 26 27 28 29	14.6	In Fortis participa consiste	BC's view, would a provision in the Radio-Off Option rate allowing a ant to have his or her AMI meter read less frequently than bimonthly be ent with the Commission three Radio-Off Principles? If not, why not?
30	<u>Response:</u>		
31	Yes, but it is r	not recom	mended for the reasons articulated in the response to BCUC IR 1.9.4.
32			



#### 1 15.0 **Topic:** Sensitivity analysis regarding participation rate

2 **Reference:** Exhibit B-1, Section 1.6 WHAT IS THE INCREMENTAL COST THAT 3 WILL BE CHARGED TO RADIO-OFF CUSTOMERS?

- 4 The proposed figures for the size of the setup fee and the per-read fee are based on the 5 assumption that up to 0.5% of customers choose the Radio-Off Option rate.
  - 15.1 Please provide an analysis of the effect on the size of the set-up and per-read fees if participation in the Radio-Off Option rate exceeds or falls below 0.5%.

#### 9 **Response:**

- 10 As noted in Exhibit B-1, Section 1.7, pp 7-8:
- 11 The revenue received from radio-off fees would be forecast and recorded as "Other Income" similar to other tariff fees. These revenues would be offset by increased O&M 12
- costs. The net result would be a forecast zero rate impact. 13
- 14 FortisBC will monitor both actual numbers of Radio-Off Customers and actual manual 15 meter reading costs. The Company will recommend fee revisions during the next Cost
- 16 of Service/Rate Design Application if appropriate.
- 17

6

7

8

- On a forecast basis, as the response to CEC 1.50.6.1 in the AMI CPCN regulatory process 18
- 19 indicated, the per premise (or Set-up) cost remains unchanged regardless of the participation
- 20 rate in the Radio-off option. The forecast manual meter cost per read is noted below.

Percent	Cost /		Set-up	
Opt Out	Re	ead	C	ost
0.1%	\$	43	\$	110
0.2%	\$	32	\$	110
0.3%	\$	27	\$	110
0.4%	\$	24	\$	110
0.5%	\$	22	\$	110
1.0%	\$	17	\$	110
1.5%	\$	15	\$	110
2.0%	\$	14	\$	110

21



1	16.0	Topic:	:	Future revision of charges		
2 3		Refere	ence:	Exhibit B-1, Section 1.7 Financial Treatment and Adjustment Mechanism		
4 5 6		"Fortis meter Service	BC will reading e/Rate [	monitor both actual numbers of Radio-Off Customers and actual manual costs. The Company will recommend fee revisions during the next Cost of Design Application if appropriate." [p.7]		
7 8 9	Respo	16.1 onse:	When v	will be the Company's next Cost of Service/Rate Design Application?		
10	Please	e refer to	o the res	sponse to BCUC IR 1.10.1.		
11 12						
13 14 15 16	Respo	16.2	When	was the Company's last Cost of Service/Rate Design Application?		
17	The C	e Company last filed a Cost of Service and Rate Design Application in 2009.				
18 19						
20 21 22 23 24		16.3	Would propos Service	FortisBC commit to giving notice to Radio-Off Option Customers of a ed change in the Radio-Off Option rate fees in the next Cost of ARate Design Application?		
25	<u>Respo</u>	onse:				
26 27 28 29 30	FBC's change Custor Off Op notify i	normal es, and mers of otion rat ts Radie	l busine d therefo any pro e fees a o-Off Op	ss practise is to provide notice to its customers of any proposed rate ore believes that it is reasonable to give notice to Radio-Off Option posed changes to the Radio-Off Option rate fees. If changes to the Radio- re proposed in the next Cost of Service/Rate Design Application, FBC will obtion customers at the time of filing.		
31						
32						



FortisBC Inc. (FortisBC, FBC or the Company) Application for Advanced Metering Infrastructure (AMI) Radio-Off Meter Option (the Application)	Submission Date: October 18, 2013
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4

16.4 Please explain whether the fees FortisBC receives from Radio-Off Option Customers would increase the rate base on which FBC's return on equity is calculated. Do the shareholders of FBC benefit from the Radio-Off Option rate?

#### 5 **Response:**

6 The fees FBC receives from Radio-Off customers are recorded as Other Income and will not 7 increase rate base. The fees will only offset the additional cost incurred by FBC of having 8 certain customers opted out of the AMI system. Therefore FortisBC shareholders will not 9 benefit from the Radio-Off Option.



