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December 22, 2011

By Electronic Mail

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

Attention: Ms. Erica Hamilton, 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***

I am legal counsel for Andrea Collins and the Citizens for Safe Technology Society (“the Complainants”) and I am authorized to file this complaint on their behalf against the British Columbia Hydro and Power Authority (“BC Hydro”).

A. Overview

1. Section 17 of *Clean Energy Act* [SBC 2010] CHAPTER 22 (“the CEA”), together with the *Smart Meters and Smart Grid Regulation*, B.C. Reg. 368/2010 (“the Regulation”), describe a “smart meter” program which we refer to herein as “the CEA Authorized Program”.
2. The CEA authorizes and requires BC Hydro to carry out the CEA Authorized Program.
3. Further, with respect to the CEA Authorized Program, subsections 7(j) & (k) of the CEA exempt BC Hydro from having to obtain a certificate of public convenience and necessity (“a Certificate”) under section 45(1) of the *Utilities Commission Act* [RSBC 1996] Chapter 473 (“the UCA”).
4. The CEA Authorized Program is limited in its scope. Accordingly, the activities to which the exception applies are limited to the scope of the CEA Authorized Program.
5. While purporting to implement the CEA Authorized Program, BC Hydro is implementing two additional system extensions (“the Unauthorized

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Extensions”) that are each beyond the scope of the CEA Authorized Program and are therefore not within the scope of the exception under subsections 7(j) & (k) of the CEA.

6. No Certificate has been issued to BC Hydro with respect to the Unauthorized Extensions.
7. The Unauthorized Extensions consist of two systems:
 - a. A wireless communication capability whereby information is transmitted among meter devices and related computer hardware by way of microwave radiofrequency emissions (“the Wireless System”); and
 - b. A domestic interface capability which enables BC Hydro to:
 - i. engage in the real-time collection and monitoring of detailed information related to the domestic use of networked electronic appliances/systems; and
 - ii. remotely control the operation of networked electronic appliances/systems (“the Domestic Interface System”).
8. Pursuant to section 47(2) of the UCA, the Complainants apply for an order, on an urgent and interim basis, requiring BC Hydro to cease and desist from the implementation of the Unauthorized Extensions.
9. Neither of the Unauthorized Extensions are necessary to the implementation and operation of the CEA Authorized Program. The purposes of the CEA, as they relate to the implementation of the CEA Authorized Program, can be fulfilled without the implementation of the Unauthorized Extensions. The scope of the exemption under the CEA should not be construed more broadly than necessary to give effect to the purposes of the CEA as they relate to the implementation of the CEA Authorized Program. Both the Wireless System and the Domestic Interface System go beyond what is necessary to give effect to the CEA Authorized Program.
10. The term “smart meter”, as used in the CEA and Regulation, does not necessarily mean a wireless smart meter. Whereas the CEA purports to exempt BC Hydro with respect to a particularized smart meter program, it is

clear that the legislature did not put its mind to the wireless and snooping components of the program that BC Hydro is seeking to usher in under the guise of operating under the CEA exemption.

11. To be clear, the order sought by the Complainants would not prevent BC Hydro from carrying out the CEA Authorized Program, i.e. the actions needed to comply with CEA subsections 17(2) and (3) or the program described in CEA section 17(4). In fact, BC Hydro is free to execute the CEA Authorized Program by using a compliant model of smart meter that communicates by wired network rather than wireless network; and does not include the impugned domestic interface capability.
12. If BC Hydro were to install the compliant model of smart meter, it would be conducting itself in a manner that is consistent with the CEA Authorized Program and with “taking the actions needed to comply with CEA section 17 (2) and (3)” and “the program described in CEA section 17 (4).”
13. A compliant model of smart meter is presently manufactured by the firm, ITRON, and employed by large public utilities in other jurisdictions on a non-wireless basis. ITRON is the same manufacturer that is supplying BC Hydro with the wireless smart meter that is challenged by the Complainants. Whereas BC Hydro had a choice of using a device that fulfilled the objectives of the CEA Authorized Program, it has instead opted for a device that includes additional systems that exceed the scope of the CEA Authorized Program.
14. BC Hydro should not be permitted to piggyback the Unauthorized Extensions onto the CEA Authorized Program so as to unlawfully benefit from an overly expansive construction of the CEA exception. Each of the Unauthorized Extensions is an elaboration of the smart meter program that is neither referenced, authorized or exempted under the exemption provisions of the CEA.
15. The Complainants are concerned with respect to the impact of the Unauthorized Extensions on human health and wellness, environmental integrity, individual civil liberties and privacy as well as the fiscal responsibility of BC Hydro. As such, the Unauthorized Extensions are alleged to transgress the scope of the CEA Authorized Program in a way that is significant to the public interest considerations that should properly be before the Commission in the course of determining whether a Certificate of public convenience and necessity should be issued. The concerns raised by

