

BRITISH COLUMBIA UTILITIES COMMISSION
IN THE MATTER OF THE UTILITIES COMMISSION ACT
R.S.B.C. 1996, CHAPTER 473

And

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

Kelowna, B.C.
March 12, 2013

PROCEEDINGS

BEFORE:

L. Kelsey,	Commission Chair / Panel Chair
N. MacMurchy,	Panel Member
D. Morton,	Panel Member

VOLUME 8

ERRATA

Volume 6, March 8, 2013

Page 1107, Line 16 "Breske" should be "Brescia"

Volume 7, March 11, 2013

Page 1274, Line 7 "MR. FULTON" should be "MR. FLYNN"

APPEARANCES

G.A. FULTON, Q.C.	Commission Counsel
G.K. MACINTOSH, Q.C. and L.. HERBST	FortisBC Inc.
I. WEBB and C. FOLKESTAD	British Columbia Hydro and Power Authority
C. WEAVER	British Columbia Municipal Electric Utilities and Commercial Energy Consumers Association of British Columbia
E. KUNG and T. BRAITHWAITE	B.C. Pensioner and Senior's Organization, BC Coalition of People with Disabilities, Counsel of Senior Citizens' Organizations and the Tenant Resource and Advisory Centre
W. ANDREWS	B.C. Sustainable Energy Association and Sierra Club of British Columbia
D.M. AARON	Citizens for Safe Technology
C. BENNETT	West Kootenay Concerned Citizens
A. ATAMENENKO	Riding of B.C. Southern Interior
A. SHADRACK	Electoral Area D, Regional District, Central Kootenay
J. FLYNN	On his own Behalf
K. MILES	On his own Behalf
M. ENNS	On her own Behalf

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CAARS

KELOWNA, B.C.

MARCH 12, 2013

(PROCEEDINGS RESUMED AT 8:59 A.M.)

THE CHAIRPERSON: Please be seated.

Good morning, everybody. Good morning, Mr. Fulton.

MR. FULTON: Good morning, Mr. Chairman.

THE CHAIRPERSON: What's on the agenda this morning?

MR. FULTON: Well, first of all we have Mr. Shadrack's application. And Mr. Bennett is here as well, and Mr. Bennett had had, I think, some questions that he had said that weren't asked -- answered. I don't see Mr. Miles here this morning. So what I am going to suggest in terms of Mr. Miles is that the Commission just accept his position that he sets out in his Exhibit C11-12 and, when it comes time to Fortis to respond, they should respond to that one as well.

And I'm suggesting this process in the case of Mr. Miles, because ordinarily we would expect parties to be here to argue their motions. But this is really part of the written process in any event, and it was just administratively more convenient to deal with the requests on the outstanding IRs for the written phase of the hearing, to deal with them in the oral phase when we had everybody here.

1 THE CHAIRPERSON: All right.

2 MR. FULTON: So, that's the first matter. I understand
3 that there will be an application as well that relates
4 to evidence to be put to Dr. Maisch and other CST
5 witnesses. And so we will have two applications,
6 then.

7 The third matter that I have just relates
8 to protocol, or protocols, for the cross-examination
9 today. And I'd like to get those out of the way this
10 morning so everybody understands going in what we're
11 going to do. We did have, I believe, a successful
12 trial run last night, and so people are familiar with
13 what's going to happen. And so it will just be a case
14 of what happens in terms of objections, and if the
15 panel has questions, et cetera. So, I'd like to have
16 a talk about that at the end today, after we've
17 finished hearing the applications.

18 So, with that introduction, Mr. Chairman,
19 I'll call Mr. Shadrack forward to make his
20 application. And the way that I see the application
21 unfolding is that those that support Mr. Shadrack's
22 application will speak, followed by those taking no
23 position, and then those opposed, with reply by Mr.
24 Shadrack. And I think when Mr. Bennett comes forward,
25 he could also speak to the IRs for which he is seeking
26 an answer from FortisBC, and explain why.