#### 1 17.0 **Topic:** Assurance of radio-off status 2 **Reference:** Exhibit B-1, Section HOW DO CUSTOMERS CHOOSE THE RADIO-3 **OFF AMI METER?** 4 17.1 How will a Radio-Off Option Customer be assured that the radios in his or her 5 AMI meter are indeed off? 6 7 **Response:** 8 A Radio-off AMI meter will display the fact that the LAN radio is disabled on the LCD readout 9 visible on the face of the meter. 10 All AMI meters will be installed with transmit functions on the HAN radio disabled. 11 In cases where the customer would like additional verification, a meter analyst can visit the 12 property and show the customer how the meter is disabled using the software on his laptop. 13 14 15 16 17.1.1 Is there something on the AMI display, visible to the customer, that indicates that the radio to the WAN and the ZigBee radio are off (or on)? 17 18 19 **Response:** 20 Please refer to the response to BCSEA IR 1.17.1. 21 22 23 24 Would it be feasible for the technician who turns off the radio in an 17.1.2 installed radio-on AMI meter or installs a radio-off AMI meter to 25 demonstrate to the customer that the radios are off while the technician 26 27 is at the premises? 28 29 **Response:**

If the duly signed and completed FBC Radio-off Option Form is received by FortisBC prior to installation of the AMI meter, the radio-off AMI meter will have the LAN radio disabled prior to installation. Yes, if the customer is available at the premise while the meter installer is installing the AMI meter, the installer could show the customer the LCD readout on the AMI meter



FortisBC Inc. (FortisBC, FBC or the Company) Application for Advanced Metering Infrastructure (AMI) Radio-Off Meter Option (the Application)	Submission Date: October 18, 2013
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- showing that it is "radio-off". As noted in the response to BCSEA IR 1.17.1.3, the customer will
   also be able to see the LCD readout without the assistance of the installer.
- 3 The picture below depicts an AMI meter with the LAN radio disabled. On the picture below, the
- 4 LCD shows "rF OPt OUt". When FortisBC's AMI meters are manufactured and configured, it is
- 5 the intent to have the LCD state "radio-off" (rather than "rF Opt Out") where the LAN radio is
- 6 disabled, so that the meaning is even more readily apparent to customers.



- 8 A picture, similar to the one above but showing the actual LCD reading for radio-off meters, will
- 9 be included in FortisBC's communications material for customers electing to participate in the
- 10 Radio-off Option.
- Post installation, if the customer is available at the premise while the meter technician isdisabling the AMI meter's radio, the process can be observed by the customer.

13 14			
15			
16		17.1.3	If equipment is required for a Radio-Off Option Customer to determine if
17			the radios in the AMI meter are off, what equipment is needed?
18			
19	Response:		
20	No equipmer	nt is requi	red. A customer need only look at the LCD readout showing on the face
21	of the meter.	If the LA	AN radio is off, the LCD readout will indicate that. If the LAN radio is off,
22	the LIAN red		

- the HAN radio cannot be on.
- 23 Please also refer to the responses to BCSEA IRs 1.17.1 and 1.17.1.2.



- 2
- 3
- 17.2 Would FortisBC be willing to provide information to Radio-Off Option Customers regarding how to confirm for themselves that the AMI meter's radios are off?
- 5 6

4

# 7 <u>Response:</u>

- 8 Yes. FortisBC plans to provide such information: refer to the response to BCSEA IR 1.17.1.2.
- 9 In addition, FortisBC intends to do so upon request.



