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January 27, 2012

**By Electronic Mail**

B.C. Utilities Commission  
Box 250, 900 Howe Street, Sixth Floor  
Vancouver, B.C. V6Z 2N3

**Attention: Ms. Alanna Gillis, Acting Commission Secretary**

Dear Sirs / Mesdames:

**Re: Andrea Collins, the Citizens for Safe Technology Society and  
British Columbia Hydro and Power Authority  
-Complaint under Section 47 of the *Utilities Commission Act***

The following is submitted on behalf of the Complainants in reply to BC Hydro's submissions dated January 13, 2012.

For ease of reference, we use terms as defined in our December 22, 2011, submission.

## **BC Hydro mischaracterizes the complaint**

1. BC Hydro summarizes the complaint in the following terms at its submission at the top of page 2:

Therefore, the exemptions from sections 45 to 47 of the Utilities Commission Act (UCA), mandated by subsections 70) and (k) of the CEA no longer apply, and BC Hydro must apply for and be granted a Certificate of Public Convenience and Necessity (CPCN) by the BCUC pursuant to section 45 of the UCA before BC Hydro can proceed with the smart meter program which it is now implementing. In short, the Complainants say that, by its actions, BC Hydro has "lost" the exemptions provided by the CEA. [Paragraphs No. 7-16]

[emphasis added]

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2. BC Hydro is misstating the Complainants' argument. The Complainants do not say that BC Hydro has "lost" the exemptions provided by the CEA, nor do we say that the "exceptions no longer apply". On the contrary, we say that BC Hydro remains entitled to the benefits provided by the CEA exemption.
  3. Where we draw the line is with respect to the scope of the exemption. In particular:
    - a. Neither the Wireless System nor the Domestic Interface System are mentioned in statutory language which gives rise to the exemption.
    - b. Neither the Wireless System nor the Domestic Interface System are necessary to give effect to the functional capabilities which are prescribed by the Regulation.
  4. The Wireless System and the Domestic Interface System do not have to be imputed into the exemption in order to give meaningful effect to the CEA and Regulation. In fact, the functional capabilities that are prescribed by the Regulation may be fulfilled without resorting to these Unauthorized Expansions. As such, the Wireless System and Domestic Interface Systems are superfluous. They are extras. By tacking them onto the CEA Authorized Program, BC Hydro stands to avoid BCUC oversight with respect to these Unauthorized Expansions.
  5. So we do not say that the CEA exemptions "no longer apply". Nor do we say that BC Hydro has "lost" the exemptions. The Complainants never use that language. Rather, we assert that the CEA exemption is limited in scope to that which is necessary to fulfill the functional capabilities prescribed by the Regulation. Those functional capabilities do not include wireless communication nor do they include interface with home appliances. As such, the Wireless System and the Domestic Interface System are beyond the scope of the CEA exemption and are subject to the requirements of Section 45(1) of the UCA. Simply stated, the CEA does not go so far as to exempt BC Hydro from obtaining BCUC approval in regard to utility expansions that do not fall within the scope of the CEA exemption.
  6. BC Hydro states at its submission at page 3, paragraph 1:

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In BC Hydro's submissions, however, the Complainants cannot succeed in displacing the exemptions contained in section 7(1) of the CEA...

[emphasis added]

7. The Complainants do not seek to “displace” the CEA exemption. On the contrary, we conceded that the exemption applies; however, BC Hydro is not entitled to transgress the scope of the exemption without having first obtained a CPCN with respect to activities carried on by BC Hydro that do not properly fall within the scope of the exemption.

### **Legislative intent**

8. BC Hydro states in its submissions at page 4, paragraph 6:

...the mere fact that hard-wired technology may be used in some applications does not mean that the legislature intended that a hard-wired system must be implemented by BC Hydro under the CEA to the exclusion of wireless technology. BC Hydro will return to this aspect later.

