REQUESTOR NAME: **BC Sustainable Energy Association-Sierra Club of BC**
INFORMATION REQUEST ROUND NO: **1**
TO: **Citizens for Safe Technology Society (CSTS)**
DATE: **February 7, 2013**
PROJECT NO: **3698682**
APPLICATION NAME: **Application for a Certificate of Public Convenience and Necessity (CPCN) for the Advanced Metering Infrastructure (AMI) Project**

1.0 Topic: Fire safety and smart meters
Reference: Exhibit C9-3, p. 2; T1:78 lines 19-23

1.1 Has CSTS filed evidence regarding fire safety? If so, please provide the references.

2.0 Topic: Hacking and smart meters
Reference: Exhibit C9-3, p. 2; T1:78 lines 19-23; Exhibit C9-8 6B, Schoechle Report, p. 37 [pdf p.44 of 63]

2.1 Apart from the mention of hacking on p.37 of the Schoechle Report, has CSTS filed evidence regarding hacking and smart meters? If so, please provide the references.

3.0 Topic: Health
Reference: Exhibit C9-8 1C Dr. Martin Blank "Scientific Basis for Health Concerns about Radiofrequency Radiation from Smart meters"

3.1 Is it accurate to summarize that Dr. Blank has been a central participant in the BioInitiative Working Group and contributor to the 2007 and 2012 BioInitiative Reports?

3.2 Please confirm the Dr. Blank is the author of "Section 7. Evidence For Stress Response (Stress Proteins)" of the 2007 BioInitiative Report and "2012 Supplement. Evidence for Stress Response: EMF-DNA Interaction" of the 2012 Report.

3.3 What if any additional portions of the 2012 BioInitiative Report is Dr. Blank responsible for?

3.4 What portions of the 2012 BioInitiative Report does Dr. Blank agree with?

3.5 What portions if any of the 2012 BioInitiative Report does Dr. Blank disagree with?

4.0 Topic: Health
Reference: Exhibit C9-8 1C Dr. Martin Blank "Scientific Basis for Health Concerns about Radiofrequency Radiation from Smart meters"

The subtitle of the 2012 BioInitiative Report is "A Rationale for Biologically-based Exposure Standards for Low-Intensity Electromagnetic Radiation." [underline added]

Under the subheading "Biological Effects of Radiofrequency Radiation," Dr. Blank begins by stating: "Many biological effects with health implications have been ascribed to low level radiofrequency (RF) radiation." [underline added]

Dr. Blank takes issue with what he describes as the authors of the Exponent Report's "dismissal of all information derived from 'in vitro studies'," which he says is more accurately described as "'cell and molecular biology research.'"

Dr. Blank quotes with approval a conclusion of the 2012 BioInitiative Report that:

> "'**Bioeffects are clearly established and occur at very low levels of exposure to electromagnetic fields and radiofrequency radiation**. ... [bold added by Dr. Blank]

The passage quoted by Dr. Blank continues:

> "Many of these <u>bioeffects</u> can <u>reasonably be presumed to result in adverse health effects</u> if the exposures are prolonged or chronic." [underline added]

4.1 Does Dr. Blank agree that a key point of divergence between himself and the other authors of the BioInitiative Report, on the one hand, and the Health Canada officials responsible for Safety Code 6, on the other hand, is that Dr. Blank says that RF safety standards should be based on <u>reasonable presumptions</u> of adverse health effects whereas Health Canada bases Safety Code 6 on <u>established</u> adverse health effects?

5.0 Topic: Health
Reference: Exhibit C9-8 1C Dr. Martin Blank "Scientific Basis for Health Concerns about Radiofrequency Radiation from Smart meters"

"From what we are learning about interactions of RF with DNA, it is both reasonable and prudent for the accepted ALARA (As Low As Reasonably Attainable) Principle, to protect against ionising radiation, be extended to non-ionising radiation." [pdf p.9 of 12]

5.1 Does Dr. Blank intend to convey a substantive difference between "As Low As Reasonably <u>Attainable</u> Principle" and "As Low As Reasonably <u>Achievable</u> Principle"? If so, please explain and account for the difference in the responses to the following questions.