1	18.0	Topic:	:	False Site Visit Charge
2 3		Refere	ence:	Draft Rate Schedule 81, page 3 of 3, Exhibit B-1, Appendix C; Exhibit B-1, p.7, lines 13-17
4	Term and condition number 2 of the Draft Rate Schedule 81 states:			
5 6 7 8	"2. If the Company attends a Customer's Premises at the request of a Customer but, or attending, is unable to install a Radio-Off Meter because the Customer refuses access or because the facilities required to be provided by the Customer are found to be deficient, the False Site Visit Charge set out in Schedule 80 may be charged."			
9 10 11		18.1	What is 81?	the rationale for including this provision in the proposed Rate Schedule
12	<u>Respo</u>	onse:		
13 14 15 16 17	The Company wishes to avoid situations where it attends a customer premises to remove a non-AMI meter and install a radio-off AMI meter, but the customer decides against allowing the replacement after the Company has incurred the cost of a site visit. The express reference to the False Site Visit Charge was intended to ensure that customers who consult the proposed Rate Schedule 81 are aware that this consequence might result.			
18 19				
20 21 22 23 24	Respo	onse:	18.1.1	Does "the False Site Visit Charge set out in Schedule 80" not apply to a Radio-Off Option Customer?
25	The False Site Visit Charge applies to radio-off customers.			
26 27				
28 29 30 31	Description		18.1.2	What problem(s), if any, would result from deleting section 2 of the proposed terms and conditions of RS 81?
32	Kespo	onse:	•	
33	Althou	gh the	Company	believes the False Site Visit Charge applies regardless, without section

34 2 of the proposed terms and conditions of Rate Schedule 81 it is possible that a customer who



- 6
- 7 8

18.2 Please file a copy of "the False Site Visit Charge set out in Schedule 80."

# 9 **Response:**

10 Please refer to Attachment 18.2.

Attachment 1.1

# CTILITIES COMMISSION

BRITISH COLUMBIA UTILITIES COMMISSION

Order Number C-7-13

> TELEPHONE: (604) 660-4700 BC TOLL FREE: 1-800-663-1385 FACSIMILE: (604) 660-1102

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#### IN THE MATTER OF the Utilities Commission Act, R.S.B.C. 1996, Chapter 473

and

An Application by FortisBC Inc. for a Certificate of Public Convenience and Necessity for the Advanced Metering Infrastructure Project

BEFORE: L.F. Kelsey, Commissioner D.M. Morton, Commissioner N.E. MacMurchy, Commissioner

July 23, 2013

#### CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY

#### WHEREAS:

- A. On July 26, 2012, FortisBC Inc. (FortisBC) applied to the British Columbia Utilities Commission (Commission or BCUC) pursuant to sections 45, 46 and 56 of the Utilities Commission Act, for approval of the Advanced Metering Infrastructure (AMI) Project (Project, Application);
- B. By Order G-105-12, dated August 2, 2012, the Commission established a Preliminary Regulatory Timetable requesting comments on the regulatory process for the review of the Application, such as written, oral or both;
- C. By Order G-135-12, dated September 26, 2012, the Commission established a Procedural Conference to take place in Kelowna to hear participant submissions on the regulatory process for the review of the Application. The Order also appended an Amended Preliminary Timetable;
- D. By Order G-137-12, dated September 28, 2012, the Commission set November 6, 7 and 8, 2012, as the dates for Community Input Sessions on the Application in Trail, Osoyoos and Kelowna respectively. The Community Input Sessions took place on those dates;
- E. The Procedural Conference took place in Kelowna on November 8, 2012;
- F. By Order G-177-12, dated November 23, 2012, the Commission directed, among other things, that the review of the Application would proceed through a combination of a written and an oral hearing, with financial, operations, fire safety and privacy issues to be reviewed by way of a written process and health, security and environmental issues by way of an oral hearing. Among other matters, the Order also directed that the oral hearing take place in Kelowna commencing March 4, 2013, and concluding by no later than March 15, 2013. The Order also appended an Amended Regulatory Timetable;
- G. On November 13, 2012, FortisBC filed a application with the Commission to purchase the electric utility assets of the City of Kelowna (CoK CPCN);