[emphasis added]

9. The Complainants do not argue that the legislature intended that a hard-wired system must be implemented. The legislature does not prescribe one kind of technology over the other. It merely prescribes functional capabilities and exempts system expansions that are necessary to effect those functional capabilities.
10. BC Hydro advocates the application of an incorrect test and inapplicable standard by asking if the legislature intended a hard-wired system to the exclusion of wireless technology.
11. The correct question of legislative intent, as raised by this complaint, is as follows. Did the legislature intend that BC Hydro be insulated from regulatory oversight with respect to the expansion of its utility into the Wireless System and Domestic Interface System? Did the legislature intend that BC Hydro be insulated from public interest oversight with respect to its decision to attach a microwave radio frequency emitting device to 1.8 million BC residences?

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12. If such an intention is to be discerned from a reading of the CEA, one would expect it to be set out in express terms rather than by implication, particularly with respect to a program that raises serious public interest concerns; a program that annihilates autonomous control over the electromagnetic environment of one's home. If that was the intention of the legislature, it would have to be clearly set out. And if it were clearly set out, it would surely be subject to Charter scrutiny.
  13. But we do not see anything in the legislation about the wireless or home appliance interface capabilities afforded by the Wireless System and Domestic Interface System. The CEA's prescribed functional capabilities are silent in that regard. As such, we aver that BC Hydro is seeking to read these program elements into the CEA so as to draw further benefit from the exemption and shield itself from regulatory oversight. Tribunals ought not to imply exceptions in addition to those expressly set out in legislation.
  14. Had the legislature and/or the Minister intended the CEA exemption to include to a wireless communication functionality, such intentions would have been made clear as they were with respect to all the other expressly referenced functional capabilities as set out in the Regulation.

### **Minister's omission to exercise authority under Order in Council**

15. BC Hydro states in its submission at page 5, paragraph 10:

What is abundantly clear, BC Hydro submits, is that the legislature was fully content – as evidenced by the definitions of "smart grid" and "smart meter" in section 17(1) of the CEA, and also the wording of sections 17(2) and (4) - to place its confidence in the Minister to prescribe the requirements for the smart meter system.

[emphasis added]

16. We submit that the Minister could have easily used the Regulation to prescribe the functional capabilities for the smart meter system so as to include wireless functionality. The Minister did not do so. This omission in the exercise of power by Order in Council speaks volumes, particularly given that the following information was "available to the government at the time the CEA was enacted in spring 2010, and against which the Smart Meter and Smart Grid Regulation was prescribed by the Minister in December 2010" :

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- a. A number of different types and configurations of smart meter systems, including wired systems, were available on the market;
  - b. Some smart meter installations in North America involved wireless technology whereas others involved hard-wired technology; and
  - c. BC Hydro had investigated the different technical features and cost implications associated with wired v. wireless smart meter installations.
17. The failure of the Order in Council to specify wireless capability (amongst all of the other specific functional capabilities set out in the Regulation) is conclusive: the expansion of the utility to include a wireless communication capability is not within the scope of the CEA exemption and must be considered by the BCUC in the context of a CPCN application.

#### **Wireless was canvassed by parties to Fortis CPCN Application**

18. The failure of the Order in Council to specify wireless capability is even more telling in light of the fact that the wireless versus non-wireless option was expressly canvassed before the BCUC in the course of its denial of Fortis' application for a CPCN for a smart meter program, resulting in Order G-168-08 dated November 12, 2008. In that proceeding, the BCUC heard about wireless health concerns (para 27) and heard about the existence of both wireless (RF) and hard-wired (PLC) options (page 9). With respect to the existence of these options, the BCUC clearly found, at page 9:

FortisBC has also confirmed that the PLC technology is completely adequate for all meter readings presently conducted. (Exhibit B-3, Wait 2.1)

#### **Is choice within BC Hydro's prerogative?**

19. BC Hydro states in its submissions at paragraph 12:

The most important feature of the Regulation, BC Hydro submits, is that it prescribed the capability requirements the smart meters and smart meter system must meet - no specific technologies, nor types, models, or manufacturers of equipment were specified.

20. We agree with BC Hydro's observation that the CEA and Regulation prescribe "capacity requirements" rather than specific technologies.