1 THE CHAIRPERSON: Are you proposing that we deal with Mr.
2 Shadrack in terms of the entirety of his concerns as a
3 singular matter, and then deal with Mr. Bennett in
4 terms of his? Or shall we --

5 MR. FULTON: I think we should deal with them all at the
6 same time.

7 THE CHAIRPERSON: Together. Yes.

8 MR. FULTON: Because the issues are basically the same
9 and I think it makes for a more efficient process to
10 do it that way.

11 THE CHAIRPERSON: I agree. I was just unclear about
12 that, in terms of the way you explained it. So that's
13 fine.

14 MR. FULTON: Right. And so in terms of reply, then, Mr.
15 Shadrack would have an opportunity to reply with
16 respect to his IRs, then we would give Mr. Bennett an
17 opportunity to reply in respect of his IRs.

18 THE CHAIRPERSON: So we'll start with Mr. Shadrack and
19 then we'll move to Mr. Bennett, and then those
20 agreeing, no position, and opposed.

21 Good morning, sir.

22 **Proceeding Time 9:03 a.m. T2**

23 **SUBMISSIONS BY MR. SHADRACK:**

24 MR. SHADRACK: Good morning, Mr. Chair and Panel.

25 So, in C13-32, in response to FortisBC's
26 B-34B-34 where they address the IR 3 questions. I

1 stated

2 "Area D believes that each question asked
3 fell within the scope of the third round
4 guidelines, as so directed by the
5 Commission, and that further, beyond the
6 general statement above, FortisBC has failed
7 to explain why it felt a question
8 specifically fell outside of the scope of
9 the Commission, as allowed in the third
10 round."

11 And I also observe that in C11-12, Mr.
12 Miles said

13 "My questions were drawn specifically and
14 directly from the January 22nd, 2013
15 evidentiary filing.."

16 And what he was referring to there is B-23. And
17 "Fortis, trying to better elicit explanations
18 regarding wired alternatives as mentioned in the
19 evidentiary attachment."

20 And what I'll further observe is that of 24
21 questions that I asked, there are only two that Fortis
22 felt were in scope. Yet I note that they fully
23 answered three more; they partially answered, at least
24 with one sentence, another 15, and they only refused
25 to answer three.

26 So that leaves me really confused. If they

1 weren't in scope, why did they answer them at all and
2 why did they answer three fully?

3 And what I suggested in my submission in
4 C13-32, because Fortis says no, they're not in scope,
5 I say they are, is the Commission itself look at the
6 questions and decide which ones Fortis needs to
7 answer, because it would be presumptuous of me to say
8 I'll argue they are in scope but -- and I'll leave
9 that as my submission. They leave me confused in the
10 way they dealt with the questions.

11 THE CHAIRPERSON: Thank you, sir. Mr. Bennett?

12 MR. BENNETT: Good morning.

13 THE CHAIRPERSON: Good morning, Mr. Bennett.

14 **SUBMISSIONS BY MR. BENNETT:**

15 MR. BENNETT: What I would like to state with my
16 questions are and with just a little bit of leeway,
17 I'm a professional health risk assessment guy at an
18 unprecedented level, and I'm hearing an unbiased
19 opinion representing the authority and the utility,
20 the best interests of this Commission's objectives.
21 My questions were specific to costs and operations
22 because we're talking wired versus wireless.

23 Now, we've established over this meeting
24 that these guys are -- they're going to radiate 17,000
25 square kilometers --

26 THE CHAIRPERSON: Mr. Bennett, please, you've already

1 been through that.