- 2
- H. On November 16, 2012, FortisBC filed an Addendum to the Application, which described the impacts to the Application in the event the Commission approved the CoK CPCN. On November 20, 2012, FortisBC filed the Excel file containing the Net Present Value analysis in its November 16 Addendum filing;
- I. The estimated cost of the AMI Project, including salvage value, is \$51.2 million;
- J. By Order G-198-12 dated December 20, 2012, the Commission denied the requests of two Interveners, Area D in the Regional District of Central Kootenay (RDCK) and the Nelson–Creston Green Party Constituency Association (NCGP), for a suspension of the proceeding and confirmed the Amended Regulatory Timetable established by Order G-177-12;
- K. By Order G-11-13, dated January 18, 2013, the Commission denied the request of an Intervener, Mr. Jerry Flynn, to make a PowerPoint presentation at the oral hearing;
- L. On January 22, 2013, FortisBC submitted an Evidentiary Filing on the Advanced Metering Initiative Market, technology and North American project costs;
- M. By Order G-12-13, dated January 22, 2013, the Commission ordered that FortisBC's responses to certain Commission Information Requests were to be treated as confidential by the Commission, but did allow access to Intervener counsel and a limited group of Interveners upon the filing of an Undertaking of Confidentiality;
- N. By Order G-17-13, dated February 1, 2013, the Commission, among other matters, granted a limited third round of Information Requests and one round of Confidential Information Requests to Interveners who qualified to make those requests pursuant to Order G-12-13 and issued a Further Amended Regulatory Timetable;
- O. By Order G-21-13, dated February 7, 2013, the Commission denied RDCK's request for reconsideration and variance of Order G-177-12 to permit financial, operational, fire safety and privacy issues including wireless *vs*. wired meters in the oral hearing;
- P. By Order G-24-13, dated February 13, 2013, the Commission allowed Commission staff and one Intervener, the British Columbia Pensioners' and Seniors' Organization, to submit additional Information Requests focussed on clarification and financial impacts of the Addendum and certain other evidence relating to the Addendum. In addition, the Commission allowed certain Information Requests delivered by another Intervener, BC; Sustainable Energy Association and the Sierra Club of BC, in the CoK CPCN proceeding to be filed as evidence;
- Q. By Letter L-3-13, dated February 15, 2013, the Commission granted the request of the Citizens for Safe Technology Society (CSTS) to have certain of its expert witnesses cross-examined by video-conference at the oral hearing;
- R. By Order C-4-13, dated March 1, 2013, another Panel of the Commission approved the CoK CPCN application with conditions, which were subject to acceptance by FortisBC by March 31, 2013;
- S. The oral hearing took place in Kelowna from March 4 to March 15, 2013, as provided for by Order G-177-12. The evidentiary record was closed following the conclusion of the evidence on March 15, subject to the filing of outstanding undertakings made by witnesses the oral hearing;
- T. FortisBC filed its Final Submissions on March 28, 2013;

- 3
- U. On March 29, 2013, FortisBC advised the Commission that it accepted the conditions in Order C-4-13;
- V. By Order G-51-13, dated April 8, 2013, and in response to requests from RDCK and CSTS, the Commission granted Interveners a one week extension to the filing date for their Final Submissions to April 25, 2013, and a corresponding one week extension to FortisBC to May 2 to file its Reply;
- W. On April 19, 2013, CSTS advised the Commission of the release that day of the monograph of the International Agency for Research on Cancer (Report), requested a reopening of the record to admit the Report into evidence and an extension to the Regulatory Timetable by 10 days to allow parties the opportunity to review the Report and reference it in argument. On the same day, by Order G-62-13, the Commission denied RDCK's request to correct Exhibit C13-30-1;
- X. By letter dated April 22, 2013, the Commission denied CSTS's request to extend the Regulatory Timetable, but established a process for written submissions on the reopening of the record to admit the Report;
- Y. By Order G-80-13, dated May 15, 2013, the Commission reopened the evidentiary record, admitted the Report into evidence and allowed the filing of limited Supplemental Submissions on the Report. Interveners filed their Supplemental Submissions by May 23 and FortisBC filed its Reply on May 30, 2013; and
- Z. The Commission Panel has considered the Application, the evidence and submissions presented on the Application and has determined that it is in the public interest that a CPCN be issued to FortisBC for the AMI Project.

NOW THEREFORE pursuant to sections 45, 46 and 56 of the Utilities Commission Act the Commission orders as follows:

- A Certificate of Public Convenience and Necessity is granted to FortisBC for the AMI Project as described in the Application and as modified by directives in this Order and the Decision issued concurrently with it and subject to the condition that FortisBC must confirm in writing by August 1, 2013 that it will file an application for an opt-out provision by November 1, 2013 based on the following principles:
  - (a) Customers may choose to opt-out of accepting a wireless transmitting meter.
  - (b) 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 from the property, the opt-out choice will move with the customer.
  - (c) The incremental cost of opting-out of the AMI program will be borne by the individuals choosing to opt-out.
- 2. A depreciation rate of 5 percent, to be applied to the AMI meters to be installed as part of the AMI Project, is approved until the completion of FortisBC's next depreciation study.
- 3. The request to recover the costs of FortisBC's 2007 AMI CPCN application as part of the costs of the AMI Project is denied. FortisBC is directed to apply for the recovery of those costs in its next Revenue Requirements application.
- 4. A capital budget of \$50.898 million including approved development costs and contingency amounts is approved as a control budget.