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21. BC Hydro goes on to conclude at paragraph 12:

In keeping with the "capability" focus of the Regulation, BC Hydro did not restrict the supply opportunity to one type of system or technology only, but rather invited interest from all potential suppliers and service providers (both wired and wireless).

22. In procuring smart meter supplies, BC Hydro invited interest from both wireless and non-wireless providers. But wireless capability is not within the scope of capabilities prescribed by the Regulation. As such, we disagree with BC Hydro's assertion that, in procuring smart meter supplies, it conducted itself within the scope of the capabilities prescribed by the Regulation.
23. Nowhere in the Regulation is it indicated that the device must be able to communicate wirelessly. Such a feature is not required; nor is it necessary to any other required functional capability; nor is its implementation exempt from BCUC oversight.
24. BC Hydro is not at liberty to tack on additional functional capabilities to the smart meter program above and beyond what is needed to fulfill the capabilities that are required by the Regulation and exempted by the CEA. The considerations that BC Hydro made in deciding whether to opt for wired or wireless systems should be a matter of a CPCN application and should rest with the BCUC to be determined in consideration of the public interest.

**The legislation does not speak in terms of prohibitions and requirements**

25. BC Hydro submits the following at page 3, paragraph 2:

Put succinctly, the Complainants must establish that the legislature intended that the smart meter system installed by BC Hydro must be a hard-wired system rather than a wireless system, and that it must not include the Domestic Interface System.

26. BC Hydro mis-frames the issue that arises from the complaint and mischaracterizes the test applicable to the complaint by asserting that the Complainants must establish that:

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- a. that the legislature intended that the smart meter system installed by BC Hydro must be a hard-wired system rather than a wireless system; and
  - b. the legislature intended that the smart meter system must not include the Domestic Interface System.
27. The Complainants need not establish either of these points.
  28. The statutory regime is not cast in terms of *required* systems and/or *prohibited* systems. Rather, it is cast, on one hand, in terms of system expansions that are exempt from BCUC approval and, on the other hand, in terms of system expansions that are not exempt.
  29. All system expansions are subject to BCUC approval unless exempted. The issue here is whether the impugned system expansions are exempted. The issue is not whether the CEA and Regulation specifically require that smart meters be wired as opposed to wireless. By framing the issue as such, BC Hydro is taking an incorrect analytical approach.
  30. With respect to smart meters, the CEA and Regulation do not prohibit wireless and they do not require hard-wired. Rather, the statutory regime prescribes a discrete program that is exempt from BCUC oversight. Any expansion that is in excess of that discrete program must, by default, be subject to the application of Section 45(1) of the UCA in the usual course.
  31. If a system expansion is not exempt from BCUC oversight, that does not mean it is prohibited; it just means that its execution is subject to the public interest considerations applied by the BCUC in the course of issuing or denying a CPCN. BC Hydro is not estopped by the CEA from seeking BCUC approval with respect to the impugned system expansions.
  32. The CEA and Regulation do not prescribe whether the smart meter system “must be a hard-wired system rather than a wireless system”. As such, BC Hydro is incorrect in asserting that the complainants should be put to the test of establishing “that the legislature intended that the smart meter system installed by BC Hydro must be a hard-wired system rather than a wireless system”.

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33. Rather, the CEA and Regulation carve out exemptions to the BCUC oversight regime and the issue here is whether the Wireless System and Domestic Interface System fall within the scope of the exemption.
  34. BC Hydro repeatedly misconstrues the complaint, mis-frames the issue and mischaracterizes the test as indicated by the following additional excerpts from its submission, each of which is followed by our comments in reply.

### **Further BC Hydro Misconstructions**

35. BC Hydro submits at page 3, paragraph 4:

The closest the Complainants come to supporting their argument that the legislature must have intended that the smart meter system installed by BC Hydro be a wired system and not a wireless system...

36. This is another mis-characterization of the Complainants' argument. The Complainants do not argue that "the legislature must have intended that the smart meter system installed by BC Hydro be a wired system and not a wireless system". Rather, we argue that the legislature intended to carve out the scope of a mandatory program for which BC Hydro need not apply for a CPCN. The issue is what is the scope of that program; whether it includes the impugned system expansions or whether the impugned system expansions are extra and need to be the subject of a CPCN application.

