

April 24, 2013

Submitted via E-mail

British Columbia Utilities Commission
Box 250 – 900 Howe Street – Sixth Floor
Vancouver, BC V6Z 2N3

Attn: Erica Hamilton - Commission Secretary

Dear Ms. Hamilton,

**Re: FortisBC Inc. Application for a Certificate of Public Convenience and Necessity
for the Advanced Metering Infrastructure Project**

Final Submission

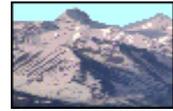
In consideration of the FortisBC Inc. CPCN application evidence to date and the final submissions of FortisBC Inc. (FBC), I would offer the following observations, comments and arguments.

I am a new participant in this instance as an active intervenor to a full B.C. Utilities Commission (BCUC) application and approval process and in general, have found the experience rather overwhelming. In my opinion, there existed in the FortisBC Inc. Certificate of Public Convenience and Necessity (CPCN) Advanced Metering Infrastructure (AMI) application, significant technical complexities, and a need for a sizeable level of legal knowledge and related considerations, that have posed a significant barrier to this average public individual's abilities to contribute and participate at a meaningful level. I believe the corporate interests and resources of FortisBC Inc. and the size and scope many of the participating public interest groups far outweigh the presence or impact of any single individual's contribution.

That said, I have appreciated the relative balance I have been afforded by the BCUC in relation to the larger, more 'well-heeled' groups of participants such that I believe I was actually able to have some level status as an intervenor within the proceedings that was not significantly different from the others, with the exception of possessing equivalency to the vast external resources available to the applicant and many of the other interest groups.

Overview:

In addressing the project and in drawing from the volumes of material and evidence provided by all to date, I believe it is important to make a distinction between the concepts of an AMI smart meter infrastructure and the issues involved in selecting a radio frequency (RF) infrastructure delivery system. The AMI concepts proposed, as FBC has stated, relate to the collection of electricity consumption data from customers hourly over a 24 hour day for the next 20 years.



The RF solution for providing this data has been advanced by FBC over more conventional non-RF solutions such as power line carrier systems (PLC) used in by other electrical utilities in nearby regions such as Idaho Power and FortisAlberta. The RF solution would place electromagnetic frequency emitters in meters at all customers' points of service connection and collect these data emissions at various point for delivery to the FBC networks.

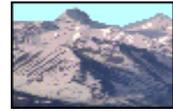
In essence, this application proposes the introduction to our homes of a relatively new form of airborne data collection technology that, while it may present some convenience to the utility, does nothing of significance towards advancing the interests of the customers. It appears from all the material in the application that this is a significantly one-sided endeavor with the majority of the benefits flowing to the utility.

I remain less concerned about the concepts of AMI and have limited objections to that form of technical improvement within the application, except to question the absolute necessity as planned by FBC to obtain hourly data from residential users. I would argue that an escalation from the current monthly, meter read electricity consumption data, to a more reasonable daily data reading under an AMI program would be a proper interim advancement. From the material presented in the hearing and the application, this can be accomplished with a more benign PLC system. I would argue that it is fundamentally unnecessary for the electrical utility to escalate the level of collection of customer usage data to an hourly basis and that the detail collected represents an unnecessary intrusion into the homes and lives of the FBC residential customers.

In "Part 1 - Overview of the Final Submissions of FortisBC Inc.", point 6, FBC states that they are relying on the Clean Energy Act, S.B.C. 2010, c. 227 (CEA), which in fact is a construct primarily designed to direct and regulate B. C. Hydro in British Columbia. Moreover, it does not direct hourly readings or RF data emissions. Therefore, I would argue, it is a deceptive rationale to include it in the application, other than as support in general for a basic safe advanced metering solution because it does not direct FortisBC in their service area and does not contemplate an RF solution.

In "Part 1 - Overview of the Final Submissions of FortisBC Inc.", point 6, FBC states that they are "adopting mainstream technology", yet this, I would argue, is another deceptive rationale for providing a safe and affordable AMI solution in their service area when alternatives to an RF distribution system exist. It is incredibly questionable for FortisBC, as our service provider in our region of B.C., would choose to piggyback on B.C. Hydro AMI choices using the same RF equipment supplier. I would argue this suggests they have simply created an easier duplicated solution rather than designing safer, non-RF technology, for customers such as myself in their service area.

For embellishment as to supporting rationale, FBC has also in "Part 1 - Overview of the Final Submissions of FortisBC Inc.", point 10, parts (b) and (c), included relatively inconsequential claims of benefit such as "reduces meter reading safety risks and GHG emissions" and "helps prevent electricity theft", which aid, I suppose and would argue, in diffusing the real risks to their customers of the constant daily exposure 24/7 for 20 years to pulsed RF emissions. I would question the relative impact of reduced meter reading when in fact this would be augmented by remote network and RF signal support initiatives, yet to be determined, and



would likely end up even in cost at the end. I would question how many FBC customers are involved in electricity theft and would argue this is not a material issue impacting the application. The vast majority of FBC customers are not electrical thieves and have no need for any form of detection apparatus.

