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**Subject:** Final Submission: Intervener Request Suspension: FortisBC Inc. Advanced Metering  
Infrastructure CPCN

Kaslo

Friday, December 7

Attention: Erica M. Hamilton, Commission Secretary

### **Preamble**

Thank you to the Commission for allowing me to further develop and state my case, and to both Mr Weafer and Mr. Andrews for taking the time to explain the form of their legal positions in the matter - one direct in their submission and the other off-line later. I, however, do not concur with the substance of their position which is found very much wanting on what is regarded as a critical point of law in this proceeding. Similarly Ms Herbst, submitting on behalf of FortisBC, speaks to the form of the issue, but not to either the legal quality of the evidence provided by FortisBC to date and/or the factual or speculative nature of the evidence provided with regard wired meters.

Especially given the controversy and public interest surrounding this application, these proceedings should be beyond reproach and therefore the Commission needs to ask itself at least three questions in reviewing the submissions of the applicant and intervenors in this matter. Therefore it is very important to frame the nature of the argument on the evidence itself, as follows:

1. Is the manner in which the evidence was provided and/or processed by FortisBC in this application, in regards wired evidence, legally sound or can it be construed that it was provided in a manner that can be regarded as being in a conflict of interest or containing the potential to be biased?
2. Is the wired evidence provided by FortisBC presented in a manner that is factual, appropriate and verifiable, or is it conjectural and speculative in nature and not based on a factual comparison at all?
3. If the wired evidence provided is neither legally sound nor factual, appropriate and verifiable, how does the Commission proceed in continuing to hear evidence presented by FortisBC in this proceeding?
  - i. Does the Commission simply proceed with hearing evidence and argument on the wireless option alone and allow the debate over the veracity of the wired information to simply continue?
  - ii. Does the Commission stop the proceedings until FortisBC has provided an appropriate and verifiable

comparative analysis of a wired option?

iii. If FortisBC is not required to provide a verifiable and comparative analysis of their preferred wireless option with a wired one, then who should?

In this regard it is noted that, once before in 2007, the Commission determined that FortisBC failed to provide sufficient information upon which a decision could be made. This implies that the Commission is concerned, and should be, about the legal soundness of the evidence and the appropriateness and verifiability of the evidence brought before it.

At the Regional District Central Kootenay, when a majority of Directors determine that they have insufficient information in front of them to make a decision, they refer it back to staff and/or the applicant to rectify the deficiency. The discussion on the matter is then suspended until all the necessary facts and opinions can be placed before the Directors at a later date.

That, to my mind, after seven years of experience in local government, is a preferred way of spending taxpayers' and FortisBC customer dollars - by making sure that all the appropriate and verifiable evidence is present, before these proceedings move to an argument stage.

### **Summary of Argument In This Matter**

1. The evidence provided by FortisBC for consideration of a wired option is extremely questionable, given that FortisBC placed Itron in a conflict of interest as per the judgment cited in *R v Sussex Justices, Ex parte McCarthy* ([1924] 1 KB 256, [1923] All ER 233).

2. Of secondary importance is the matter that a variety of necessary evidentiary facts are missing, which currently makes a factual comparison between a wireless and wired option impossible.

3. It is of considerable concern that certain statements made on the Commission website, under **Quick Facts About Smart Meters**, at:

[http://www.bcuc.com/Documents/Participant-Info/QuickFacts-on-SmartMeters\\_Feb2012.pdf](http://www.bcuc.com/Documents/Participant-Info/QuickFacts-on-SmartMeters_Feb2012.pdf)

might lead some members of the general public and some intervenors in this proceeding, to construe that the Commission has a bias towards installation of wireless meters, as it relates to what is stated about health, safety and security. As such, it is believed that the decision to make matters of a financial, operational, fire safety and privacy nature, including consideration of a wired vs wireless option, reviewable by written process only, under order G-177-12, also shows a certain bias against some intervenors. As a result, that part of order G-177-12 requiring written submissions only is hereby appealed under section 99 of the Utilities Commission Act.

4. Finally, on balance, it is believed that the Commission panel is potentially placing itself in a position, especially if it decides not to order FortisBC to proceed with their desired wireless option, of having no other option left with which to order FortisBC to install smart meters. Therefore is it submitted that FortisBC should be required to provide a verifiable and appropriate wired option within its application, and that the proceedings be suspended to give FortisBC the time to prepare such a further submission.

### **General Argument**

#### **1. Questionable Evidence**

The Commercial Electrical Consumers Association of BC (CEC at C17-7) and latterly the BC Sustainable Energy Association and Sierra Club of British Columbia (BCSEA/Sierra Club at C4-6) argue that since

FortisBC has submitted evidence concerning the wireless and wired options it is now up to the intervenors to test that evidence and convince the Commission of its inappropriateness if they feel that that evidence is wanting. Neither speaks to the heart of the matter - the questionable nature of the primary evidence supplied by FortisBC, via Itron, on wired meters. FortisBC takes a position similar to the two aforementioned organizations. This begs the question: is any evidence acceptable in this proceeding or must it pass a certain test to be admissible?

Section 45(8) of the Utilities Commission Act specifically states:

*"The commission must not give its approval unless it determines that the privilege, concession or franchise proposed is necessary for the public convenience and properly conserves the public interest."*

In this regard Section 100(2) of the Community Charter specifically states:

*"(2) If a council member attending a meeting considers that he or she is not entitled to participate in the discussion of a matter, or to vote on a question in respect of a matter, because the member has*

*(a) a direct or indirect pecuniary interest in the matter, or*

*(b) another interest in the matter that constitutes a conflict of interest,*

*the member must declare this and state in general terms the reason why the member considers this to be the case."*

Using the frame or lens found in the Community Charter, with regards this application, the Commission should therefore consider whether, when FortisBC signed a written contract with Itron to supply wireless meters, Itron then took on a pecuniary interest to ensure that the wireless contract was fulfilled. Without casting any aspersions on either FortisBC or Itron, the truth is that FortisBC should never have placed Itron in a potential conflict of interest by asking them to provide a comparative cost analysis for a wired option, and Itron, having accepted a contract to supply wireless meters, should never have agreed to provide an analysis of wired costs for these proceedings.