37. BC Hydro states in its submissions at page 5, paragraph 10:

...there is no basis whatsoever to support the inference that the legislature intended that a hard-wired system be installed rather than a wireless system.

38. BC Hydro again incorrectly approaches the issue by asking whether the legislature intended that a hard-wired or wireless system be installed. The correct approach is to ask what system expansions the legislature intended to be exempt from oversight. The answer lies in the description of the program that is exempted. That description arises in the CEA and Regulation by way of prescribed functionalities. A wireless communication network is not required to effect any of those prescribed functionalities; nor is the ability to interface with domestic appliances and systems.
39. BC Hydro states in its submissions at page 6, paragraph 13:

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There is simply no evidence whatsoever that the legislature intended that a hard-wired system be installed to the exclusion of a wired system, or to the exclusion of a system that included elements of both technologies.

[emphasis added]

40. The legislation does not purport to prescribe technical requirements. The legislature intended to carve out a scope of program that would be exempt from oversight. Is a wireless system included in the scope of that exempt program? It is not mentioned. It is not necessary to the prescribed functionality capabilities. Furthermore, the wireless program raises a host of additional public interest concerns. It is not exempt from BCUC oversight.

### **Onus**

41. It is a live issue as to whether the Complainants bear the onus of proving that the impugned systems fall outside of the scope of the exemption; or whether BC Hydro bears the onus of proving that the impugned systems fall within the scope of the exemption. We say the latter is the case.
42. Where an exemption is claimed, the onus is on the party claiming the exemption to satisfy the court that the exemption applies.

### **Are the impugned systems exempt?**

43. The CEA exemption is effected by prescription, in the Regulation, of certain functional capabilities. As such, the system expansions that are exempt from BCUC approval are those expansions that are necessarily required to give effect to those functional capabilities; nothing more.
44. BC Hydro states in its submission at page 6, paragraph 13:
- No restrictions were imposed on the type or types of technology that could be employed.
45. Restrictions are imposed by limiting the exemption to that expansion which is required to give effect to an enumerated list of functional capabilities. Under the Regulation, wireless functionality is not prescribed, required or exempted.

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46. Restrictions arise as per what is needed to fulfill the prescribed functionality and capability requirements. If a system expansion is not necessary to fulfill the prescribed functionality and capability requirements, it is not exempt and must be certified by the BCUC under s. 45(1). Where exceptions to the application of section 45(1) are carved out, they must be construed minimally, in favour of the general rule that a CPCN is required.

**Is wireless necessary?**

47. The Complainants assert that the Wireless System is not necessary to the fulfillment of the functional capabilities as prescribed in the Regulation. This lack of necessity is indicated by BC Hydro's admission that a hard-wired system is an option. As stated by BC Hydro in its submission at page 4, paragraph 6:

The Complainants contend that the two-way communication and information transmission requirements mandated for the smart meter system can be provided by a hard-wired system as well as by a wireless system. That may be so in some contexts - and BC Hydro does not deny that some small to medium-sized public utilities and municipal energy providers have adopted hard-wired technology for their smart meter installations

[emphasis added]

48. This passage shows that BC Hydro perceived the hard-wired option as meeting the statutory objectives of the CEA and the functional capabilities of the Regulation.

49. And as stated by BC Hydro in its conclusion at page 7:

...an examination of the circumstances surrounding the enactment of the CEA shows that while the smart metering system which BC Hydro was directed to install was required to have certain capabilities, including the capability to communicate with an in-home feedback device, this could be achieved by means of a wired system or a wireless system, or a combination of the two....

[emphasis added]

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## Relevance of other utilities' use of hard-wired systems

50. BC Hydro submits, at page 4, paragraph 7:

On the question of extrinsic evidence that can provide support for the contention of the Complainants that the legislature intended that a hard-wired smart meter system be implemented, BC Hydro says that there is no such evidence. As noted above, the fact that some public utilities and electricity suppliers elsewhere have installed hard-wired systems -which BC Hydro submits represents a minority of installations, as discussed further below -does not avail as evidence of the intention of the British Columbia legislature in enacting the CEA.