2 MR. BENNETT: Okay, yeah, but with the point being my
3 questions were related to costs related to the
4 building damages associated with the electromagnetic
5 radiation of those areas, the agricultural damages
6 related to that, the infrastructure damages. Those
7 are real costs. And for Fortis not to answer any
8 questions -- and here's something else, sir. Whether
9 Fortis wants to believe this or the Panel wants to
10 believe that, I'd like that to be a matter of record,
11 because this is going to come up regarding liability
12 issues related to this. You can't refer to a --

13 THE CHAIRPERSON: Mr. Bennett, Mr. Bennett, please.

14 MR. BENNETT: Yeah, I'm sorry.

15 THE CHAIRPERSON: The question before us is whether the
16 questions you've asked are within scope or not within
17 scope as defined in the relevant Commission order.

18 MR. BENNETT: Okay. My questions are all within scope
19 and I would like all of them answered.

20 THE CHAIRPERSON: Thank you, sir.

21 MR. BENNETT: Okay, appreciate that.

22 MR. FULTON: Parties who support the application? I
23 should have said applications. So no response.

24 Parties taking no position? Mr. Aaron is
25 coming forward. I'm not sure if whether he's no
26 position or supporting.

1 MR. AARON: I support.

2 MR. FULTON: Thank you. Parties opposed to the
3 application.

4 MR. ANDREWS: I'm not opposed, but I'm taking no
5 position.

6 MR. FULTON: Thank you. Parties opposed to the
7 application. Fortis?

8 **SUBMISSIONS BY MS. HERBST:**

9 MR. HERBST: Thank you, Mr. Fulton. Thank you, Mr.
10 Chair, Commissioners.

11 So FortisBC is opposed to the application,
12 and I want to go through both a bit of the general
13 background and then the specific questions which Mr.
14 Shadrack and Mr. Bennett haven't done but I think it
15 would be useful to go through each one.

16 **Proceeding Time 9:08 a.m. T03**

17 In context, this is a very limited issue.
18 In total, FortisBC has been asked about 2600 IRs.
19 It's answered by far the bulk of them. And while in
20 this context of this present round 3, FortisBC raised
21 scope concerns about a number of IRs, in practical
22 terms it answered most of those as well. So, Mr.
23 Miles had a number of round 3 IRs. All of them were
24 answered despite scope concerns being raised about
25 three. Mr. Shadrack had a number of IRs. All but
26 four were answered in some ways. Sometimes they --

1 that there is no information available to Fortis to
2 answer the question, but a substantive response was
3 given to all but four. And only Mr. Bennett's IRs
4 were so far beyond scope, in FortisBC's position, that
5 none were answered.

6 Now, the background to this is that the
7 round 3 IRs were supposed to be quite limited in
8 scope, and in November of 2012 there was a procedural
9 conference at which certain interveners asked for a
10 round 3 of IRs, generally. At the time, the
11 Commission declined to order that, but did allow the
12 opportunity for participants to reapply. And certain
13 of them did, by December 21st, apply or reapply by
14 December 21st.

15 Then what happened is that on January 22nd,
16 FortisBC made a five-page evidentiary filing. And
17 that's a key here, because the round 3 IRs were to be
18 directed, as the Commission's Order ultimately said,
19 to that evidentiary filing. And that's Exhibit B-23.
20 It was an evidentiary filing that, as FortisBC's cover
21 letter said, was to provide further information about
22 the wired advanced metering market and to explain the
23 reality that limits FortisBC's ability to provide
24 further information that interveners have sought in
25 the absence of a formal PLC, power line carrier,
26 specific RFP process.

1 So that was the backdrop. On February 2nd,
2 the Commission made its decision as to whether or not
3 there would be a round 3 of IRs, and the decision
4 carefully circumscribed the scope of what that round
5 would be.

6 And so, just by way of reference, in the
7 order itself, and that was Order G-17-13, in paragraph
8 3, the Commission said that the IRs were to be limited
9 to the information provided in FortisBC's January 22nd,
10 2013 evidentiary filing on the wired market, the
11 absence of a formal request for proposal process, and
12 comparative North American project cost estimates.
13 And the reasons for decision that accompanied that
14 order further made that clear. The reasons on page 2
15 said that the third round of IRs would be strictly
16 limited to questions relating to information provided
17 in FortisBC's January 22nd, 2013 evidentiary filing on
18 these issues, and the Panel also said in those reasons
19 for decision that the third round of IRs would be to
20 provide an opportunity to test any new evidence filed,
21 or made available by FortisBC. So again, linked back
22 very much so to the January 22nd FortisBC filing.