the Complainants in these proceedings are important in the formulation of the opinion represented by the phrase "public convenience and necessity".¹

16. The Complainants assert that BC Hydro is required to make an application to the Commission for a Certificate in relation to the Unauthorized Extensions. In the context of that prospective BC Hydro application, the Complainants intend to intervene so as to advance their public interest concerns against the issuance of a Certificate.
17. The Complainants seek to trigger a process, as mandated by the UCA, whereby there be some consideration of the public interest as it is affected by BC Hydro's actions. At stake is integrity of the Commission's administrative function as a regulator of BC Hydro in accordance with the rule of law.

B. Legislative Background

18. The *Clean Energy Act* [SBC 2010] CHAPTER 22 ("the CEA"), subsections 17(2) – (5), provide:

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(2) Subject to subsection (3), the authority must install and put into operation smart meters and related equipment in accordance with and to the extent required by the regulations.

(3) The authority must complete all obligations imposed under subsection (2) by the end of the 2012 calendar year.

(4) The authority must establish a program to install and put into operation a smart grid in accordance with and to the extent required by the regulations.

[emphasis added]

19. Section 17 of the CEA clearly sets out a mandatory program for the installation of smart meters and a smart grid and the operation of same.

¹ *BC Hydro v. BCUC* 1996 CanLII 3048 (BC CA) at para 35

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20. Furthermore, subsections 7(j) & (k) of the CEA grant exemptions to BC Hydro from sections 45 to 47 and 71 of the *Utilities Commission Act*, [RSBC 1996] Chapter 473 (“the UCA”) including the requirement under UCA section 45(1) to obtain a certificate of public convenience and necessity (“a Certificate”).
21. The exemption is described under 7(j) & (k) of the CEA in the following terms:
- 7 (1) The authority is exempt from sections 45 to 47 and 71 of the *Utilities Commission Act* to the extent applicable, and from any other sections of that Act that the minister may specify by regulation, with respect to the following projects, programs, contracts and expenditures of the authority, as they may be further described by regulation:
- ...
- (j) the actions taken to comply with section 17 (2) and (3);
- (k) the program described in section 17 (4).
22. For ease of reference, we use the term “CEA Authorized Program” to refer to the actions and program that are exempted from the requirement to obtain a Certificate.
23. The CEA Authorized Program is described by reference to the actions and program described in CEA subsections 17(2), (3) & (4) where the actions and programs referred to related to “smart meters” and “a smart grid”.
24. In order to ascertain the scope of the CEA Authorized Program, it is necessary to elaborate on the statutory definition of “smart meter” and “a smart grid”. Both those terms are defined under CEA section 17(1) as follows:
- "smart grid" means the prescribed equipment;
- "smart meter" means a meter that meets the prescribed requirements, and includes related components, equipment and metering and communication infrastructure that meet the prescribed requirements.

25. The applicable *Smart Meters and Smart Grid Regulation*, B.C. Reg. 368/2010 (“the Regulation”) at section 2 elaborates on the CEA definition of smart meters as follows:

2 For the purposes of the definition of "smart meter" in section 17 (1) of the [Clean Energy] Act, the prescribed requirements for a meter are that it is capable of doing all of the following:

- (a) measuring electricity supplied to an eligible premises;
- (b) transmitting and receiving information in digital form;
- (c) allowing the authority remotely to disconnect and reconnect the supply of electricity to an eligible premises, unless
 - (i) the point of metering for the eligible premises
 - (A) is greater than 240 volts,
 - (B) is greater than 200 amperes, or
 - (C) is three phase, or
 - (ii) the eligible premises
 - (A) has a bottom-connected meter,
 - (B) has an output or input pulse meter, or
 - (C) has a meter that measures maximum electricity demand in watts;
- (d) recording measurements of electricity, and recording the date and time of the recording, at least as frequently as in 60-minute intervals;
- (e) being configured by the authority at a location either remote from or close to the meter;
- (f) measuring and recording measurements of electricity generated at the premises and supplied to the electric distribution system;
- (g) transmitting information to and receiving information from an in-home feedback device, unless the point of

metering for the eligible premises meets any of the criteria set out in paragraph (c) (i) or the eligible premises meets any of the criteria set out in paragraph (c) (ii).