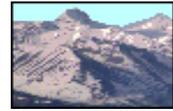
On health and safety:

I would argue that FBC has actively sought throughout the proceedings, and in all their submissions, to minimize, dissuade, and disregard all health-related objections to their RF proposed solution. I would argue that it is an insult to the process and the participants that FBC has not engaged the opposition constructively on the harms of RF exposure but rather simply denied that there is an issue as noted in various information requests. In fact FBC, in proposing to adopt potentially harmful RF smart meters, has not directly conducted or commissioned any health-related studies to directly and properly assess the long-term effects of the introduction of an RF system to their customer base. They have simply referenced a wide variety of generally inconclusive reports that do not relate directly to their customer base. I would argue that this method of analysis is contrived and unsupported and is an inappropriate base from which to inform the Commission. By way of example, in Canada, there is no introduction of a new drug without extensive medical tests that eliminate the possibility of risk to consumers. For example, at the very beginning of the process for approval of a new drug in Canada, clinical trials are required (http://www.oag-bvg.gc.ca/internet/english/parl_oag_201111_04_e_35936.html#hd4a). It is arguable that the introduction by FBC of a device that emits potentially carcinogenic signals and which irradiates the human body should be subject to specific clinical trials by the applicant.

My arguments to the application are related to issues as were originally stated by myself and involved a number of concerns, but notably, "*Concerns regarding the safety and function of the infrastructure.*" I can observe that FBC has throughout the proceedings and particularly as part of their final statement provided a massive amount of material and reports including additional detail in their authorities related to jurisdiction and health and safety. For an individual to physically sort through and completely comprehend these massive volumes of data and reports is effectively an impossibility within the time frames permitted in the application schedule. However, I can provide some excerpts that are germane to my concerns over health and safety and, in my view, fairly reflect the uncertainty and unproven aspects of the health risks flowing from the FBC application for a radio frequency emission (RF) information delivery system.

For example, in Undertaking #4 – exhibit B-42 – March 6, 2013, FBC attached the AGNIR Report 2012 which in the conclusion of the Executive Summary noted, "There are possible effects on EEG patterns, but these have not been conclusively established" and "The accumulating evidence on cancer risks, notably in relation to mobile phone use, is not definitive". Comments like these confirm the uncertainties related to RF exposure and do nothing to moderate the possibility of harmful RF risk. However FBC seems capable of concluding there is no risk.

In direct testimony, also for example, from the Public Hearing Proceedings March 6, 2013, Volume 3, Page 487, lines 11-21, there is the following extract:



MR. MILES: Q: On the chart that I had in reference, the determinant -- or the decision for the RF infrastructure from Itron was made in May of 2011?

MR. WARREN: A: That's correct.

MR. MILES: Q: The report detailing the issues and the effects related to using an RF exposure device wasn't in the mix until October of 2011. It appears to me that it did not form part of your original decision to go to an RF solution.

MR. WARREN: A: No, that's correct. We didn't commission the report till we had selected a vendor,

The indication here is that FortisBC did not attempt to consider the effects of an RF solution until well after the decision to place RF transmitters from the vendor (Itron). In that regard, I would argue that there was never an intention in developing the RFP to fairly consider or investigate the issues and potential harm around advancing the RF solution, that FBC 'put the cart before the horse', so to speak, and I would argue that had the controversy been investigated, including FBC undertaking clinical testing, it is possible the PLC solution might have received better consideration.

Also for example, from the Public Hearing Proceedings March 6, 2013, Volume 3, Page 502, lines 22-26 continued on page 503, lines 1-7, Dr. Baily acknowledged the uncertainty of the effects of RF exposure and suggested an effect on a person could be likely and the answer to my question was "qualified" and therefore not conclusive.

Based on the information in C-5, can you state that there is absolutely no possibility of any effect on a person from the RF emissions from the emitter or ZigBee?

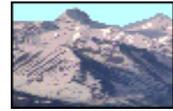
DR. BAILEY: A: I think the consensus of the scientific community is that the research that we have does not indicate that there is a likely effect of -- adverse effect of exposure at these very, very low levels.

MR. MILES: Q: But that's not absolute. That's a qualified answer.

DR. BAILEY: A: If you're making answers based upon science they're always qualified.

As such, this simply reinforces the likelihood and the perception that there is a risk, contrary to statements by FBC, and as such, in the public interest, I believe that the BCUC should not approve the distribution of RF emission technology and rather direct a more benign solution such as PLC which has already proven acceptable to Idaho Power and FortisAlberta and does not carry any risk. I will re-state from my evidence earlier provided to the Commission via IR2, October 24, 12, Page 2,

Smart meters being deployed in Idaho Power's service territory do not transmit radio frequencies. Our smart meters do not use any



wireless communication media or generate any high-frequency signals. Our system uses only wired infrastructure to communicate to and from our smart meters utilizing the low-frequency 60 hertz (Hz) power line signal as the carrier for our communications.