As is explained in Wikipedia [ [http://en.wikipedia.org/wiki/Conflict\\_of\\_interest#Organizational\\_conflict\\_of\\_interest](http://en.wikipedia.org/wiki/Conflict_of_interest#Organizational_conflict_of_interest) ]:

*"An organizational conflict of interest (OCI) may exist..., in the realm of the private sector providing services..., where a corporation provides two types of services...that have conflicting interest or appear objectionable (i.e.: manufacturing parts and then participating on a selection committee comparing parts manufacturers)".*

The legal authority, in this instance, is crystal clear in **R v Sussex Justices, Ex parte McCarthy** ([1924] 1 KB 256, [1923] All ER 233, as cited by Lord Hewart CJ:

*"...a long line of cases shows that it is not merely of some importance but is of fundamental importance that justice should not only be done, but should manifestly and undoubtedly be seen to be done...The answer to that question depends not upon what actually was done but upon what might appear to be done...Nothing is to be done which creates even a suspicion that there has been an improper interference with the course of justice.*

*"...In those circumstances I am satisfied that this conviction must be quashed, unless it can be shown that the applicant or his solicitor was aware of the point that might be taken, refrained from taking it, and took his chance of an acquittal on the facts, and then, on a conviction being recorded, decided to take the point. On the facts I am satisfied that there has been no waiver of the irregularity, and, that being so, the rule must be made*

*absolute and the conviction quashed."*

While it is acknowledge that the Commission could ask to see what written instructions FortisBC gave Itron, the truth remains that neither the Commission nor the intervenors will ever know what passed between FortisBC and Itron with regard creation of the wired option evidence now before this Commission. Itron may have, for example, placed a firewall between manufacturing and sales staff, and those doing the analysis, but the facts are that all involved were Itron employees and hence the potential existed for them to have a bias towards a wireless option. Simply put I, as an intervenor, am not prepared to agree to waive the irregularity of having the successful bidder for installing wireless smart meters provide the evidence for a wired option as well.

It is simply not in the public interest to have FortisBC supply the Commission with evidence obtained from Itron when Itron was in a pecuniary conflict of interest with the contract that it had previously signed with FortisBC to supply wireless meters. Nor is it in the interest of the Commission, FortisBC, all the intervenors and all of the FortisBC customers to potentially run the risk of having these proceedings thrown out on grounds of bias and/or conflict of interest using section 101 of the Utilities Commission Act. The Canadian media is currently replete with examples of conflict of interest:

Mayor of Toronto  
Mayor of Winnipeg  
Premier Alison Redford  
Mayors of Montreal and Laval  
SNV-Lavalin

If the Commission agrees that the wired comparative analysis evidence from Itron is provided in a conflict of interest situation and/or has the potential to be biased, it must then determine what the FortisBC application looks like with that evidence set aside.

Does the application remain whole?

Is evidence for a wired option in a comparative sense required to make these proceedings whole?

Given that both FortisAlberta and, more recently and within the same comparative analysis period, Idaho Power Ltd (see Appendix 1 to this submission) have chosen a wired option, it is argued that for this application to remain whole an appropriate wired comparative option is required.

FortisBC in 1 of their submission (B-12, page 3, after (a)(c) and last paragraph on "Timing" (b)) argue that:

*"...no change to the existing regulatory process is required in order for the above opportunities to arise. There is no basis on which to require additional information to be provided or that it be provided in a form other than already contemplated in this regulatory process.*

*A suspension of the proceeding could indirectly achieve or further the result that certain of the intervenors seek: jeopardizing FortisBC's ability to proceed with its contract with Itron. The Interveners should not be able to achieve or further that result by indirect means.*

In response to FortisBC's allegations it is simply noted that the Commission has never been asked to undertake any such thing as a deviation from the regular procedures. Rather, what is being asked is that the evidence presented before this Commission be done so in such a manner as to not be provided in a biased or conflict of interest manner.

The fact that FortisBC has chosen to sign a contract with Itron is viewed as presumptuous. However, the Commission should note that that contract has not been challenged per se. What has been challenged and what places FortisBC's contract with Itron in jeopardy is FortisBC's failure to ask an independent third party to review Itron's costs and capabilities against a wired option. Here it is noted that, elsewhere in this submission, information is provided that shows when the California Public Utilities Commission (CPUC) received approximately 600 complaints with regard Pacific Gas and Electric's (PG&E) deployment of smart meters, it did not ask PG&E to investigate itself. Instead it hired a third party to do so and then report back to the Commission.

To suggest that any intervenor has purposely set out to subvert these proceedings is nothing more than a sad commentary on FortisBC's inability to understand when a potential conflict of interest can arise and how to avoid it happening in the first place. As CPUC clearly understood, the Commission could not ask a utility, about which complaints were being made, to investigate itself. So neither should FortisBC have asked Itron to prepare a comparative analysis of a wired meter option against its own bid for the smart meter wireless contract.

FortisBC's submission to the Commission, on this matter, completely fails to address the conflict of interest issue that was raised in two previous submissions by me. Yet, when the issue and circumstances are raised with anyone else outside these proceedings, they fully and immediately understand the concern. In fact nowhere do FortisBC, CEC or BCSEA/Sierra Club address the fact raised by FortisBC in their response to BCUC IR#1 106.3 (page 247, lines 15 and 16) that:

*"PLC equipped OpenWay meters are currently not commercially available from Itron"*

Why, it is asked of the Commission, utilize a company supplying wireless meters under contract to do your analysis of wired costs when they have no commercially available wired meter? In fact does the Commission even know if Itron has ever been used in deployment of wired meters under any contract with a utility?

If the Commission agrees with a need to set aside the Itron evidence on wired meters, FortisBC's argument does not hold up and in fact becomes a diversionary argument away from the heart of the issue that needs to be discussed. On this point of law it is simply noted to the Commission that FortisBC, CEC and BCSEA/Sierra Club are completely silent and therefore it is submitted that the argument in their respective submissions should be dismissed by this Commission panel.