23 Now, as I said, I'll turn to the specific
24 IRs in particular, so that the Commission panel has a
25 sense of what they are and has a sense of FortisBC's
26 position on them. But as a further general point, I

1 want to highlight two things. Mr. Bennett's IRs, for
2 example, include issues like how many buildings are in
3 FortisBC's coverage area, what types of agriculture,
4 farming, industries and businesses exist in the
5 coverage area. I think these illustrations, and I'll
6 again get to the specific questions, specific
7 questions in full, highlight that these far overshoot
8 what was contained in FortisBC's January 22nd filing
9 and far overshoot what the scope of the round 3 IRs
10 were supposed to be.

11 In terms of Mr. Shadrack's IRs, and I'll
12 run through them again in particular, but it's
13 noteworthy that about four days before the evidentiary
14 filing by FortisBC, so, on January 18th, Mr. Shadrack,
15 in support of why there should be a further round of
16 IRs, submitted his list of -- or a list of proposed
17 questions. And certain of them have again been
18 incorporated into the IRs that Mr. Shadrack eventually
19 posed, after the Commission's Order. But these were
20 questions already drawn up in part, not -- certainly
21 not in full, in anticipation of FortisBC's evidentiary
22 filing, or before it, not in reaction to it.

23 **Proceeding Time 9:13 a.m. T04**

24 And I think this further highlights, underlines, that
25 the IRs aren't directed toward that filing. They are
26 ones that the interveners would have sought to ask in

1 any event.

2 Now, as I say, there is a lot of
3 discussion, and I'll go through in detail, but in
4 substance the issue is very small. Most of the IRs,
5 despite the scope concerns, were answered, apart from
6 certain of them that were very much beyond scope, that
7 was beyond even what FortisBC by way of being
8 accommodating would answer.

9 So the IRs themselves, and FortisBC's
10 responses, are together in Exhibit B-34 and I'll read
11 out the key portions of the IRs just so that the
12 Commission has it for reference, even if the document
13 itself isn't handy.

14 So, again, Exhibit B-34 captures the whole
15 of FortisBC's responses to the third round of the IRs,
16 apart from the confidential round 3 IRs. Mr. Shadrack
17 asked a number of those as well. The answers to those
18 are contained in a separate exhibit and all of those
19 were answered.

20 So in terms of Exhibit B-34 itself, the
21 non-confidential IRs, these have responses to BCSEA's
22 IRs. And BCSEA, there was one concern raised about
23 scope by FortisBC in respect of its questions, but an
24 answer was nonetheless provided by reference to an
25 earlier round of IRs, and BCSEA hasn't raised an
26 issue. Also in Exhibit B-34 are the responses to the

1 Miles, Shadrack and Bennett IRs.

2 So, turning to the first bundle, or the
3 first -- at least in my set -- after BCSEA, which is
4 about the first 12 pages, there is a set of responses
5 to Mr. Miles. Mr. Miles -- FortisBC took issue with
6 the scope of three Information Requests, but did
7 answer each of them. So the first one relates to --
8 it starts off with a quote from FortisBC's evidentiary
9 filing, which is quite proper, but then goes beyond
10 that. And Mr. Miles says,

11 "I'd like to understand why as additional
12 known alternatives and other than simply
13 considering low-cost solutions, fibre optic
14 data collection, ADSL-style phone line
15 communications, and cable data transmission
16 networks that already exist are not being
17 utilized."