5.2 Is it Dr. Blank's view that the regulatory standard for emissions of non-ionizing radiation should be governed by the ALARA (As Low As Reasonably Achievable) Principle?

5.3 What is Dr. Blank's definition of the As Low As Reasonably Attainable Principle?

5.4 Does Dr. Blank distinguish between a regulatory standard (regarding exposure to an agent of health concern) and the principle (such as ALARA) on which the standard is based? If so, in Dr. Blank's view, what

would be the regulatory standard applicable to human-made non-ionizing radiation if the standard was based on ALARA?

5.5 By saying that the ALARA principle should be applied to non-ionizing radiation is Dr. Blank saying that FBC's wireless AMI project should not be allowed?

5.6 Is it Dr. Blank's view that application of the As Low As Reasonably Attainable Principle to human-made sources of non-ionizing radiation would require elimination of most, if not all, human-made sources of non-ionizing radiation? If not, why not?

5.7 How does Dr. Blank's support for applying the ALARA principle to non-ionizing radiation compare with the analysis and recommendations regarding regulatory standards for RF exposure set out by Dr. Carpenter and Cindy Sage in the 2007 and 2012 BioInitiative Report?

6.0 Topic: Health
Reference: Exhibit C9-9 1C Dr. Martin Blank "Scientific Basis for Health Concerns about Radiofrequency Radiation from Smart meters"

"In fact, a Health Canada December 2011 publication on smart meters referred to exposure to smart meters "much like exposure to AM or FM radio broadcast signals." This analogy should have raised serious concerns of safety in the offices of Health Canada. A recent study of the effects of FM broadcasting in Scandinavia (Hallberg, Johansson, 2011) showed an increase in the incidence of melanoma after FM broadcasting started. An additional disturbing aspect of that study was that the recent cases of melanoma showed lesions all over the body rather than being confined to the exposed areas of the skin, as in the past (when melanoma was believed to be due to UV exposure from sunlight." [pdf p.4 of 12]

6.1 Is it Dr. Blank's view that Health Canada should have serious concerns of safety of exposure to RF from smart meters due to the results of a recent study of the effects of FM broadcasting in Scandinavia that showed an increase in the incidence of melanoma after FM broadcasting started?

6.2 Is it Dr. Blank's view that the Hallberg, Johansson, 2011, study establishes a causal connection between FM broadcasting and an increase in the incidence of melanoma after FM broadcasting started, either in Scandinavia or generally?

6.3 Is it Dr. Blank's view that FM broadcasting causes an increase in the incidence of melanoma?

6.4 Is it Dr. Blank's view that FM broadcasting should be subject to the As Low As Reasonably Attainable Principle?

6.5 Is it Dr. Blank's point that Health Canada's analogy between exposure to smart meters and exposure to FM and AM broadcasting is generally accurate but that Health Canada, rather than implying that the similarity should alleviate fears of exposure to smart meters, ought to have

conveyed a message that smart meters are dangerous because FM broadcasting is dangerous?

6.6 Is it Dr. Blank's view that the public should be given the message that both smart meters and FM broadcasting are a safety concern?

7.0 Topic: Health
Reference: Exhibit C9-8 2C Dr. David Carpenter Statement

7.1 Is it accurate to summarize that Dr. Carpenter has been a central participant in the BioInitiative Working Group and contributor to the 2007 and 2012 BioInitiative Reports?

7.2 Please confirm that Dr. Carpenter is the co-editor with Cindy Sage of the 2012 "BioInitiative Report: A Rationale for a Biologically-based Public Exposure Standard for Electromagnetic Radiation."

7.3 Please confirm that Dr. Carpenter is the co-author with Cindy Sage of "Section 17 Key Scientific Evidence And Public Health Policy Recommendations" of the 2007 BioInitiative Report (listed as Section 24 in the 2012 version), and co-author with Cindy Sage of the "2012 Supplement" regarding this section in the 2012 BioInitiative Report.