And here it is asked that the Commission consider two further Canadian legal authorities on the matter of bias and conflict of interest being raised, beyond *R v Sussex Justices*, [\*Ex parte McCarthy\*](#):

Attorney General v. Hitchcock (1847), 1 Exch. 91  
General Films v. McElroy, [1939] 4 D.L.R. 543 (Ont.C.A.)

## **2. The Lack of Comparative Evidence**

In this section it is noted that the Commission previously, in 2007, rejected FortisBC's smart meter application on grounds that there was insufficient evidence to make an order to proceed. Must this current hearing go down that same road again? The whole purpose in asking for a suspension in these proceedings is to make FortisBC's application whole, not subvert the proceedings themselves.

Further it is asked that the Commission note that this intervenor strongly differs with CEC, BCSEA/Sierra Club and FortisBC in the substance of the matter over the form, in that it is believed that it is of no merit for the Commission to accept just any evidence. Rather, it is of importance that the evidence submitted cannot be seen as conjectural or suppositional if the Commission is going to make an appropriate and verifiable comparison

between wireless and wired options.

### **i. The Missing Appropriate Financial Evidence Between Wired and Wireless**

We do not as yet know what percentage of FortisBC's service area can be economically and efficiently operationally serviced by wireless meters.

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If FortisBC might be considering whether to use a Power Line Carrier Advance Metering Infrastructure (PLC AMI) option for a part of its service area (see FortisBC response to BCUC IR#1 106, 106.1, 106.1.1 and 106.2, page 246 to 247, lines 8 to 18, lines 2 and 3 and 12 to 19) , and noting that even CEC has now asked whether or not FortisBC might consider PLC AMI as a potential opt out option (CEC IR#2 30.1 and 30.2, page 22), should the Commission not now know what deployment of such a wired option might actually cost?

As reported in C-13-6 FortisBC, in answer to CEC IR#1 40.2 (page 54, lines 8 and 9 and 14 and 15):

*"No, FortisBC does not expect that the expected economies of scale referred to in CEC IR#1 40.1 will make the RF mesh system significantly more economical for very sparsely populated areas...more likely that alternative technologies such as direct connect cellular or PLC will prove economical in 'hard to reach' areas".*

In this regard FortisBC provides evidence that the capital cost of their preferred wireless option is approximately \$428 per meter, \$316 if appropriately compared to FortisAlberta's wired option of \$268. That's a savings of \$48 per meter in favour of wired. When added, however, to the acknowledged operational cost savings of \$3,565,000 for a wired option, \$9,085,000 or \$79 per customer meter, that's a 25% spread on the margin financially in favour of a wired option.

That's before one takes into account the information provided by Mark Heintzelman (AMI Implementation Project Leader) of Idaho Power Ltd (Answer to question 6, email communication from Mark Heintzelman, Idaho Power Ltd, November 27, 2012). Here it is noted that in their Order 30726, February 12, 2009, the Idaho Public Utilities Commission specifically states (page 6, 3rd paragraph, second sentence) that:

*"According to staff, the cost of each individual AMI endpoint has declined dramatically from \$292 to \$136".*

Subsequently, in a telephone conversation, Mr Heintzelman and myself determined that, after factoring other associated costs it was closer to \$152, as verified in answer 6 of Appendix 1 of this submission.

This creates a potential spread of \$164 per meter, or 48.1%, if one accepts FortisBC's comparative cost with FortisAlberta of \$316 per meter. In this context Itron's cost analysis must be questioned, for the reasons stated in 1 above, further noting that the Commission now has information from two installed wired options before it - the latter, from Idaho Power Ltd, was actually being installed at 48.1% below Itron's wireless estimate while Itron was undertaking a comparative wired analysis for FortisBC's own application to this Commission.

From a purely financial perspective FortisBC's capital cost comparative analysis seems to lack credibility. True, a proper, authenticated and verifiable comparison needs to be done in an appropriate manner for the Commission. However the gap between FortisBC's evidence and the costs currently attributed to both FortisAlberta and Idaho Power Ltd require the Commission to defend the public interest by ensuring that the most financially sound option is actually on the table before it.

How, for example, does the Commission square the fact that Idaho Public Utilities Commission staff found

that, between 2004 and 2009, the cost of each smart meter declined by \$156 each, with FortisBC's own claim, at their response to BCUC IR#1 106.3, page 247, 17-19, that:

*"These enhanced capabilities require a more expensive PLC infrastructure than typical PLC-equipped meters generally available on the market".*

An enhanced wired option cannot simultaneously be both cheaper and more expensive in the same time frame and it behooves the Commission to determine, in the public interest, what the truth of this matter actually is.

FortisBC might prefer a wireless option, but the truth is, all things being equal, that if the wired option saves the customers of FortisBC an unnecessary increase in the cost of their electrical power, then the Commission has a duty to ensure a wired option is fully considered and reviewed. Beyond section 45(8) of the Utilities Commission Act, the observation of the Nelson-Creston Green Party Constituency Association (NCG) is concurred with, as found in their C-18-5 submission, in reference to Appendix A, BCUC Order G-50-10. At issue is a potential \$18,860,000 cost savings in favour of the wired option over wireless, which, if added to the FortisBC-identified operational cost savings, amounts to \$22,425,000, or \$195 per meter in favour of a wired option. That's a 61.7% projected price spread between wireless and wired options.

This clearly gives the Commission a second reason to suspend these proceedings in favour of FortisBC being required to provide an appropriate and verifiable wired option: that of cost to the customer of installing wireless meters vs wired.

In this regard it is requested that the argument of FortisBC in section 2 of its B-12 submission should be dismissed, in that they state:

*"The CPCN process requires a utility to bring forward a proposed project for approval. It does not involve the utility being ordered to apply for and proceed with matters it does not wish to undertake.*

*In this case, FortisBC determined to bring forward the 'wireless' option forward for approval. That application should be permitted to proceed."*

FortisBC's arguments fall apart if the capital and operational cost of installing wired smart meters is indeed cheaper. The option to install wireless smart meters is not an absolute right for FortisBC, and must be based on certain contextual parameters such as it being the preferred economical option available.