[emphasis added]

26. The Regulation at section 3 further elaborates on the equipment (related to smart meters) that must be installed and put into operation:

3 (1) Subject to subsection (3), by the end of the 2012 calendar year, the authority must install and put into operation

(a) a smart meter for each eligible premises, and

(b) all of the following related equipment:

(i) communications infrastructure for transmitting information among smart meters and the computer hardware and software systems described in subparagraph (ii);

(ii) secure computer hardware and software systems that enable the authority to do all of the following:

(A) monitor, control and configure smart meters and the communications infrastructure referred to in subparagraph (i);

(B) store, validate, analyze and use the information measured by and received from smart meters;

(C) provide, through the internet, to a person who receives electricity from the authority secure access to information about the person's electricity consumption and generation, if any, measured by a smart meter;

(D) establish a secure telecommunications link between in-home feedback devices and smart meters that are compatible with each other;

(E) bill customers in accordance with rates that encourage the shift of the use of electricity from periods of higher demand to periods of lower demand;

(F) integrate the systems with the authority's other business systems.

(2) The communications infrastructure referred to in subsection (1) (b) (i) must include a telecommunications network that is capable of delivering two-way, digital, and secure communication.

(3) If it is impracticable because of distance, electromagnetic interference, physical obstruction or other similar cause for the authority to establish a telecommunications link between the smart meter at an eligible premises and the computer hardware and software system referred to in subsection (1) (b) (ii), the authority is not required to install or put into operation the communications infrastructure referred to in subsection (1) (b) (i) for the purpose of establishing that telecommunications link.

(4) The authority must integrate the operation of smart meters and related equipment with the authority's other operations.

[emphasis added]

27. The Regulation, at section 3(1)(b)(i), prescribes that the smart meters and related equipment include a communication function / infrastructure for transmitting information among smart meters and related computer hardware and software systems. In particular, the Regulation prescribes, at section 3(2), that the said communication function / infrastructure have the following three capabilities:

- a. two-way communication
- b. digital communication
- c. secure communication

(“the Prescribed Telecommunication Features”)

C. The Wireless System

28. BC Hydro is currently implementing a system (“the Wireless System”) for the installation and operation of a device (“the Wireless Device”) that includes a wireless communication capability whereby information is transmitted among meter devices and related computer hardware by way of microwave radiofrequency emissions.
29. The Wireless System is an operational system beyond the scope of the CEA Authorized Program. Neither the CEA or the Regulation require a wireless communication component to the smart meter communication function / infrastructure.
30. The capacity for wireless communication is not necessary to the fulfillment of the Prescribed Telecommunication Features. Information can be transmitted among smart meters and related computer hardware and software systems by way of wired lines, in the same manner in which electricity is conducted over power lines, by way of conventional telephony or via fiber optic cable, without causing the microwave radiofrequency emissions associated with the operation of the Wireless Device.
31. The question of whether the Wireless System is “necessary” and “convenient” is a live issue to be determined in the context of the “public convenience and necessity analysis” under section 45(1) of the UCA. BC Hydro has yet to make an application in that regard and is nevertheless proceeding with the installation and operation of the Wireless System.
32. For current purposes, it is sufficient for the Complainants to plead that the Wireless System is something beyond the scope of the exempt program described in the CEA and Regulation. It is something broader in that it includes the mandatory installation of a microwave radiofrequency emitting device at domestic places of residence. This wireless elaboration of the program described in the CEA is highly significant to the “public convenience and necessity analysis” because it raises serious concerns with respect to:
 - a. human health and wellness;
 - b. environmental integrity;
 - c. individual privacy and civil liberties; and
 - d. the fiscal responsibility of BC Hydro.