5. FortisBC is directed to file with the Commission Quarterly Progress Reports on the AMI Project showing planned vs. actual schedule, planned vs. actual costs, and any variances or difficulties that the AMI Project may be encountering. The Quarterly Progress reports are to be filed within 30 days of the end of each reporting period.

4

- 6. FortisBC is directed to file with the Commission a Final Report on the AMI Project schedule and costs within six months of the end or substantial completion of the AMI Project that provides a complete breakdown of the final costs of the AMI Project, compares these costs to the cost estimate in the Application inclusive of the cost increase resulting from the Commission's approval of the CoK CPCN, and provides a detailed explanation and justification for all material cost variances.
- 7. FortisBC is directed to file with the Commission an Annual Cost/Benefit Tracking Report on the AMI Project benefits (reduced costs) and the new operating costs of the AMI program for each of the first 5 years following the end or substantial completion of the AMI Project. The Annual Cost/Benefit Tracking Report is to be filed with the Commission within 3 months of each calendar year end included in the 5 year period.
- 8. FortisBC is directed to determine the form and additional content of the Quarterly Progress Reports, Final Report and Annual Cost/Benefit Tracking Reports in consultation with Commission staff.
- 9. FortisBC is directed to comply with the directives in the Decision issued concurrently with this Order.

**DATED** at the City of Vancouver, in the Province of British Columbia, this 23<sup>rd</sup> day of July 2013.

**BY ORDER** L.F. Kelsev

Commissioner

CEC submits "that the Commission determine that the evidence shows there is no increased fire hazard associated with the AMI meters or meter exchange process." It further submits that electrical hazards may be associated with a damaged base plate which could either be pre-existing or occur at the time of meter exchange (CEC Final Submission, pp. 118-119).

In its Reply, FortisBC states: "None of the Interveners have made submissions as to fire safety except for CEC and BCPSO, which accept FortisBC's position in this regard" (FortisBC May 2 Reply, p. 68).

## **Commission Determination**

The Panel is of the view there is a low- risk of fires resulting from installation of the new meters. The Panel considers a properly developed and fully documented installation manual and deployment plan, and appropriately trained and supervised installers, will reduce this risk. - The Panel considers the costs included for the replacement of damaged customer meter bases to be a reasonable precautionary measure even though these are not FortisBC assets. **The Panel directs FortisBC to immediately report any meter/meter base incidents to the Commission and other authorities as required or appropriate.** 

## 11.4 Opt-Out

Many of the Letters of Comment touched on the desire for a so-called "opt-out" provision, whereby individuals could choose to have a non-transmitting AMI meter installed on their property and have their meter read manually. The issue of whether or not to allow an opt-out was also addressed in the information request process, at the Oral Hearing and in Final Submissions.

In the Application, FortisBC did not propose an opt-out program of any kind, stating that it did not see a sufficient need for an opt-out to justify the increased cost that would be borne by the ratepayer:

"Several North American jurisdictions have offered an "opt-out" option for customers who oppose having an advanced meter installed. Customers that wish to "opt-out" pay additional fees related to the costs of having to download data from the meters manually, rather than through the wireless network. FortisBC believes that an opt-out provision is not in the best interest of customers for the following reasons:

"Opt-out" will not resolve all customer concerns, and customer refusals would still be expected.

There is no compelling scientific or other evidence to support the need for an "opt-out" provision.

Advanced metering benefits can be eroded by "opt-out" customers.

It is not consistent with existing provincial policy." (Exhibit B-1, pp. 142-143)

However, FortisBC also acknowledged during cross-examination that there would be a large number of individuals who may refuse AMI meters entirely, leading to a scenario in which ratepayers were forcibly disconnected if they did not choose to accept an RF-enabled AMI unit on their property:

"And then barring that, if that wasn't going to be an option for the customer, then ultimately we would be looking at the last option available to us, which would be to disconnect the customer." (T6:1039)

FortisBC also agreed that some individuals would develop symptoms as a result of believing their AMI meters were exposing them to dangerous levels of RF energy, despite there being no scientific or medical basis for such a belief (also called the 'nocebo effect').