18 So, things like ADSL-style phone line
19 communications and cable data transmission aren't
20 mentioned in FortisBC's evidentiary filing. But in
21 any event, FortisBC, despite raising a scope concern,
22 said -- provided as much as it could by way of
23 substantive answer. It said,

24 "FortisBC is unable to speculate on what
25 alternatives to wireless technology vendors
26 may have considered, but not proposed, when

1 replying to the technology agnostic FortisBC
2 RFP."

3 So, Fortis simply doesn't have any more
4 information. It's answered to the best of its
5 ability, but there is no further order, I submit, that
6 can be made. And in any event, there is the scope
7 concern that certain of the technologies mentioned
8 extend beyond the filing itself.

9 I should say as well that the filing -- to
10 the extent information is available, already provides
11 it. There was one reference to phone lines and fibre
12 optic protocols generally. The next sentence referred
13 to -- and it was a quotation from another source
14 referred to the impediments to that, according to the
15 author of that study that was quoted. So again,
16 nothing more to add.

17 Number two of Mr. Miles's collection is a
18 reference to his belief that the RF AMI solution
19 evidence already presented to date, that the required
20 data information to be transmitted and received is
21 relatively minimal. He then asks

22 "Why do you suggest that the bandwidth is
23 not adequate in these proven alternate
24 methods using direct connections to various
25 required servers?"

26 FortisBC again raised a scope concern,

1 despite giving a substantive answer to that question.
2 The gist of it is that FortisBC hasn't asserted that
3 fibre optic does not have sufficient bandwidth for
4 AMI, and that's the answer that was provided. And so
5 that deals with the issue.

6 **Proceeding Time 9:39 p.m. T9**

7 I think the question was based on a misunderstanding
8 of FortisBC's own position, So in that respect wasn't
9 derived from the filing. But in any event an answer
10 was provided.

11 And the third and last issue with respect
12 to Mr. Miles' IRs relates to his IR 3, and in that he
13 says:

14 "TELUS has supported ADSL phone line
15 communications in our area for years. Why
16 would you not consider residential data
17 collection?"

18 And again, Fortis raises scope concern.
19 This is beyond the evidentiary filing that Fortis made
20 on January 22nd, 2013 in terms of TELUS and ADSL phone
21 line communications. But in any event Fortis circled
22 back to a substantive answer. So at the bottom of its
23 response to IR 3, Fortis said it can't speculate on
24 what alternative vendors may have considered but not
25 proposed when replying to the FortisBC RFP which
26 wasn't specific to either wired or wireless. And so

1 to the extent an answer was required and was within
2 scope, the best that Fortis could do has been set out
3 already.

4 So I submit that in respect of Mr. Miles'
5 IRs, there's no order necessary, and certainly I would
6 say that Fortis went beyond what it needed to do in
7 any event, given the scope.

8 So the next batch of IRs in Exhibit B-34 is
9 Mr. Shadrack's, and here Fortis raised a number of
10 scope concerns but tried, for the most part, where --
11 it tried to draw a line in terms of being
12 accommodating. So it raised scope concerns for a
13 number of questions, but it did ultimately provide
14 answers to the best of its ability. So No. 1,
15 FortisBC, this is a long question and it contains a
16 number of quotes or paraphrases, No. 1 starts with a
17 reference indeed to the evidentiary filing that
18 FortisBC made. There's a reference to Idaho Power.
19 Mr. Shadrack indicates that Idaho Power deployed
20 500,000 PLC AMI meters. That's a quote from the
21 evidentiary filing. And then there's a further quote:
22 "Pike Research states that the deployment was a PLC
23 system."

24 Now, that's the only quote from the
25 evidentiary filing that deals with Idaho. The rest,
26 and there are various quotes from Idaho related

1 proceedings in Mr. Shadrack's IRs, aren't from the
2 evidentiary filing. FortisBC's point or one of its
3 points in its evidentiary filing was that it didn't
4 have enough information to compare its system with
5 Idaho's, and so the brief quote that's the first
6 paragraph captures that.