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33. The differences between the program being implemented by BC Hydro and the CEA Authorized Program are not minor or incidental. The Wireless System of the BC Hydro program comes with added elements of concern which would not otherwise arise under the conventional (non-wireless) program contemplated by the CEA and Regulations.
 34. Due to these concerns and their bearing on the public convenience and necessity analysis, the Wireless System represents a significant expansion beyond the conventional smart meter program that is prescribed and required by the CEA and Regulations.
 35. It is the CEA conventional smart meter program, and not BC Hydro's wireless elaboration of same, that is exempt from the requirement to obtain a Certificate. The Wireless System is an extension of the utility that is not necessary to the scope of activity and programming to which the statutory exemption applies.
 36. The implementation of the Wireless System constitutes "construction or operation of a public utility plant or system, or an extension of either" and therefore triggers the requirement, under UCA section 45(1), to obtain a certificate of public convenience and necessity.
 37. BC Hydro should not be permitted to implement the Wireless System under the pretense of operating within the scope of the CEA Authorized Program. BC Hydro is installing and operating a system that is significantly broader than that contemplated under the CEA exemption.
 38. The Wireless System does not fall within the scope of the CEA Authorized Program for reason that it is neither necessary nor required to fulfill the objectives of the CEA / Regulations or the operational requirements of the activities and programs described therein. What is required under the CEA and Regulations is secure, digital, two-way communication. Wireless communication is not required. In fact, there exists, on the market, a non-wireless metering device, under the same ITRON brand used by BC Hydro for the Wireless Device, that includes all the functionality required to meet the criteria established by the statutory definition of "smart meter" under the CEA and Regulation.

D. The Domestic Interface System

39. Each Wireless Device being installed by BC Hydro contains a telecommunication device called a Zigbee Radio Chip which enables BC Hydro to:
- a. engage in the real-time collection and monitoring of detailed information related to the domestic use of networked electronic appliances/systems; and
 - b. remotely control the operation of networked electronic appliances/systems
- (“the Domestic Interface System”).
40. The information that can be collected and monitored under the Domestic Interface System include information as to:
- a. whether a particular appliance (or any appliance) is being used;
 - b. the type, make and model of appliance being used;
 - c. the time, date and duration of use; and
 - d. the amount of energy being used by the particular appliance.
41. The remote control operation of networked electronic appliances / systems that BC Hydro is capable of with the Domestic Interface System includes controlling the velocity of electrical systems, such as HVAC, and turning those systems on and off.
42. The Zigbee Radio Chip communicates wirelessly with networked domestic appliances and systems by way of microwave radiofrequency emissions within the home.
43. The Domestic Interface System is an operational system beyond the scope of the CEA Authorized Program. Neither the CEA or the Regulation require BC Hydro to implement a system which enables BC Hydro to engage in the real-time collection and monitoring of detailed information related to the domestic use of networked electronic appliances/systems or remotely control the operation of such appliances (“the Interface Capacity”).
44. The Interface Capacity is not necessary to the fulfillment of the Prescribed Telecommunication Features nor is it necessary in any respect to the implementation of the CEA Authorized Program.

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45. The question of whether the Interface Capacity is “necessary” and “convenient is a live issue to be determined in the context of the “public convenience and necessity analysis” under section 45(1) of the UCA. BC Hydro has yet to make an application in that regard and is nevertheless proceeding with the installation and operation of the Domestic Interface System.
46. For current purposes, it is sufficient for the Complainants to plead that the Domestic Interface System is something beyond the scope of the exempt program described in the CEA and Regulation. It is something broader in that it includes the mandatory installation microwave radiofrequency emitting, snooping device at domestic places of residence. This elaboration of the program described in the CEA is highly significant to the “public convenience and necessity analysis” because it raises serious concerns with respect to:
- a. human health and wellness;
 - b. environmental integrity;
 - c. individual privacy and civil liberties; and
 - d. the fiscal responsibility of BC Hydro.
47. The differences between the program being implemented by BC Hydro and the CEA Authorized Program are not minor or incidental. The Domestic Interface System of the BC Hydro program comes with added elements of concern which would not otherwise arise under the limited program contemplated by the CEA and Regulations.
48. Due to these concerns and their bearing on the public convenience and necessity analysis, the Domestic Interface System represents a significant expansion beyond the conventional smart meter program that is prescribed and required by the CEA and Regulations.
49. It is the CEA conventional smart meter program, and not BC Hydro’s elaboration of same, that is exempt from the requirement to obtain a Certificate. The Domestic Interface System is an extension of the utility that is not necessary to the scope of activity and programming to which the statutory exemption applies.
50. The implementation of the Domestic Interface System constitutes “construction or operation of a public utility plant or system, or an extension

of either” and therefore triggers the requirement, under UCA section 45(1), to obtain a certificate of public convenience and necessity.

