

# Dr Isaac Jamieson Response to BCSEA\_SCBC IR1 to CSTS FBC AMI-3

**Note: As the following had to be prepared on a very short time-scale, not all questions have been answered. Some of those which have been answered are not answered in full because of time restrictions.**

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## 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?

In answering this question, Dr Jamieson will refer to those pages as they are actually numbered in the commentary that he prepared, i.e. the pages visually numbered as 8, 9, 19, 24, 29, 30, 33, 34, 49, 51, 68, 88, 94, 97, 113 and 120.

Dr. Jamieson would like to take this opportunity to have it recognised that throughout his report he supports his conclusions and opinions by citing a considerable number of peer-reviewed scientific studies, anecdotal reports and calls for proper scientific research to be undertaken on the potential health effects of RF/microwave emissions from smart meters and related technologies.

As examples of the scientific research cited: on **pages 8-11**, Dr Jamieson notes that similar symptoms to those reported anecdotally with regard to smart meter roll-outs have been documented in peer-reviewed research investigating the associations between increased radiofrequency and microwave exposures and health (Eger & Jahn 2010, Berg et al. 2007, Oberfeld et al. 2004, Navarro et al. 2003, Hutter et al. 2002, Santini et al. 2002, Johnson-Liakouris 1998).

On **page 11**, Dr Jamieson mentions that RF/microwave radiation is now classified as a Class 2B carcinogen (WHO/IARC 2011), that the potential dangers of RF/microwave radiation, as related to cancer, is recognised by industry (Motorola 2011, Swisscom AG 2003) and that "Industry has not said once - once - that ... [RF/microwave radiation is] safe. The federal government and various interagency working groups have said it is safe," K. Dane Snowden, Vice President, External & State Affairs, CTIA-The Wireless Association® (Safeschool 2010).

On **pages 12-13**, peer-reviewed research documenting links between EMF exposures and detrimental health and biological effects, including effects noted at levels lower than those created by some smart meters, are also discussed (BioInitiative Working Group 2012, Dode et al. 2011, Yakymenko et al. 2011, Jamieson et al. 2010, De luliis et al. 2009, Adlkofer 2004, Eger et al. 2004, Wolf & Wolf 2004, Repacholi et al. 1997, Hocking et al. 1996).

On **pages 14-16** there is a discussion, using examples from peer-reviewed literature, on associations between EMFs and dementia and possible risk factors. The list of peer-reviewed studies mentioned on those pages on these issues are as follows: BioInitiative Working Group 2012, Arendash et al. 2010, Davanipour & Sobel 2009, Huss et al. 2009, Davanipour et al. 2007, Friedman et al. 2007, Pacher et al. 2007, Feychting et al. 2003, Guise et al. 2001, Perry et al. 1999 and Sobel et al. 1996.

On **pages 18-19** peer-reviewed research (with human and animal test-subjects) is mentioned which documents possible links between EMF exposures and autism, neurodevelopment and behaviour (Tamir et al. 2012, Lathe 2009, Divan et al. 2008, Kane 2004).

On **pages 19-21**, peer-reviewed research related to possible associations between neuronal damage, concentration, memory or learning problems and EMF exposures is documented (Papageorgiou et al. 2011, Eger & Jahn 2010, Maganioti et al. 2010, Fragopoulou et al. 2009, Narayanan et al. 2009, Li et al. 2008, Nittby et al. 2008, Odaci et al. 2008, Hutter et al. 2006, Bortkiewicz et al. 2004, Maier et al. 2004, Salford et al. 2003, Santini et al. 2002, Wang & Lai & 2000, Chiang et al. 1989).

On **pages 22-23**, peer-reviewed research is documented related to possible associations between EMF exposures and depression (Eger & Jahn 2010, Milham 2010, Milham & Morgan 2008, Havas 2006, Bortkiewicz et al. 2004, Oberfeld et al. 2004, Santini et al. 2002).

On **page 26** peer-reviewed scientific research indicating in a possible dose-response relationship between EMF exposure and dizziness (Eger & Jahn 2010, Santini et al. 2002, Simonenko et al. 1998).

On **page 26** peer-reviewed scientific research indicating in a possible dose-response relationship between EMF exposure and irritability (Bortkiewicz et al. 2004, Santini et al. 2002, Simonenko et al., 1998).

There is a long list of scientific papers cited in Dr Jamieson's original commentary – time restrictions prevent these being documented further at this time.