[emphasis added]

51. The Complainants point to other utilities' use of hard-wired systems to show that hard-wired is possible and can be used to fulfill the functional capabilities as prescribed by the Regulation. As such, hard-wired suffices and wireless is neither necessary nor exempt.

## Meet functionality capabilities -- don't exceed them

52. BC Hydro states in its submission at page 6, paragraph 13:

It is clear, in BC Hydro's view, that BC Hydro was tasked with installing a smart meter system that met the functionality and capability requirements set out in the Regulation.

53. We respectfully submit that BC Hydro, in order to comply with the CEA, must *meet* the functional capabilities as set out in the Regulation. To the extent that the utility expansion *exceeds* those functional capabilities, it needs to be certified by the BCUC.

## Domestic Interface System

54. BC Hydro argues that the Zigbee chip itself does not have the capacity to transfer domestic appliance use information back to BC Hydro. This is a misleading argument because the smart meter as a whole has such an ability as well as the ability to remotely turn domestic appliances on and off.

55. BC Hydro submits, at page 7, paragraph 14(b):

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While it is true that Zigbee Radio Chips also have features that allow two-way communication with appliances and household systems, if the customer's appliances and systems are equipped with compatible components, this can occur only if the customer chooses [sic] to activate these features.

56. The ability to communicate with appliances and household systems and to transfer that information back to BC Hydro is an expansion of the public utility system that is not within the scope of the CEA exemption. Nowhere is this functionality described in the CEA or Regulation. It is alleged by BC Hydro that the activation of this capability is contingent upon customer choice; however, that fact does not relieve BC Hydro from BCUC oversight with respect to an expansion of the utility that is not exempted under the CEA.

#### **Limited scope of CPCN application**

57. If BC Hydro applied for a CPCN with respect to its desired smart meter program, it would not be required to obtain approval with respect to the aspects of the program that are necessary to the functional capabilities prescribed in the Regulation. It would only require approval with respect to those aspects of the program that are not necessary to the functional capabilities prescribed in the Regulation.

#### **Risk of Broad interpretation of exemption**

58. Interpreting the exemption to include systems that are unnecessary to functional capabilities will have a significant impact on the BCUC's regulatory oversight. An interpretation to that effect will provide a precedent for BC Hydro to pad system expansions with peripheral features so as to avoid oversight under the guise of proceeding within the scope of a statutory exemption. This approach would have the effect of broadening the exemption and narrowing regulatory oversight, which is contrary to the purposes of section 45(1) of the UCA: to further the public interest by providing for regulatory oversight over utility system expansions.

#### **Statutory interpretation**

59. Any exemption must be strictly construed in accordance with the purpose of UCA to effect regulatory oversight.

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60. Given that section 45(1) of the UCA is there to protect the public interest by way of regulatory oversight, any exception to its application invites a narrow interpretative approach.

61. The scope of any exemption from oversight should be construed narrowly in favour of the oversight - for it is through that oversight that the public interest is protected.

**Public interest concerns**

62. BC Hydro advises that its report on electric and magnetic fields risk assessments and guidelines will not be published until the spring of 2012. We rely on this fact in support of our assertion that this is a matter which raises public interest concerns that should be canvassed in the context of the public convenience and necessity analysis, along with concerns over environmental integrity, individual privacy/security, civil liberties and the fiscal responsibilities of BC Hydro. We have not fully canvassed these concerns in the context of this proceeding, although such concerns are significant, even at this stage of the proceeding, in that they are clearly within the ambit of the “public interest” as per the UCA and are engaged by the CPCN process. Thus, there are substantive interests that are being overlooked – financial, health, social etc. – by the implementation of the smart meter system in a manner that unlawfully evades the ambit of the Commission’s CPCN jurisdiction.

**ALL OF WHICH IS RESPECTFULLY SUBMITTED**

Dated: January 27, 2012

  
**DAVID M. AARON**

cc: Janet Fraser, Chief Regulatory Officer  
British Columbia Hydro and Power Authority

cc: clients