Evidence provided elsewhere in this submission, from Order 30726 of the Idaho Public Utilities Commission, February 12, 2009, simply contradicts that claimed by FortisBC in their application at pages 111 to 115. Likewise, it is believed that information from related filings and orders before the Idaho Public Utilities Commission, if proved correct, will demonstrate that an appropriate and verifiable wired option comparison can probably match and surpass FortisBC's preferred wireless one.

Consequently the Commission is asked to dismiss FortisBC's submission on the grounds that they are simply asking the Commission to grant them an absolute right to continue with a wireless-only consideration in this proceeding when best price analysis requires that a wireless and wired option be present and considered.

## **ii Is FortisBC's Contextual Comparative Analysis Factual, Fair and Appropriate?**

Beyond the question of admissibility of evidence supplied by FortisBC via Itron and the question of an appropriate cost comparison between wireless and wired options, a third lens or frame needs to be used: are wired and wireless options technically capable of providing similar or the same advantages?

CEC in C-17-8 embody an unfortunate opinion when they ask FortisBC in CEC's IR#2 page 6 and 7:

*"4.2 Would FortisBC agree that, by employing wireless technology for communication, FortisBC is utilizing a cost-effective and widely accepted technology that has been in use globally for decades'?"*

*4.2.1. Would FortisBC agree that similar wireless technology is ubiquitous in North America for a vast array of applications in a vast array of industries including those in which the security of information transmitted is paramount? If not, please explain in what way the wireless technology employed is novel or unique.*

*4.2.2. Would FortisBC agree that the use of wireless technology is continuing to grow and can be expected to continue to grow world-wide?"*

What CEC implies, in line with FortisBC (I am not so sure about BCSEA/Sierra Club in this third matter), is that wireless use is so all pervasive that it is not necessary for the Commission to look at the wired option at all. PLC, the wired option of controlling the dimness and brightness of street lights, along the transmission line, was first used in 1899 in New York City. If the capital cost price spread between wired and wireless is potentially between 25% and 61.7%, and can actually be verified in favour of the wired option, then the Commission should not be as dismissive as CEC and other intervenors in rejecting a need to look at the potential for a more economical wired option.

Speaking for the commercial and industrial constituents in Area D of the Regional District of Central Kootenay, and not just the residential customers of FortisBC, it is observed that anything that keeps costs down in the present global economic climate and helps create an edge is likely to be both supported and welcomed. Delivering installation of smart meters for between approximately 25% to 62% less cost would fall into that category. On this point it is noted that the Kaslo and Area Chamber of Commerce letter of comment to the Commission is in substantial agreement with this point, contrary to CEC's.

In fact, like FortisBC's observations, CEC's questions above are not backed up by any comparative evidence whatsoever. Nowhere has the Commission been provided with evidence, from FortisBC or any other intervenor, that since 2006 x number of smart meter applications have been accepted by their respective utility commissions, y being wired and z being wireless. What is now known, thanks to Mr Heintzelman of Idaho Power Ltd, is that between 2006 and 2011, besides Idaho Power, the following power companies:

Avista  
Kootenai Electric  
Fall River  
Burley Rural  
Idaho County Electric

...have installed wired meters.

The fact that wired meter systems were being deployed in the US Pacific Northwest is why FortisBC has been repeatedly asked, by myself, to carefully consider a wired option in their smart meter application. That said, the Commission's attention is directed to the Idaho Public Utilities Commission Order 30726, of February 12, 2009:

[http://www.puc.idaho.gov/internet/cases/elec/IPC/IPCE0816/ordnotc/20090212FINAL\\_ORDER\\_NO\\_30726.PDF](http://www.puc.idaho.gov/internet/cases/elec/IPC/IPCE0816/ordnotc/20090212FINAL_ORDER_NO_30726.PDF)

What follows are highlights of what Idaho Public Utilities Commission found in regards to wired meter

installation in this and other previous applications by Idaho Power Ltd:

- enabling various functionalities and smart grid operations in the future
- better outage management
- hourly data collection
- additional back office systems and rate structures
- multiple vendors rather than a single source to ensure the requisite products and services necessary for AMI installation.

Specifically the Idaho Commission noted of its own staff on page 6 of the Order:

*"Staff recounted the improvements to the "AMI modules" since the Company's 2004 Phase One Implementation in McCall and Emmett. According to Staff, the cost of each individual AMI end-point has declined dramatically from \$292 to \$136. Id. at 5. The technology has also improved significantly, providing larger memory for more reliable data retrieval and expanded data collection bandwidth. Id. Staff believes that the Company has resolved the technological issues encountered during Phase One Implementation and justified its selection of AMI equipment. . . . Id. at 7."*

In other words the Idaho Commission did not simply allow the utility to plunk down \$47.7 million and get on with installing smart meters. No, this has been a process dating back to 2001, that has evolved with changing technology, in which the utility concerned applied to undertake a certain number of pilot projects to ensure that the direction it was going in was appropriate and verifiable. In contrast the best FortisBC has been able to tell the BC Commission is that the wired meters installed by FortisAlberta did not meet their current requirements, but that they believe the technology might have improved.

*"PLC-equipped OpenWay meters are currently not commercially available from Itron, but are expected to provide similar capabilities to the RF and cellular-equipped meters. These enhanced capabilities require a more expensive PLC infrastructure than typical PLC-equipped meters generally available on the market"* (BCUC IR#1 106.3, page 247, 17-19).

How does the BCUC square FortisBC's evidence from a supplier who does not have a commercially available wired option, from an applicant who has not deployed any smart meter equipment in any pilot projects, and yet claims, contrary to the assessment of the Idaho Public Utilities Commission, that deployment of wired meters will be more expensive? This evidence from FortisBC, via Itron, it is argued is purely conjectural and suppositional and has no basis in fact, and quite likely, though not proven, is biased in favour of a wireless option.

Does the Commission not agree that, if this proceeding is going to use data on a wired option as a comparison to FortisBC's preferred wireless one, the information should come from a reliable source, preferably a source that has commercial installation experience of wired meters and one that knows about the technological changes that are taking place in a wired meter field?