This may be of interest because some smart meter deployments in California have raised concerns that radio transmission, wireless transmission or high-frequency transmission may pose health risks. The technology we're deploying is fundamentally different from the technologies in question in California.

As an additional demonstration of risk, I would add comments in testimony from Dr. Baily and Mr. Aaron, in the Public Hearing Proceedings March 6, 2013, Volume 4, Page 682, lines 1-20,

MR. AARON: Q: And would you agree with Maret that these studies, all of which you mention, have demonstrated that modulation patterns can have an effect in living systems?

DR. BAILEY: A: I would agree that these studies, subject to check, are reporting biological responses to different types of modulated fields.

MR. AARON: Q: Okay, I'm not sure if what you would agree with is the same thing what Maret said, so let me just ask it again. Would you agree, and I quote him:

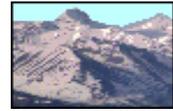
"...that the following references all have demonstrated that modulation patterns can have an effect in living systems."

So he's saying these references show modulated patterns can have an effect in living systems. Is that something you can agree with?

DR. BAILEY: A: I would agree with that reference. The answer is yes. And to say that those are the responses that are reported in these studies.

Clearly there is an effect from RF exposure acknowledged by the FBC health witness panel expert, Dr. Bailey, and because there is an effect, there is risk from exposure. I would argue that it is unacceptable for the FortisBC Inc. customer base to be placed in a position of exposure to additional RF signals via the Itron device. I would argue that the absence of a medical expert on the FBC health witness panel compromises the clarity of the examination into health and denies the public a thorough analysis of the application.

In effect, without conducting direct clinical studies on the FBC customer base, FBC is planning to make their customer base (and myself) guinea pigs in some grand experiment through the distribution of RF emitting devices. I would argue that the B.C. Utilities Commission does not



want to be a party to this sort of experiment and should direct FortisBC Inc. to find an alternate solution in which there is no uncertainty or risk.

On Opt-out:

It is important to respond to the FBC position on an 'opt-out' provision. I would argue that given the significant change in technology proposed in this application and the inherent health risks to any customer as developed in evidence to date, that, for the likely thousands of opponents and concerned customers of record, fair consideration must be made available. FBC suggest eventual termination of service to 'punish' what would likely be deep and rooted personal health concerns for most of those customers. There must be consideration by the BCUC to not force compliance and cause hardship and personal discomfort for those who do not want RF exposure. In this, I believe and would argue that any costs associated with the refusal of an RF device or insisting on an RF disabled device, costs should be for account of the project, not the affected customer. In bringing forward new, risk-bearing technology, FBC must be prepared to absorb the costs of the transition where customer's lives are being affected over a 20 year period. I would suggest and argue in the public interest, the BCUC should pursue a non-discriminatory opt-out practice, with full and non-restrictive interpretation, as noted in Section 59 of the Utilities Commission Act where it is stated, "Discrimination in rates: 59 (1) A public utility must not make, demand or receive (a) an unjust, unreasonable, unduly discriminatory or unduly preferential rate for a service provided by it in British Columbia". While it is desirable not to unbalance rates to customers who do not opt-out, the scope and risks posed by the conversion to RF demand a better solution than eventual disconnection of a customer when that customer is in direct fear and under threat for their personal health and well-being. In that, the project costs should accommodate each complainant.

Conclusion:

We are faced with a situation where in subscribing to our electrical utility company, and there is no alternative to FortisBC Inc. for our service, we will be compelled to put ourselves in harm's way in order to have electrical service. As a free citizen in Canada, I should have the right to obtain electrical service without potential health risks, no matter how small. There are proven alternatives available such as PLC data distribution that contain no risk, yet provide an AMI solution meeting any requirements of the Clean Energy Act in British Columbia. I should note that the unproven nature of an RF solution was just recently highlighted in the BCUC considerations and amendments of the CPCN application timetable April 22, 2013, to permit submissions regarding the just released International Agency for Research on Cancer (IARC) 462 page monograph relating to its designation of RF radiation as a possible cancer agent.

There is clearly much yet to be learned about RF impacts and I submit and argue that this is not the time for FortisBC to experiment with their customer base by proliferating risky RF devices, but rather it should be the time for FortisBC to take the lead in championing no-risk devices to their customer base and re-submitting their application with a non-RF solution. I would further encourage the BCUC to find similarly and not be a party to the proliferation of potentially harmful devices.

Keith Miles

1580 McBeth Street
Trail, B.C. V1R 1Z4

E-Mail: kemiles@telus.net

...in the Kootenays



Telephone: (250) 368-8728

Keith Miles
1580 McBeth Street
Trail, B.C. V1R 1Z4
250-368-8728