7.4 What if any additional portions of the 2012 BioInitiative Report is Dr. Carpenter responsible for?

7.5 What portions of the 2012 BioInitiative Report does Dr. Carpenter agree with?

7.6 What portions if any of the 2012 BioInitiative Report does Dr. Carpenter disagree with?

8.0 Topic: Health
Reference: Exhibit C9-8 2C Dr. David Carpenter Statement, response to question 1

"1. What is the state of scientific research as to whether advanced meters transmitting by radiofrequencies (as proposed by Fortis) may constitute a risk of serious or irreversible damage to health?"

8.1 Please confirm that Dr. Carpenter's primary response to question 1 is that there has not been any significant research directly investigating health effects of advanced meters.

8.2 Please confirm that the Dr. Carpenter then addresses information regarding potential health effects of exposure to "other, but similar, sources of radiofrequency radiation," such as cellphone usage and base stations.

8.3 Please confirm that in his response to question 1 Dr. Carpenter makes no mention of smart meter RF emission levels or associated exposure levels, either generally or concerning the FBC AMI project.

9.0 Topic: Health, Electrical hypersensitivity
Reference: Exhibit C9-8 2C Dr. David Carpenter Statement, question 1,

"Electrical hypersensitivity (EHS) is a syndrome of relatively non-specific complaints that are reported to be associated with exposure to electromagnetic fields." The major symptoms are headache, fatigue, tinnitus, disruption of sleep, mental dullness and a general feeling of ill health. [underline added]

9.1 Please confirm that Dr. Carpenter's definition of EHS is that symptoms are reported to be associated with EMF exposure; not that symptoms are caused by EMF exposure.

9.2 Please confirm that there are many potential causes, other than EMF, of "headache, fatigue, tinnitus, disruption of sleep, mental dullness and a general feeling of ill health."

9.3 When Dr. Carpenter makes statements such as "Whether or not EHS exists has been widely debated" does he mean that what has been widely debated is whether or not (a) symptoms have been reported to be associated with EMF exposure; or (b) symptoms are caused by EMF exposure; or (c) both?

9.4 Would Dr. Carpenter agree that from a public health perspective it is undesirable to create confusion between the validity of a person's report of symptoms (e.g., Does the person really have a headache at the time a headache is reported?) and the validity of a causal connection between the reported symptoms and EMF exposure?

9.5 Does Dr. Carpenter agree that one can legitimately question the existence of a causal connection between EMF exposure and reported symptoms without disputing or disrespecting a person's reported symptoms?

"In spite of widespread reports that up to 10% of the population may suffer from EHS, most studies in laboratories with blinded exposures (ie., the subjects do not know whether or not the fields are applied) have not demonstrated that persons reporting to be electrosensitive can correctly distinguish when the fields are on."

9.6 By "widespread reports" does Dr. Carpenter mean numerous studies from different geographic locations, or one study reported widely?

9.7 Does Dr. Carpenter agree that the phrase "widespread reports that up to 10% of the population may suffer from EHS" could be understood as an assertion that 10% of the population does suffer from symptoms caused by EMF exposure? Please confirm that that was not Dr. Carpenter's intended meaning.

9.8 Does Dr. Carpenter agree that the studies he cites go farther than indicating that self-reported EHS subjects cannot "correctly distinguish when the fields are on"; the studies indicate that subjects' reported symptoms do not correlate with the RF fields being on or off.

10.0 Topic: Health
Reference: Exhibit C9-8 2C Dr. David Carpenter Statement, question 2

"2. Does the state of scientific research sufficiently establish that meters transmitting by radiofrequencies (such as the AMI meters proposed by Fortis) constitute a risk of serious as well as irreversible damage to health, through biological effects other than those resulting from heat?" [underline added]

10.1 Please confirm that Dr. Carpenter's response to this question does not address the level of RF emissions or the amount of EMF exposure associated with the FBC AMI meters.

"Some, especially those from the physics and engineering community, are skeptical of the ability of radiofrequency radiation at intensities that do not cause tissue heating to alter human physiological functions because of the low energy of the non-ionizing portion of the electromagnetic spectrum. In fact most national and international standards for exposure to radiofrequency EMFs are set so as to prevent measureable tissue heating."

10.2 Is Dr. Carpenter intending to assert that Health Canada's Safety Code 6 is the product of exclusively "those from the physics and engineering community"?