In this context it is noted that the Idaho Public Utilities Commission further observes in its Order:

- improved billing accuracy
- Energy Watch and Time of Day pilot programs
- real time usage information available through customer purchase of Blueline, Aztech and Energy Detective devices
- reduced operation and maintenance expenses
- future benefits for remote connect-disconnect capabilities, time-of-use pricing, smart grid operations and

charging stations for hybrid electrical vehicles.

Towards the end of its Order the Idaho Public Utilities Commission specifically states (page 9, last paragraph):

*"...the Commission once again expresses its expectation that Idaho Power will 'demonstrate its ongoing effort to reduce operating costs and increase efficiencies' and reminds the Company that 'in the current economic climate [its] fiscal responsibility will be reviewed extensively and continually'".*

As NCG point out in C-18-5 with regard the BCUC requirements:

*Certificates of Public Convenience and Necessity Application Guidelines, Appendix A to BC Utilities Commission Order G-50-10 states:*

*"2. Project Need, Alternatives and Justification*

*(i) Studies or summary statements identifying the need for the project and confirming the technical, economic and financial feasibility of the project, identifying assumptions, sources of data, and feasible alternatives considered. The applicant should identify alternatives that it deemed to be not feasible at an early screening stage, and provide the reason(s) why it did not consider them further;*

*(ii) A comparison of the costs, benefits and associated risks of the project and feasible alternatives, including estimates of the value of all of the costs and benefits of each option or, where these costs and benefits are not quantifiable, identification of the cost or benefit that cannot be quantified. Cost estimates used in the economic comparison should have, at a minimum, a Class 41 degree of accuracy as defined in the Advancement of Cost Engineering ("AACE International") Recommended Practice No. 10S-90, Cost Engineering Terminology (May 20, 2009);*

*(iii) A schedule calculating the revenue requirements of the project and feasible alternatives, and the resulting impacts on customer rates;"*

In this regard much of what the Idaho Public Utilities Commission noted in its Order of February 12, 2009 Mr Heintzelman confirms in his e-mailed reply to my questions of November 27, 2012 (see Appendix 1). This leads to a conclusion that the evidence supplied by FortisBC to the BCUC to date, with regard a wired option, is at odds with the factual assessment conducted by the Idaho Public Utilities Commission.

How, for example, does the Commission square FortisBC's statement in their application at 7.3 (page 112, lines 8 to 13):

*"Depending on the number of endpoints and the frequency of reading intervals, the amount of data travelling between the meters and the collectors can overwhelm the bandwidth of a PLC system. This becomes increasingly challenging once load control or pricing signals data is included for transmission through these same communication channels. The volume of data can impact the speed of transmission and can cause delays in getting the information back to the central computer in a timely fashion."*

with the findings of the Idaho Public Utilities Commission staff, as quoted from the Commission's own order above, and Mr Heintzelman's own observation in answer to my question 11 (see Appendix 1 below) that AMI PLC effectively serves Idaho Power Ltd's data retrieval requirements at its largest substation for some 16,000 customers?

FortisBC has simply not met the BCUC's requirements quoted by NCG in C-18-5.

And, in this regard, it is asked of the Commission: is it appropriate that residential customers and elected government representatives, and any of the intervenors in these proceedings, should have to take on the required role of the applicant? Should any of us be forced to go outside this province and outside this country and hunt down information as evidence to present before this Commission on the applicability of considering a wired meter option?

As the Idaho Public Utilities Commission notes to Idaho Power Ltd in a quote above, the responsibility to ensure fiscal responsibility in the current economic climate belongs to both the BC Utility Commission and FortisBC, as per section 45(8) of the Public Utilities Act. As NCG notes in their submission, it is the California Public Utilities Commission who required Southern California Edison (SCE) in November 2011 to:

*“file a proposal to provide residential SCE customers an alternative to the installation of a digital electric smart meter that transmits customer usage data through radio transmission. The proposal shall include analysis on the technological feasibility and cost to offer each of the following types of alternatives to installation of a wireless smart meter:*

*Analog (electromechanical) meter.*

*Digital meter with no radio installed.*

*Smart meter with radio transmission turned off.*

*Wired smart meter.”*

Further SCE was ordered to include the following analysis:

*"Whether the radio transmission capability of the electric smart meters can be turned off remotely and the associated cost to include that feature.*

*Whether the radio transmission capability of the electric smart meters can be programmed to turn on and transmit data at a specified time each month and the associated cost to include that feature.*

*A comparison of costs to implement each of the alternatives:*

*- If an analog meter is currently installed.*

*- If a wireless smart meter is currently installed.*

*A comparison of costs when a meter is read:*

*- By a utility employee every month.*

*- By the utility employee on a quarterly basis, with the remaining months being read by the customer.*

*- By the utility employee on a semi-annual basis, with the remaining months being read by the customer.*

*Identification of all costs that would be incurred regardless of how data for the alternative is collected (i.e., read by utility employee, read by customer or read via “snap read”).*

*The proposed up front and monthly fees/rates to be paid by customers under each of the opt-out alternatives. The proposed fees/rates shall also specify the discounted fees/rates to be charged to customers enrolled in the California Alternates Rates for Energy Program.<sup>1</sup>*

*1 See Decision 11-11-006 November 10, 2011 viewable at [http://docs.cpuc.ca.gov/word\\_pdf/FINAL\\_DECISION/153442.pdf](http://docs.cpuc.ca.gov/word_pdf/FINAL_DECISION/153442.pdf) "*

Does the Commission believe that customers of FortisBC have less right or no right to know about practices in other utility jurisdictions across North America, that might better suit their preferred needs and lower the cost of paying for electricity?