51. BC Hydro should not be permitted to implement the Domestic Interface System under the pretense of operating within the scope of the CEA Authorized Program. BC Hydro is installing and operating a system that is significantly broader than that contemplated under the CEA exemption.
52. The Domestic Interface System does not fall within the scope of the CEA Authorized Program for reason that it is neither necessary nor required to fulfill the objectives of the CEA / Regulations or the operational requirements of the activities and programs described therein. What is required under the CEA and Regulations is secure, digital, two-way communication. The Interface Capacity is not required. In fact, there exists, on the market, a non-wireless metering device, under the same ITRON brand used by BC Hydro for the Wireless Device, that includes all the functionality required to meet the criteria established by the statutory definition of “smart meter” under the CEA and Regulation.

E. The Complainants

53. Andrea Collins is a British Columbia land owner, resident and BC Hydro rate payer. BC Hydro has installed or plans to install a Wireless Device on her residential property. She opposes the installation of the Wireless Device at her place of residence.
54. The Citizens for Safe Technology Society is incorporated under the laws of British Columbia and represents individuals opposed to BC Hydro’s installation of the Wireless Devices at their respective places of residence in British Columbia.

F. Standing

55. The Complainants’ standing to file this Complaint derives from section 47(1) of the UCA which states:

47 (1) If a public utility

(h) is engaged, or is about to engage, in the construction or operation of a plant or system, and

-
- (i) has not secured or has not been exempted from the requirement for, or is not deemed to have received a certificate of public convenience and necessity required under this Act,

any interested person may file a complaint with the commission.

- 56. The first condition, that BC Hydro is engaged or is about to be engaged in the construction or operation of a system, is fulfilled by the fact that BC Hydro is engaged in the implementation and operation of the Wireless System and the Domestic Interface System.
- 57. The second condition is fulfilled in that:
 - a. BC Hydro has not, in relation to the Wireless System and the Domestic Interface System, secured a certificate of public convenience and necessity as required under section 45(1) of the UCA; and
 - b. BC Hydro is not, in relation to the Wireless System and the Domestic Interface System, exempted from the requirement to obtain a certificate of public convenience and necessity as required under section 45(1) of the UCA.
- 58. The third condition is fulfilled in that each of the Complainants is a person who has an interest that is affected by the implementation of the Wireless System and the Domestic Interface System. In particular, the corporate complainant represents a membership of individuals opposed to the installation of the Wireless Devices at their respective places of residence. Further, the individual, on her own behalf, opposes the installation of the Wireless Device at her place of residence.
- 59. The Complainants submit that the conditions for standing have been met in this case.

G. Remedy

- 60. The Complainants request that the Commission issue an order requiring BC Hydro to cease and desist from the construction and operation of the Wireless System and the Domestic Interface System. The Complainants seek this remedy in reliance on section 47(2) of the UCA, which states:

47(2) The commission may, with or without notice, make an order requiring the public utility complained of to cease the construction or operation until the commission makes and files its decision on the complaint, or until further order of the commission.

61. The Complainants request that the Commission issue the requested relief on an urgent and interim basis, without hearing and without delay, so as to effectively freeze any and all activity being carried out by BC Hydro in contravention of section 45(1) of the UCA. Any delay in the issuance of the relief sought will allow BC Hydro to continue with unauthorized expenditures associated with the Unauthorized Extensions.
62. The Complainants submit that the power of the Commission, under section 47(2), to order a cease and desist without notice, lends itself to the issuance of an interim order, in the nature of an injunction, so as to prevent BC Hydro from proceeding in the absence of having obtained a Certificate.
63. Further, the Complainants are concerned about BC Hydro's ongoing destruction of the analogue meters that are being replaced by the Wireless Devices. As such, the Complainants invite the Commission to exercise its remedial powers as appropriate to enjoin BC Hydro from further destruction pending the determination of the issues raised in this complaint.