"The assumption that there are no biological effects of radiofrequency field exposures at intensities that do not cause measureable heating is false." [underline added]

10.3 Please confirm that Health Canada does not assert that it makes an "assumption that there are no biological effects of radiofrequency field exposures at intensities that do not cause measureable heating."

10.4 Please confirm that Health Canada does not assert that "there are no biological effects of radiofrequency field exposures at intensities that do not cause measureable heating"; but that adverse health impacts have not been established.

10.5 Dr. Carpenter then discusses biological effects of cellphone usage. Please confirm that this discussion does not mention smart phone RF exposure or compare the emissions and exposure levels of cellphones with those of smart meters.

11.0 Topic: Health
Reference: Exhibit C9-8 2C Dr. David Carpenter Statement, question 3

"3. Regulations for telecommunications, such as Safety Code 6, are based upon avoiding heating of tissue as a result of exposure to electromagnetic radiation. Do you agree with that approach? What additions or modifications, if any, would you recommend to those regulations?"

"It is clear that Health Canada scientists completely ignored any study that found evidence of non-thermal health effects, based solely on the fallacious assumption that non-thermal effects cannot exist."

11.1 Please confirm that Dr. Carpenter's response to question 3 assumes that in setting and reviewing Safety Code 6 Health Canada "completely ignored any study that found evidence of non-thermal health effects."

11.2 Please confirm that Health Canada asserts that it did consider (all) studies of 'non-thermal' health effects.

11.3 Please provide any evidence not on the record, or identify evidence on the record, that supports Dr. Carpenter's assertion that Health Canada's Safety Code 6 is based on an "assumption that non-thermal effects cannot exist."

"As is well documented in Chapter 24 of the *Bioinitiative* Report, it is very difficult to propose a standard that would be low enough to insure that no persons, including electrosensitive individuals, are not [sic] harmed."

11.4 Given that Dr. Carpenter's definition of EHS is that symptoms are reported to be associated with EMF exposure, not that symptoms are caused by EMF exposure, please confirm that it would be impossible to set a standard low enough to ensure that no person reports symptoms associated with EMF exposure.

11.5 Would Dr. Carpenter agree that health standards for exposure should be based on whether EMF causes adverse health effects, not whether individuals report an association between symptoms and EMF?

11.6 Please confirm that Dr. Carpenter endorses the following statement regarding EHS in the 2012 Supplement to Section 24 of the BioInitiative Report, which is cited by Dr. Carpenter in support of setting an EMF exposure standard low enough to ensure that no persons, including electrosensitive individuals, are harmed, states the following regarding EHS:

"At present it remains unclear whether EHS is actually caused by RF/EMF exposure, or rather is a self-identifying syndrome of excessive responsiveness to a variety of stimuli." [pdf p.1422 of 1479]

12.0 Topic: Health, wired smart meters
Reference: Exhibit C9-8 2C Dr. David Carpenter Statement, question 3; Exhibit C9-10 Dr. Jamieson Comments

"In the specific case of advanced meters there is an obvious alternative. Wired meters do not generate any radiofrequency radiation, and accomplish the same purpose." [C9-8 2C, pdf pp.13-14 of 17]

"Even in situations where wired smart meters are used, radiofrequency radiation can be created from their Switched Mode Power Supply (SMPS). Details of this and of health effects noted at similar frequencies created in Nature (and frequencies created by BPL [a.k.a. powerline communication – PLC]) are documented below:" [C10-1, pdf p.51 of 217]

12.1 Is Dr. Carpenter aware that in Dr. Jamieson's evidence he claims adverse health effects from wired smart meters and from wireless smart meters with the radios turned off?

12.2 Does Dr. Carpenter agree with Dr. Jamieson's assertion in this regard?

13.0 Topic: Health
Reference: Exhibit C9-8 2C Dr. David Carpenter Statement, question 4

"4 Please provide whatever comments you may have on the validity of the statements and/or assumptions contained in the Exponent Report (Exhibit B1, Appendix C-5) and, in particular, its characterization of the relevant scientific research and review material."