#### Question:

"Does FortisBC consider the 'nocebo effect', as referenced in the Exponent report and in other academic studies of the potential link between RF/EMF radiation and human health, to be a significant source of negative effects for some of these concerned stakeholders? If not, please explain why not."

#### Response:

Yes. Scientific research on radiofrequency fields and assessments of this research by health and scientific agencies has described the belief and perception of some individuals that they can detect or develop symptoms in the presence of these fields as unrelated to the physical stimulus itself (referred to as electromagnetic hypersensitivity). As stated by the World Health Organization "The symptoms are certainly real and can vary widely in their severity. Whatever its cause, EHS can be a disabling problem for the affected individual. EHS has no clear diagnostic criteria and there is no scientific basis to link EHS symptoms to EMF exposure." (Exhibit B-14, BCUC 2.55.1) When asked about a hypothetical model of cost-recovery that might be followed in the event of the AMI program allowing an opt-out, FortisBC responded, both in IRs and to questions at the Oral Hearing, by indicating they would seek to have the party opting-out pay for the entire incremental cost on the principle of 'cost causation':

MR. AARON: Q: So, and that opt-out will cost the company nothing extra, and will cost the non-opting out customers nothing extra.

MR. LOSKI: A: The incremental cost that would be borne by the company to implement the opt-out for the customer would be recovered from that customer. Again, with the principle of cost causation, then the remaining -- or the rest of the customers would, in effect, be kept whole. (T5:963)

CEC expressed concern about a potential opt-out reducing the projected future benefits of an AMI system, and wants a potential opt-out program to be limited in scope and duration. CEC submits that the goal of an opt-out program should be to smooth the eventual transition to nearly-universal use of AMI meters, and decisions about how to structure a potential program should reflect that goal. (CEC Final Submission, p. 126)

BCSEA supports an opt-out system, with cost recovery being at the customers's expense. BCSEA notes that some FortisBC customers are "deeply opposed" to having an AMI meter on their premises because of the RF transmissions. (BCSEA Written Argument, p. 26) BCSEA also wishes for the Panel to "...define the key elements of the opt-out tariff as part of this proceeding, so that only a compliance filing is required." (BCSEA Final Submission, p. 27)

BCPSO supports an opt-out, based on an individual cost-recovery basis, and with AMI meters being deployed in a transmit-off mode to individuals who opt-out so that most of the benefits of the AMI system can still be realized. BCPSO is also supportive of free opt-outs being granted to individuals who can demonstrate financial or medical hardship. (BCPSO Final Submission, p. 27)

CSTS also supports an opt-out, stating, "At the very least, customers wishing to opt-out should have the right to do so" (CSTS Final Submission, p. 54). However, CSTS requests a separate proceeding to be initiated to determine the parameters of an opt-out program (CSTS Final Submission, p. 71). Mr. Miles indicates he is in favour of an opt-out provision, provided that, "...project costs should accommodate each complainant" (Miles Final Submission, p. 6). The Panel interpreted this to mean that Mr. Miles echoes BCPSO's position regarding reduced costs being borne by individuals with financial or medical reasons.

RDCK strongly supports an opt-out program (RDCK Final Submission, p. 36).

## **Commission Determination**

In Section 6.5.2, the Panel identified a potential risk to the implementation schedule arising from a protracted difference of views concerning the Project. This risk could increase costs to and reduce potential benefits from the Project, which would be detrimental to all FortisBC ratepayers. The Panel is of the view that an opt-out program could mitigate these potential schedule impacts. On the issue of financial or medical hardship, the Panel is of the view that a properly designed opt-out program allows individuals to decide not to accept a transmitting AMI meter while protecting the remaining FortisBC customers from the increased costs associated with the opt-out Program.

Therefore, the Commission directs FortisBC to design and bring forward to the Commission for approval an opt-out program based on the following principles:

- Customers may choose to opt-out of accepting a wireless transmitting meter.
- 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.
- The incremental cost of opting-out of the AMI program will be borne by the individual choosing to opt-out.