H. Preliminary Submissions on the Section 45(1) Analysis

64. The Complainants intend to object to the issuance of a certificate of public convenience and necessity with respect to the Wireless System and the Domestic Interface System ("the Objection"). A comprehensive elaboration of the Objection is beyond the scope of this submission, as BC Hydro has yet to advance any application for a Certificate.
65. In the event that the Commission entertains an application by BC Hydro for a Certificate in that regard, the Complainants request that they be given the opportunity to advance the Objection in a fulsome manner by way of argument and evidence in the context of proceedings before the Commission.

66. At this point, the Complainants merely disclose a general overview of the basis for the Objection under the following headings:

- a. human health and wellness;
- b. environmental integrity;
- c. individual privacy and civil liberties; and
- d. the fiscal responsibility of BC Hydro.

I. Human Health and Wellness

67. In the course of implementing the Wireless System, BC Hydro is installing, at the residence of each of its customers, a Wireless Device whereby information is transmitted to/from related computer hardware by way of non-ionizing microwave radiofrequency emissions (“the Emissions”).

68. The Complainants are concerned about the impact of the Emissions on human health and wellness, particularly since the Wireless Device is being installed by BC Hydro at customers’ domestic places of residences without obtaining customer consent and despite the express opposition of the affected customer and those other persons who would be exposed to the Emissions.

69. As recently as May, 2011, the World Health Organization and the International Agency for Research on Cancer reclassified electromagnetic fields from all non-ionizing radiofrequency emitting devices as a Class 2B, possible human cancer risk. Other listings within this classification included lead, dioxin, DDT, chloroform and ethylbenzene.

70. In addition to the concerns with respect to the risk of cancer, the Complainants assert that exposure to the Emissions increases damage to the nervous system, causes electro-sensitivity, has adverse reproductive effects and a variety of other effects on different organ systems. Symptoms from exposure to the Emissions include dizziness, microwave hearing (tinnitus), headaches and migraines, insomnia, heart irregularities and palpitations, nausea, cognitive function changes including memory and attention, and central nervous systems impacts.

71. Further, the Complainants assert that a segment of the population may be particularly susceptible to negative health impacts from exposure to the Emissions, including:

- a. children
- b. pregnant women
- c. elderly persons
- d. individuals with compromised immune systems;
- e. individuals with medical and deep brain implants including pacemakers
- f. individuals suffering from cancer, epilepsy, seizures, multiple sclerosis, heart and nervous systems conditions; and
- g. individuals with electro-hypersensitivity.

72. It is an indisputable fact that there remain significant, unanswered questions regarding the impact of the Wireless Devices on human health and wellness. Notwithstanding this fact, BC Hydro, upon installing the Wireless Devices at domestic places of residence, has failed to inform its customers of these unresolved health issues.

73. Notwithstanding the health and environmental concerns associated with the Wireless Devices and their infrastructure, and notwithstanding requests for accommodation by specific users with health and environmental sensitivities, BC Hydro has refused to relieve users against the imposition of permanent, ongoing, microwave radiofrequency emissions at their places of residence and surrounding private property.

J. Environmental Integrity

74. The Complainants are concerned about the environmental impact of the Emissions, including the impact on bees, pollinators, frogs, bats, birds, insects and the bacterial balance in soil, water, trees, plants and grasses. The radiation emitted from the Wireless Devices is at least 10 million times higher than the natural level of radiation exposure that routinely occurs in environment.

75. By way of example, the Complainants assert that bees are particularly vulnerable to the Emissions and their pulsed microwave radiofrequency

signals which are suspected as a factor in the rapid and complete abandonment by bees of their hives associated with Colony Collapse Disorder.

76. BC Hydro's widespread installation of the Wireless Devices will cause bees to be subject to a microwave radiofrequency radiation exposure that is unprecedented in proximity and breadth. According to BC Hydro's plans for the implementation of a wireless smart grid, much of the environment will be saturated with the Emissions from thousands of sending and receiving radiofrequency transmitters, creating a blanketing mesh of microwave radiofrequency radiation that will be impossible for all living things to escape.
77. Given the vital nature of bees and other pollinators to all living things, the implementation of the Wireless System clearly has implications which should be analyzed on the public convenience and necessity analysis.
78. The Complainants aver that the implementation of the Wireless System is not sustainable in the long term, as it stands to cause a derangement of the natural ecological balance, risking food supply, seriously impacting the lives of future generations and contributing beyond measure to the risks facing mankind and a diverse range of species.