13.1 Please confirm that Dr. Carpenter characterizes the Exponent Report as assuming that RF has "no adverse health effects not mediated by tissue heating." Would Dr. Carpenter agree that it would be more accurate to say that the views expressed in the Exponent report are the authors' conclusions, not assumptions?

"The Exponent Report concludes that the advanced meters utilized by FortisBC operate in compliance with the regulations of Health Canada. This is true, but the problem is that the regulations of Health Canada fail to protect the health of Canadians and ignores an enormous body of scientific evidence that this is the case."

13.2 Does Dr. Carpenter agree that the primary thrust of his evidence is that Health Canada ought to revise Safety Code 6 in a more stringent direction?

14.0 Topic: Health
Reference: Exhibit C9-8 4C Dr. Donald Maisch Statement

"There is no established research of sufficient strength to say with scientific certainty that RF emissions as those given off by the AMI meters (hereafter referred to as smart meters) constitute a serious and irreversible risk to health at non-thermal exposure levels."

14.1 Please confirm that the quote accurately represents Dr. Maisch's view.

14.2 Dr. Maisch goes on in his evidence to discuss the historical derivation of the RF exposure standard, emphasizing that it was originally based on prevention of thermal effects. Does Dr. Maisch agree that Health Canada now asserts that Safety Code 6 stands as it currently reads based on Health Canada having reviewed, and continuing to review, all studies on potential health effects of non-ionizing radiation, including at sub-thermal exposures?

14.3 Is the gist of Dr. Maisch's response in this respect that he disagrees with Health Canada's professional judgment regarding whether the scientific literature establishes that RF (at the relevant frequencies and exposure levels) causes adverse health effects?

14.4 Dr. Maisch states:

> "The problem here is that FortisBC is bound to follow national official standards, such as Safety Code 6. Ultimately it is the responsibility of Health Canada, as a public health agency, to consider adopting alternative standard recommendations, and base their own recommendations on an objective assessment of the science. That is not the responsibility of FortisBC."

Would it be accurate to say that the primary thrust of Dr. Maisch's evidence is that Health Canada ought to revise Safety Code 6 in a more stringent direction?

14.5 Regarding smart meters in particular, please confirm that Dr. Maisch's evidence is that anecdotal reports of possible health effects do not justify changing Safety Code 6 at this time but strongly suggest a need for research.

15.0 Topic: Health
Reference: Exhibit C9-8 5C Dr. Karl Maret Commentary

In question 1, Dr. Maret is asked to comment on FortisBC's response to CSTS IR 57.7:

> 57.7 What is the peak power density of the data signals?
> Response:
> Peak power density is calculated at the FCC/IC specified distance of 20 cm during active transmission (does not account for duty cycle):
> 900 MHz RF Mesh Radio: 0.227 mW/cm2
> 2.4 GHz ZigBee Radio: 0.031 mW/cm2

15.1 Please confirm that Dr. Maret's response does not contradict FortisBC's response to CSTS 57.7.

15.2 Dr. Maret goes on to discuss the difference between peak power and average power, noting that the regulatory guidelines are expressed in terms of average power. He then states:

> "These guidelines are based only on heating effects and do not consider any non-thermal biological or health effects."

Does Dr. Maret acknowledge that Health Canada asserts that Safety Code 6 is based on Health Canada having reviewed, and continuing to review, all studies on potential health effects of non-ionizing radiation, including at sub-thermal exposures?

15.3 Dr. Maret says that "The central question facing the current regulators of an automated metering infrastructure using microwave transmitters operating at non-thermal levels in the 900 MHz band is: Are there significant non-thermal biological or health effects over the 20 year lifespan of these RF devices?"

Does Dr. Maret agree that at the present time Health Canada has reached a different professional judgment on this question than would Dr. Maret?

16.0 Topic: Wired v. wireless
Reference: Exhibit C9-8 5C Dr. Karl Maret Commentary, p.47; Exhibit C9-10 Dr. Jamieson Comments

"Fiber-optic or wired meters would avoid any RF microwave radiation in the home environment and eliminate exposure of the occupants to these frequencies. This option was not considered by FortisBC as it would likely be more expensive."