**The new study by Conrad & Friedman (2013) may address some of the concerns the questioner has about the EMF Safety Network online survey.**

#### **Reference**

Conrad, R. & Friedman, E. (2013), Exhibit D – Smart Meter Health Effects Survey and Report, <http://www.mainecoalitiontostopsmartmeters.org/wp-content/uploads/2013/01/Exhibit-10-Smart-Meter-Health-Effects-Report-Survey2.pdf>

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

The EMF Safety Network is involved in promoting environmental protection, education and science-based precaution for EMF and RF/microwave emitting technologies, particularly as related to their potential health impacts. As it covers more issues than smart meters, a better description of it may be a resource and information site on health-related EMF matters taking into account public concerns.

**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>.

Correct.

**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](http://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?

Yes. If there had been further time for Dr Jamieson to prepare his commentary submitted to BCUC this matter would have been addressed. It is important for all parties to recognise that though the selection of survey respondents was not random, it appears likely that the symptoms they reported may be experienced by some BC citizens if wireless smart meter roll-out occurs. Peer-reviewed scientific articles, some of which were discussed in the submitted commentary, show that raised exposures to RF/microwave radiation, at levels below those created by wireless smart meters can cause adverse health effects.

People who are more interested, or have a concern related to a specific matter, are generally more likely to wish to get involved in a survey covering that matter.

**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”?

Dr Jamieson agrees that the question could have been better phrased.

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?

Dr Jamieson stands by his assertion in order to emphasise the need for further investigation into this area before additional smart meter roll-outs. In addition to that survey, and the peer-reviewed scientific research which indicates that detrimental health effects have been linked with increased RF/microwave exposures at levels below those created by some smart meter regimes, there is also the newly available health effects survey by Conrad & Friedman (2013).

#### **Reference**

Conrad, R. & Friedman, E. (2013), Exhibit D – Smart Meter Health Effects Survey and Report, <http://www.mainecoalitiontostopsmartmeters.org/wp-content/uploads/2013/01/Exhibit-10-Smart-Meter-Health-Effects-Report-Survey2.pdf>

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 believes that someone experienced a health symptom from a smart meter, not whether a smart meter actually caused someone to experience a health symptom?

Yes. There is need for proper scientific research to be undertaken to determine to what extent such symptoms may be real or imagined. The results of peer-reviewed scientific research indicates that the increased levels of exposure to RF/microwaves, at levels similar to those that may arise through the roll-out of a wireless smart meter infrastructures (and the introduction of wirelessly communicating smart appliances) may cause a number of health problems.

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 318 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]

Yes. An error was unknowingly made in that part of the presentation for which Dr Jamieson apologises.

**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?

This is refuted, as peer-reviewed scientific research documented in Dr Jamieson's original commentary, for example Oberfeld et al. (2004), indicates similar findings in terms of health effects experienced at exposure levels comparable to those that may be created by some smart meter regimes. Such scientific evidence reinforces the need to take such anecdotal evidence seriously and indicates that, as a precautionary measure, such matters should be researched in greater depth to determine their true relevance.

Ideally official surveys should have been undertaken during pilot smart meter roll-outs, rather than have unofficial surveys undertaken once wide scale roll-outs were underway.

It is contended by Dr Jamieson that raising awareness of such issues, in time to allow appropriate decisions to be made, can help protect FortisBC, and its shareholders, against possible class action lawsuits at a later date. Such risks as related to wireless technologies and health are already being openly discussed in the telecommunications industry:

As an example, from Verizon, the mobile network operator: "... *our wireless business ... faces personal injury and consumer class action lawsuits relating to alleged health effects of wireless phones or radio frequency transmitters, and class action lawsuits that challenge marketing practices and disclosures relating to alleged adverse health effects ... . We may incur significant expenses in defending these lawsuits. In addition, we may be required to pay significant awards or settlements.*" (RRT 2013).

Dr Jamieson has sought to provide as full a picture as possible about the potential effects of the proposed roll-out, as it is presently specified, and indicate both potential problems and solutions. **He is in favor of smart grids and technologies that are correctly thought out and developed.**

#### **References**

RRT (2013), Business risks for investors listed on New York Stock Exchange, [http://www.radiationresearch.org/images/rrt\\_articles/Business.pdf](http://www.radiationresearch.org/images/rrt_articles/Business.pdf)

As FortisBC already appears to be highly committed to ensuring that its metering system is safe, taking such factors as discussed above into account, and 'investing in prevention' would appear the next obvious step and would be in keeping with The Provincial Health Officer's Special Report and its 'ActNow BC – Population Health Promotion Strategies' (Kendall 2010).