### **3. Other Comments with Regard Fortis BC's B-12 Submission**

At 1(a) filing of additional information (a) page 3 FortisBC states:

*"a) filing Intervenor evidence on or before January 24, 2013 for doing so. RDCK, for example, has already advised that it will be relying on related evidence from Mr McLennan (p. 2 of exhibit C13-5). FortisBC will at that point have the opportunity to pose IRs to Intervenor. To date, the often inaccurate assumptions about "wired" alternatives that certain Intervenor have made in their submissions have been sheltered from such challenge. Those untested statements should not be used as a basis for an order against FortisBC such as*

*sought in the Applications."*

Contrary to FortisBC's statement, until this submission no such implied reference with regard the wired meter option in C-13-5, or anywhere else, has been made other than to ask that such an option be included in FortisBC's application. Quite the contrary, in C-13-5 it was outlined that Mr McLennan will provide evidence that FortisBC's proposed wireless technology has certain incompatibilities with other devices as stated as follows:

*"I intend to call Mr Robert McLennan, former President of Kaslo information Network (KiN), as an expert witness who will give evidence that the wireless technology chosen by FortisBC is incompatible with certain Wi-Fi, ham radio, cordless phones, baby crib monitors, etc wireless equipment (all using the same non-licensed 900Mhz frequency band)."*

In this regard it is noted that, in 2010, a third party assessment for the Energy Division of the CPUC was undertaken by the company Structure Consulting Group with regard complaints received about the deployment of smart meters by Pacific Gas and Electric (PG&E):

<http://www.pge.com/includes/docs/pdfs/myhome/customerservice/meter/smartmeter/StructureExecutiveSummary.pdf>

At pages 30 to 32 of their report Structure states:

*"Structure contacted 100 high-bill complaint Customers for potential in-depth interview participation related to their high bill complaint. Of the 100 Customers contacted, 20 Customers agreed to be interviewed...*

*...2 Customers interviewed experienced electrical problems due to Smart Meters causing "surges" or interruptions in timed electrical services such as security lights and hot tub pumps.*

*Explanations included:*

*There is a possibility for a meter in close proximity to FCC Part 15 Unlicensed Radio Frequency (RF) devices and transmitting data via a 1 watt radio transmitter to create operational interference (e.g., static, trip, or outage) when the RF signal passes through these devices. This is an issue that is prevalent with any RF device, such as walkie-talkies, garage door openers, etc. Electrical issues may be due to a matter of proximity to the transmitter, strength of the transmitter, frequency of the transmitter, and the impact on the neighboring device.*

*FCC Part 15 Unlicensed RF devices include:*

*Motion sensors*

*Garage door openers*

*Baby monitors*

*Wireless telephones*

*Wireless speakers*

*PG&E has determined that certain models of Ground Fault Interrupter (GFI) breakers (such as those used on hot tubs) may be impacted if they are in close proximity to the meter. PG&E has also engaged Smart Meter manufacturers to develop low power transmitter solutions to the GFI interference issue, and has trained the installation contractors to listen for GFI tripping upon installation of a new meter.*

*On average, Customers indicated a 4.5 month delay between complaint submission and ultimate resolution. The quickest resolution was reached in four days; however, the longest resolution took 12 months and significant effort on the part of the Customer."*

Further, quite by chance in the spring of 2012, a casual conversation with a constituent while attending a concert, revealed that a friend in the Cariboo, in the community of Likely, had lost their Internet service for a month, starting in December 2011. Upon phoning this person in Likely and then speaking with the owner of the Internet service in Williams Lake it was determined that this outage was as a direct result of installation by BC Hydro of smart meters.

The same outage of a rural wi-fi service in first Roseberry and then Silvertion occurred in June, even though BC Hydro had been previously notified of this disruption before smart meters were being installed in the Kootenays. In August Mr McLennan and myself met with two representatives of FortisBC, with the intent to have this problem dealt with before FortisBC began installation of smart meters.

FortisBC's submission and implications that I and other intervenors are simply trying to disrupt FortisBC's application before this Commission in these proceedings are strongly objected to. Information concerning disruption of wi-fi services was brought to my attention by my constituents and then confirmed in subsequent telephone conversations, and I am more than willing to share with Commission staff the contact information for all those persons with whom I have spoken on this matter.

My responsibility is a duty to care as an elected local government politician, and to ensure that risks to constituents' health are minimized and day-to-day lives are not disrupted by introduction of a new technology such as smart meters. The fact that rural citizens' wi-fi services were disrupted, for up to a month in at least one instance, shows a deplorable lack of oversight by both the provincial and federal governments, and here it is noted that BCUC was purposely excluded by legislation from being able to exercise any oversight.

That said, at every turn of events I have tried to advise FortisBC, in a respectful manner, of my concerns and what my research was finding. I therefore very strongly object to FortisBC misconstruing my words and suggesting that the goal in requesting that this proceeding be suspended was to have FortisBC's current application dismissed. To the contrary, asking for a wired meter option to be contained within the application was so that it, the application, may be saved.

The arrival on December 6, 2012, of BC Southern Interior MP Alex Attamanenko's further submission, including a response from Health Canada, that in part states:

*"The appointment of an Expert Panel of the Royal Society of Canada has been selected as the means for obtaining independent expert assessment of the review of Safety Code 6. A review of the code is currently underway within Health Canada and it is anticipated that the Expert Panel report, with recommendations, will be released by the Royal Society of Canada in 2013, and an updated Safety Code 6 will be published."*

underscores a need for BCUC to require FortisBC to provide a wired meter option. And, in this context, it is hoped that this Commission, given that it is their first extensive discussion on installation of wireless meter technology, in which residential customers have been fully engaged, will keep an open mind.

Further, it is hoped that the Commission will take note that a review of the literature finds that, in jurisdictions where utility commissions initially granted orders for wireless smart meter technology to be installed without an opt out provision, some of those same commissions then went back and revisited their decisions, ordering that those same utilities develop opt out provisions from this wireless technology.

#### **4. The Argument to Appeal a Portion of Order G-177-12 in this Proceeding**

Having been granted leave to submit further arguments with regard a request to have this proceeding suspended pending more appropriate evidence being filed by FortisBC concerning a wired option in this application, a

concern arises that, by making an appeal before a decision on the request for suspension is made, the request for the first decision will be placed in jeopardy. On the other hand this intervenor finds himself between a rock and a hard place in that the Commission has asked for submissions to a request for suspension seven days before further evidence may possibly be available from FortisBC on the wired option, without knowing if a third round of intervenor questions might be allowed, and without knowing if a February 26th procedural conference, if called into session, might cause the Commission to reconsider its decision to require written submissions only on financial, operational, fire safety and privacy issues, including wireless vs wired meters.