16.1 Does Dr. Maret agree that FortisBC chose the proposed wireless advanced meter system from among bids in response to a request for proposals where all of the bids were for wireless systems?

16.2 Is Dr. Maret aware that in Dr. Jamieson's evidence he claims adverse health effects from wired smart meters and from wireless smart meters with the radios turned off?

16.3 Does Dr. Maret agree with Dr. Jamieson's assertion in this regard?

17.0 Topic: Benefits of advanced metering system
Reference: Exhibit C9-8 6B, Dr. Schoechle "Getting Smarter About the Smart Grid"

17.1 Please confirm that Dr. Schoechle makes no mention of FortisBC or FortisBC's AMI project in the article.

17.2 When the article was written, had Dr. Schoechle read the FortisBC AMI application or responses to Information Requests filed in this proceeding, or any portions of it? If so, please identify which portions.

17.3 Please confirm that the article is essentially a rebuttal of what Dr. Schoechle refers to as "the latest high-level policy statement on electricity from the Obama administration," [p.31] i.e., a June 2011 National Science and Technology Council (NSTC) of the Executive office of the President white paper entitled "Policy Framework for the 21st Century Grid: Enabling Our Secure Energy Future."

18.0 Topic: Financial benefit
Reference: Exhibit C9-8 6B, Dr. Schoechle "Getting Smarter About the Smart Grid"

18.1 Please confirm that one of the main points of Dr. Schoechle's article is that massive US federal stimulus subsidies for smart meter installation should be examined in terms of whether the merits of smart meters warrant the cost.

18.2 Does Dr. Schoechle or CSTS have any evidence that the FBC AMI project has received or will receive funding from US or Canadian federal stimulus subsidies? If so, please provide the evidence.

18.3 Please confirm that the consistent premise of the anti-smart meter message in Dr. Schoechle's article is that is that smart meters are heavily subsidized by taxpayers.

18.4 Does Dr. Schoechle or CSTS have any evidence that the FBC AMI project is or will be subsidized by taxpayers? If so, please provide the evidence.

18.5 Please confirm that Dr. Schoechle's article makes no mention of any smart meter installation project that has a positive net present value.

18.6 Does Dr. Schoechle or CSTS acknowledge that the FBC AMI project has a positive net present value? If not, please provide any evidence not already on the record that CSTS wishes to rely on concerning this point.

18.7 Please confirm that Dr. Schoechle's article makes no mention of theft reduction as a positive financial feature of any smart meter installation project.

18.8 Does Dr. Schoechle or CSTS acknowledge that FBC has provided evidence that the AMI project will have a substantial positive financial benefit through theft reduction? If not, please provide any evidence not already on the record that CSTS wishes to rely on concerning this point.

19.0 Topic: Purpose of AMI project
Reference: Exhibit C9-8 6B, Dr. Schoechle "Getting Smarter About the Smart Grid"

19.1 Please confirm that one of the main points of Dr. Schoechle's article is that smart meters do not live up to proponents' claims that smart meter projects are an essential component of a "smart grid" that will solve major problems with the US electricity system; and that Dr. Schoechle criticizes smart meter projects on the ground that there are a "diversion" from Dr. Schoechle's idea of a "true smart grid."

19.2 Does Dr. Schoechle or CSTS acknowledge that the FBC AMI project is not held out as a solution to major problems with the electricity system?

20.0 Topic: Health
Reference: Exhibit C9-8 7B Dr. Margaret Sears Report

20.1 Dr. Sears says "It is worth considering the exemption for pulsed signals in Safety Code 6 (page 18)..." What conclusion does she draw from that consideration?

"Biases can also arise from who is actually included in the comparator groups. Electromagnetic hypersensitivity is under-recognized, and there are social and cognitive barriers to individuals recognizing it within themselves (indeed, the same is true for all environmental sensitivities)." [p.6]

20.2 What is Dr. Sears's definition of electromagnetic hypersensitivity? Does the definition focus on that symptoms being reported to be associated with EMF exposure; or symptoms that are caused by EMF exposure?