FortisBC states that if an opt-out program is required, enough information has been provided during the Proceeding to allow the Commission to set the detailed terms of an opt-out program. However, the Panel is not persuaded that this is the case because the terms and conditions of an opt-out provision were not within the scope of the Proceeding. **Accordingly, the Panel directs FortisBC to file an application for an opt-out program, based on the principles outlined above by November 1, 2013.** As RF-related issues, including health, security, and privacy have been dealt with extensively in this Proceeding, the opt-out application should be limited to the issues described above.

#### 11.5 Environmental Impacts

Interveners raised concerns over potential impacts of RF emissions on wildlife, plants and manmade structures. Dr. Jamieson's report includes a section on environmental concerns including possible risk factors of different insects, birds, and plants. In the report Dr. Jamieson discusses the importance of pollinating insects and birds for our ecosystem and phenomenon such as declining numbers of honey bees, and then refers to studies to make an appraisal of possible links to increasing EMF exposure. He states: "The detailed literature review conducted as part of this appraisal, indicates that exposure to inappropriate electromagnetic field (EMF) regimes can adversely affect insects, including bees and other insect pollinators. Greatly reduced insect numbers and insect diversity can adversely affect Nature's food chain, and may partially explain reduced numbers of some bat and bird species." (Exhibit C9-10-1, p. 127)

One particular insect discussed by Dr. Jamieson is honey bees. He speaks to the importance of honey bees in terms of agricultural value of pollination and the concern of the phenomenon known as Colony Collapse Disorder. Dr. Jamieson states that numerous potential causes have been suggested (Exhibit C9-10-1, p. 129) including manmade EMF as one. Dr. Jamieson shares his opinion that a combination of these potential causes may be to blame (Exhibit C9-10-1, p. 129). Dr. Jamieson refers to studies (Sharma and Kumar (2010), Kumar *et al.* (2011) and Sahib (2011)), which he states indicate a reduction in colony strength and queen egg-laying rate. The Sharma and Kumar study observed a total of four colonies with two being exposed to [variables] 900 MHz radiation for 15 minutes twice per day at a reported power density of 8.549 uW/cm<sup>2</sup> (Exhibit C9-10-1, p. 130). Dr. Jamieson states that these findings "indicate the need for a full-scale study to be undertaken where greater numbers of colonies can be assessed and variables reduced" and refers to "confounding" variables in other studies, which he suggests warrants further study and attention (Exhibit C9-10-1, pp. 131, 140). Dr. Jamieson summarizes his basic approach in the report "to raise awareness of studies where it's been indicated that there may be a cause for concern, so that debate can be opened up with BCUC..." (T10:2008).

FortisBC's expert consultant, Exponent, states: "A claim that a cell phone affected bee behaviour has been reported without direct evidence that the radiofrequency field was involved (Shabib, 2011). In short, there is no clear, confirmed adverse effect of radiofrequency field on bird or bee

Attachment 18.2

SCHEDULE 80 - C T <u>W</u>	HARGES FOR CONNECTION OR RECONNECTION OF SERVICE, RANSFER OF ACCOUNT, TESTING OF METERS, AND VARIOUS CUSTOM <u>/ORK</u> (Cont'd)
CUSTOM WORK:	(Cont'd)
	4. At the Customer's request, relocation of the Service to permit tree trimming, construction, etc., where recovery of the costs are not provided for in the standard charges above.
RETURNED CHEOUE SERVICE	3
CHARGE:	If a cheque received from a Customer for the payment of an electric Service account or other billing is returned by the Bank for the reason of Not Sufficient Funds (N.S.F.) or reasons other than clerical error, the Customer will be charged a Service charge of \$19.00.
COLLECTION <u>CHARGE</u> :	A collection charge of \$12.00 per occurrence may be levied if it is necessary for a Company representative to attend a Customer's Premises more than twice in one calendar year for the purposes of affixing a disconnect notice to the Customer's Premises.
METER ACCESS <u>CHARGE</u> :	If it is necessary for the Company to install a remote metering device, a charge of \$152.00 for a single phase remote meter, or \$310.00 for a poly phase remote meter, shall be levied.
FALSE SITE VISIT <u>CHARGE:</u>	A charge of \$182.00 per occurrence may be levied if a FortisBC representative attends a Customer's Premises at the request of a Customer but, on attending, is unable to perform the requested work because the facilities required to be provided by the Customer, for this purpose, are found to be deficient.

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