The only question that should be before this Commission is: what will maximize the ability of the Commission to make an appropriate decision in the public interest. In this regard, some intervenors might feel flattered to be told that some of their arguments can be best dealt with in written form. In the alternative, having periodically appeared before this Commission since the late 1980's, the experience of the 2009 Rate Design oral hearing in May 2010 proves different.

Much of the oral hearing was taken up by Mr Weafer (no disrespect intended) and others asking some highly technical questions about rate design, in which I jokingly described, at the time, as being a bit like watching paint dry. My oral cross-examination of FortisBC probably did not take even an hour. However, as a result of that oral intervention the Commission decided to support my submission that FortisBC should design and submit an inclining block rate for consideration by the Commission. This was done and an order was issued on the matter that saw an inclining block rate introduced to FortisBC customers in 2012.

With the greatest of respect to the Commission panel, it is believed that a written-only submission by myself could not have provided the Commission with the means to adduce that an inclining block rate might be in the public interest to consider. Thus, in these proceedings, with the thousands of pages of written testimony and evidence, it is believed that it will be extremely hard to keep track of all the facts and keep them straight. Therefore it cannot be imagined what it would be like for someone less experienced and not at all versed in the legal form of the proceedings in a British Columbia Utilities Commission hearing to have no recourse to an oral cross-examination.

It is also asked of the Commission: where is the procedural fairness of allowing Mr Weafer and others, mostly lawyers, to ask the FortisBC panel some highly technical oral questions during a previous rate design hearing when it was in the specific interest of Mr Weafer's clients that he be granted that right, but then to deny non-legally experienced residential customers the same right during this current hearing.

And further if the issue is one of timing for FortisBC, it is noted that FortisBC was going to file this application for over a year before it did so, and that just because Itron may or may not leave the province because it has completed deploying BC Hydro's smart meters, does not mean that the right of residential customers to ask oral questions of FortisBC on their evidence should be short circuited. This decision to deploy smart meters once made will not be as easily reversible as ordering a rate increase or rate design. Installation of these new meters will be a decision that will likely not be reversed for ten to twenty years due to cost of installation.

Therefore the primary intent in making an appeal under section 99 of the Utilities Commission Act is to ask the Commission to reconsider why it wants to prevent intervenors from orally cross-examining FortisBC on whatever evidence the Commission allows or subsequently requires FortisBC to provide in these proceedings. As is noted in the above paragraphs, it is not believed that every intervenor has either the skills or experience to ensure that all the questions required to be asked will be covered through written submission before the Commission moves to the oral stage of these proceedings. And a concern currently exists that, unless intervenors actually go out and procure a quote based on FortisBC's original RFP, there will be insufficient evidence to convince the Commission of the merits of a wired option.

In this context it is further observed that, when going on the Commission's own website, the issues of wireless

smart meter health and privacy concerns are discussed in a manner that some might construe as being settled, and also that the right of a utility in BC to place a smart meter on a customer's property, as found at sections 4, 5 and 6 of **Quick Facts About Smart Meters**, is also settled.

Finding these implied factual statements on the Commission's own website about issues that are currently under consideration in this proceeding, prior to the Commission having seen all the evidence and heard all the argument, is disconcerting to say the least. In all procedural fairness, it is believed that the only way for the Commission to be seen to keep an open mind is for the Commission panel to allow an oral aspect to the wired vs wireless issue, which cannot be asked for without the same right being granted for other intervenors who may have other issues on which they wish to orally cross-examine FortisBC.

What is not being asked for in this appeal is for new evidence to be admitted during the oral cross exam. Further, it is acknowledged that written submissions can be a primary method of submission and cross-examination on some issues. However, it is being argued here that, under the present circumstances, every intervenor should be granted the right to dot the "i"s and cross the "t"s when it comes to an ability to orally cross-examine FortisBC.

In all honesty, if FortisBC had supplied an appropriate and verifiable wired meter option with their original application, it is not likely that any intervenor would be submitting or supporting an argument for the right to orally cross-examine on the issue of wired vs wireless meters, because in the first two rounds of intervenor questions, intervenors would have been able to verify the evidence as fact or not, and then argue on its merits. The truth is that, in this instance, some of the evidentiary facts surrounding wired meters are at best questionable as to their merits in being present at all. Meanwhile others are missing, and still others are being put forward in evidence by the intervenors themselves.

Procedurally there is insufficient, and verifiable and accurate, facts from FortisBC to determine the truth about the appropriate and verifiable nature of a wired meter option. In that sense it is believed that the Commission panel has made a procedural error in closing out the option of allowing oral cross-examination of the wired meter option before all the evidence was in.

Allowance of a third round of intervenor questions, after second round responses are reviewed, and the possibility of the Commission being agreeable to tweak what issues will be allowed to be discussed in the oral hearing might mitigate concerns. However it makes it extremely difficult to plan an appropriate strategy for getting at the truth of the matter when one does not clearly know what the rules of engagement are going to be. It keeps one off one's game as it were, especially if one is already not well versed in both the form and content that these proceedings might take.

For the above reasons the Commission is requested to reverse the decision on precluding oral cross-examination of any evidence submitted by FortisBC in these proceedings, particularly in acknowledgement of the varying degrees of expertise and experience present among the intervenors themselves.

## **5. In Conclusion**

For all of the foregoing reasons, and those found in C-13-6, it is submitted that a verifiable and appropriate wired meter option should form part of the application and evidence in this proceeding.

If not FortisBC, then who is to provide this information? Are Commission staff going to send out an RFP on behalf of BCUC so that a third party can review FortisBC's wireless option and compare it to an appropriate and verifiable wired one?

If the facts and evidence discussed in Order 30726 of the Idaho Public Utilities Commission are a true and

accurate assessment of the capability and actual cost of installing a wired smart meter option, then the Commission has a considerable conundrum before it.