20.3 Does Dr. Sears agree with following statement in the 2012 Supplement to Section 24 of the BioInitiative Report?

"At present it remains unclear whether EHS is actually caused by RF/EMF exposure, or rather is a self-identifying syndrome of excessive responsiveness to a variety of stimuli." [pdf p.1422 of 1479]

20.4 On what evidence does Dr. Sears state that "Electromagnetic hypersensitivity is under-recognized"? Is it circular to assume that EHS is under-recognized when it has not been established that EHS is caused by EMF?

20.1 Dr. Sears states "Based on such science, Canada banned bisphenol-A from baby bottles." Given that Health Canada also asserts a scientific basis for Safety Code 6, does the bisphenol-A example confirm that Canadian authorities take different regulatory actions based on different conclusions regarding the science?

20.2 Dr. Sears says that in Russia "regulatory exposures regulatory exposures are a small fraction of those in Canada's Safety Code 6." Can Dr. Sears provide any evidence that cellphones or base stations in Russia comply with these Russian exposure standards or are any different than those in Canada in terms of RF emissions?

21.0 Topic: Health
Reference: Exhibit C9-10-1 Dr. Jamieson Comments, reliance on anecdotes

21.1 Does Dr. Jamieson confirm that throughout his report he supports his conclusions and opinions by citing anecdotal reports of health symptoms associated with smart meters, especially the results of an online survey by the EMF Safety Network, including at pdf pp.12, 13, 23, 28, 33, 34, 37, 38, 53, 55, 72, 92, 98, 101, 117, 124?

21.2 Does Dr. Jamieson agree that the EMF Safety Network website is an anti-smart meter campaign site?

21.3 Please confirm that the report on the EMF Safety Network's online survey is what Dr. Jamieson refers to as "Halteman 2011" at http://emfsafetynetwork.org/wp-content/uploads/2011/09/Wireless-Utility-Meter-Safety-Impacts-Survey-Results-Final.pdf.

21.4 The Halteman report states:

"The survey was circulated online through various social media outlets including Networks email list, Facebook, and the California EMF Safety Coalition (a discussion group). The survey was also posted on [EMF] Networks website:www.emfsafetynetwork.org where visitors were invited to take the survey."

Does Dr. Jamieson agree that the selection of survey respondents was neither random nor representative but was conspicuously biased toward those who believed that smart meters cause health impacts?

21.5 The first question in the survey was:
"1. How concerned are you about the reported problems with the new wireless Smart Grid utility meters, also known as Smart Meters (AMR, AMI, AED)? Check all that apply."

Does Dr. Jamieson agree that this is a biased question, because, among other things, it embeds the assertion that it is a fact that there are "reported problems with the new wireless Smart Grid utility meters"?

21.6 Please confirm that Dr. Jamieson's begins his evidence by asserting that "From the results shown [in Dr. Jamieson's Table 1.1 from Halteman, p.22] it appears possible that at least some BC citizens' health may be put at risk as a result of exposure to radiofrequency and microwave emissions from smart meters." Does Dr. Jamieson wish to retract his assertion that his Table 1.1 supports this proposition?

21.7 Dr. Jamieson's Table 1.1 lists responses by percentage to the following question:

"Have you, or anyone in your household, experienced new or worsened health symptoms since the new wireless utility meters have been installed on your home, in your neighborhood, apartment building, area, town or city? (Check all that apply) N=318"

Does Dr. Jamieson agree that this question elicits whether the respondent <u>believes</u> that someone experienced a health symptom from a smart meter, not whether a smart meter actually <u>caused</u> someone to experience a health symptom?

21.8 Does Dr. Jamieson have an explanation for the fact that his Table 1.1 shows reported health symptoms of smart meters from some <u>318</u> respondents ("N=318") when only 143 respondents answered Yes to "Have you had a new wireless utility meter installed on your home?" [p.13 of Halteman]; and only 298 respondents answered Yes to "Do you have new wireless utility meters deployed in your neighborhood, apartment building, area, town or city?" [p. 16 of Halteman]

21.9 Would Dr. Jamieson agree that his frequent reliance on anecdotes collected by an anti-smart meter website undermines the scientific credibility of his own anti-smart meter opinions?