K. Individual Privacy & Civil Liberties

79. By virtue of the *Hydro and Power Authority Act*, R.S.B.C. 1979, c. 188 as amended, B.C. Hydro is for all its purposes an agent of the Queen in Right of the Province.
80. Under the CEA and Regulation, BC Hydro is authorized to enter the private property of any user for the purpose of installing a smart meter. This is a remarkable power conferred on a Crown agency. Not even the police in our society are at liberty to enter private property without prior judicial authorization - not even in the course of investigating crime.
81. What BC residents are facing is the installation of a device that is to remain present and operative on a permanent basis, continuously emitting microwave radiofrequency electromagnetic radiation at their places of residence and surrounding private property, where serious questions remain about the health and safety implications of such emissions, particularly with

respect to children and the natural environment. In this context, the exercise of CEA entry powers becomes highly questionable from a civil liberties perspective.

82. The wireless smart meter regime is arguably more invasive when compared to the off-site emissions of cellular phone towers. Firstly, it is an agent of the state and not a private company that is conducting the emissions. Secondly, the emissions are not sourced off-site, from a cell phone tower on the top of a hill to which a telephone company has obtained proprietary rights. Here, the Emissions are being conducted from a device placed at the private homes of BC residences without consent.
83. The right to be left alone goes to some of the most fundamental values of our society with respect to privacy, autonomy and freedom from interference, particularly on private property where one should have the right to choose for or against the presence of a risk, in this case a permanent, microwave radiofrequency multiple channel transmitter device.
84. From a privacy perspective, further concerns are raised by the fact that each Wireless Device being installed by BC Hydro contains a telecommunication device called a Zigbee Radio Chip which enables BC Hydro to engage in the real-time collection and monitoring of detailed information related to the domestic use of networked electronic appliances/systems. This Domestic Interface System enables BC Hydro to collect detailed information about the consumption habits of identifiable individuals. Whereas BC Hydro is implementing the Domestic Interface System, it is not presently engaging its capacity to collect information under that system and, as such, the privacy implications of the Domestic Interface System were not considered by the BC Office of the Information Privacy Commissioner in its December 19, 2011, Investigation Report F11-03 [2011] B.C.I.P.C.D. No. 43. Nevertheless, given that BC Hydro is currently extending its utility so as to include the Domestic Interface System, such an extension is properly the subject of a determination under the public convenience and necessity analysis.

L. Fiscal Responsibility of BC Hydro

85. BC Hydro estimates the costs of its wireless smart meter program to amount to \$930 million for 1.8 million meters, or \$517 per meter. The Complainants assert that there has been inadequate consideration of the comparable costs of a smart meter program using wired smart meters, which

are manufactured, sold and used widely. In fact, the experiences of large utilities in other jurisdictions are demonstrative of the fact that wired smart meter systems are more cost-effective than the wireless alternative.

86. The Complainants assert that a wired smart meter system would be significantly less expensive than the Wireless System currently employed by BC Hydro. Wired systems can use existing infrastructure (power lines, internet cable, or phone cable). Few homes do not already have power lines and phone cable, so minimal additional investment would be required. In contrast, wireless systems require new transmitters in great quantity.
87. Large utilities in Vermont and Idaho have both opted for wired meters based on cost and privacy considerations. In Idaho, the existing power line system, which was already available to every home and business, was used. Installation did not involve re-wiring. Instead, the smart meters plugged into the existing base that was already wired to a customer's service location. No additional infrastructure was needed other than to put additional receiving equipment in substations.
88. Vermont utility representatives similarly claim that the hard-wired system was a cheaper alternative to the wireless option.
89. In light of the apparent ease, viability and cost-efficiency of a wired smart meter system, it remains to be seen, on the public necessity and convenience test, whether BC Hydro properly assessed the fiscal implications of its various options before opting for the Wireless System.

ALL OF WHICH IS RESPECTFULLY SUBMITTED

Dated: December 22, 2011:


DAVID M. AARON

cc: Joanna Sofield, Chief Regulatory Officer
British Columbia Hydro and Power Authority