Leaving aside, for now, FortisBC's technical assessment of a wired meter option, how does the Commission explain that Itron's capital installation cost analysis, undertaken for FortisBC, is 215% higher than FortisAlberta's actual installation costs, and 380% higher than Idaho Power Ltd's capital cost of installation between 2009 and the end of 2011?

The Itron evidence constitutes, in effect, what is known in law as an "expert opinion". Surely any consideration of that evidence's sufficiency should be considered in light of the written decision of Sedgwick J. in *William Hamilton Manufacturing v. Victoria Lumber and Manufacturing Co* (1896 26 S.C.R. 96 at 108) when he states:

*"What are the actual facts which these experts really know upon which they base their opinion? They do not tell us. Now, in the absence of evidence and explanation of this kind, the statement by them of their opinion is not proof, and in my view no judgment can be based upon it. It is mere conjecture, or suggestion, or guesswork, possibly true, probably not, upon which no verdict could safely rest"*

As the son of a former chartered accountant for Shell International, I keep asking myself: where is the financial logic of a smart meter option that utilizes FortisBC's existing power line infrastructure costing more than one that deploys a whole new and different physical infrastructure?

Has Itron ever been part of a wired meter deployment by a utility? If not, why ask them to do a comparative analysis of what the capital cost might be?

And why utilize the company contracted to supply wireless meters to do your analysis of wired costs when:

*"PLC equipped OpenWay meters are currently not commercially available from Itron"* (FortisBC response to BCUC IR#1 106.3 page 247, lines 15 and 16)?

In contrast the evidence found in Order 30726 of the Idaho Public Utilities Commission forms part of an eight year long decisional and pilot project process.

It is hoped that this argument and the information provided will be enough to convince the Commission to require FortisBC to provide a verifiable and appropriate wired option for their consideration.

Respectfully submitted,  
Andy Shadrack  
Director Area D  
Regional District Central Kootenay

\*\*\*\*\*

#### **Appendix 1: Email from Mark Heintzleman:**

From: "Heintzleman, Mark" <MHeintzleman@idahopower.com>  
To: "Andy Shadrack" <ashadra@telus.net>  
cc: "Nordstrom, Lisa" <LNordstrom@idahopower.com>,  
"Van Patten, Duane" <DVanPatten@idahopower.com>  
Date: Tue, 27 Nov 2012 10:51:58 -0700  
Subject: RE: Questions for Idaho Power

Andy,

I am happy to answer your questions and provide the information I can on an informal basis. Idaho Power has found it to be to our benefit not to become formally involved in any other utilities AMI deployments especially in the area of technology comparison related to RF and the perceived health issues. Having said that, here is my response to your request.

You can access our Idaho Public Utilities Commission AMI related filings and orders through the following links. This is all public information.

AMI CPCN: <http://www.puc.idaho.gov/internet/cases/summary/IPCE0816.html>

AMI Rate Increase: <http://www.puc.idaho.gov/internet/cases/summary/IPCE0907.html>

AMI in Rate Base: <http://www.puc.idaho.gov/internet/cases/summary/IPCE1006.html>

AMI Complaints: <http://www.puc.idaho.gov/internet/cases/summary/IPCE1204.html>

1. Can Idaho Power please confirm the following attributes of the TWACs power line carrier option that was purchased from Aclara Power Line System Inc, Landis+Gyr residential meters and General Electric commercial meters: In general that is correct.

i. ability to gather hourly interval customer consumption data ii. ability to read meters economically in remote locations iii. ability to provide direct load control information iv. power outage management v. only new equipment required when adding a new customer will be in the meter itself vi. ability to provide troubleshooting and necessary maintenance communications. **Yes to all.**

2. What other positive attributes of the TWACs power line technology option has Idaho Power identified as available to the company and its customers since installation? **The installation of the broadband communications in our substations for backhaul AMI communications has enhanced our existing SCADA system and is the basis for future addition and enhancement.**

3. Can the TWAC's power line technology be calibrated to capture: peak demand, multiple time of use, continuous interval data and add an automatic connect/disconnect function? **Yes.**

4. Are there other Public Utility Districts and Public Utilities in the Pacific Northwest that have installed wired meters, and if so in what year?

**There are a number of TWACS installations in Idaho. Avista, Kootenai Electric, Fall River, Burley Rural, Idaho County Electric I'm not sure of the years for each 2006- 2011 (I'm sure Aclara can provide more specifics)**

5. Using the attached itemized list can Idaho Power please confirm what the total expended costs for the installation of smart meters was? **We have nondisclosure agreements on specific costs.**

6. Can Idaho Power please confirm that these costs approximate \$152 US per meter? **The overall cost of the system including software and data management systems divided by meter endpoints is approximately \$152**

7. Can Idaho Power please confirm that installation of these meters took place between 2009 and the end of 2011? **That is correct**

8. Does Idaho Power have an inclining block rate, critical peak and/or time of use rate structure? **We have done all of these with AMI. We currently do not have a CPP rate.**

9. What forms of wired-in meter technology does the Idaho Power smart meter installation include: PCL, third-party carriers, telephone, fibre optic, other? If more than one technology is being used can Idaho Power please explain how and why each technology was chosen? **Our retail customers are PLC. We have a phone system for our larger industrial customers.**

10. Can Idaho Power confirm that they currently serve 495,570 customers across 24,000 square miles (62,160 square kilometers) at an average density of 20.65 meters per square mile (7.97 meters per square kilometer)? **We currently have just over 500,000 with 522,000 meters installed over 24,000 sqmi**

11. Has Idaho Power found any problems in the high density meter portions of their service area, retrieving data from meters or in relaying instructions and/or information to their meters? **Our largest substation serves just over 16,000 customers and we have not seen any issues related to data retrieval.**

12. Are there any attributes that Idaho Power had to forgo in choosing a wired over a wireless technology smart meter option? **None that we could make a business case for.**

13. When choosing the TWAC's power line carrier option did Idaho Power hear any concerns from their customers? **A small percent of customers had the usual concerns perpetuated on the internet.**

14. In choosing the TWACs power line carrier option over other smart meter options did Idaho Power have concerns about any health, safety or security issues posed about wireless systems? **No it wasn't a consideration.**