7 The rest of what is in IR 1 are references
8 to -- there's a Courtenay Waites extract, which is Mr.
9 Shadrack's evidence, a Mark Heintzeman extract, which
10 is Mr. Shadrack's evidence. And then there's a
11 further extract from a prior evidentiary filing by Mr.
12 Shadrack, C13-10. And so very little of this actually
13 relates to the evidentiary filing that Fortis made.
14 So that's the backdrop.

15 You'll see, however, despite that backdrop,
16 that Fortis made an effort to answer to the best of
17 its ability. So at the top of page 2 of Mr.
18 Shadrack's IR responses are the IR responses to Mr.
19 Shadrack. FortisBC has set out about a half a page of
20 what it could in relation to the issue. So it
21 certainly flags the problem but it has answered to the
22 best of its ability.

23 In terms of No. 2, similar kind of thing.
24 FortisBC was asked by Mr. Shadrack whether -- or how
25 it could justify what Mr. Shadrack said was the
26 increased cost of its proposed RF AMI system over the

1 PLC AMI system deployed by Idaho Power Company.
2 Again, this doesn't derive from the evidentiary filing
3 itself. One of the issues within the evidentiary
4 filing was exactly that you couldn't draw an
5 equivalence between costs in different jurisdictions.
6 And so the fundamental premise of Mr. Shadrack's
7 question is one that's at odds with FortisBC's filing.
8 That being said, not only did Fortis flag a scope
9 concern but at bottom of the page, it addressed the
10 substance, which through addressing the substance it
11 again went back to its argument, or its evidentiary
12 basis, that there is just no underpinning for Mr.
13 Shadrack's question.

14 **Proceeding Time 9:22 a.m. T06**

15 So, what FortisBC said was that it notes
16 there is no verifiable evidence that the PLC AMI
17 system installed at Idaho Power Company would cost
18 less or provide the same functionality as the proposed
19 FortisBC AMI system, and that's really the best that
20 FortisBC can do with this because, as I said, the
21 fundamental premise is that the costs aren't
22 comparable. That's the premise in FortisBC's
23 evidentiary filing.

24 Now, again, and turning the page,
25 FortisBC's added a bit more at the top of page 3, also
26 addressing that issue. But again, no order, I submit,

1 arises. Both because of scope, but in any event
2 because FortisBC has done the best it can.

3 IR 3, FortisBC has suggested that PLC AMI
4 is not well-suited to North American utilities. The
5 IR starts -- then it loops back to the real question
6 on FortisBC's technical reasons for not deploying PLC
7 AMI, summed up in its original application. Now, the
8 original application was an application filed on July
9 26th, 2012. It's Exhibit B-1. That's the gist of the
10 question, rather than the January 22nd filing that was
11 supposed to be the subject matter of the round 3 of
12 IRs. Yet, again, despite the scope concern, which
13 FortisBC flagged, it's done its best to encapsulate
14 its substantive answer and says at the bottom of its
15 response "The reasons FortisBC selected the proposed
16 AMI system are articulated in the application and have
17 been clarified throughout the regulatory process."
18 And so, again, I say no order is required because of
19 scope, but no order is also required because a
20 substantive answer has been given.

21 Just in terms of scope again, there is a
22 long quotation prior to the reference to Exhibit B-1
23 in that question that deals with various technical
24 issues relating to PLC, not functionality, which is
25 the gist of the question, as well as being derived
26 from Exhibit B-1.

1 In terms of number 4, there is a question
2 from Mr. Shadrack, "Are there other functional
3 limitations with PLC AMI that FortisBC believes
4 preclude it from deploying PLC AMI?" Again, FortisBC
5 raised a scope concern, and its scope concern was that
6 the evidentiary filing of January 22nd didn't deal with
7 functionality of the PLC AMI. It goes back to the
8 Exhibit B-1 point as to functionality. However,
9 again, if there is any issue about scope, FortisBC did
10 provide an answer to the best of its ability, or it
11 highlighted why it can't provide further information
12 in response to Mr. Shadrack's question, at least. So
13 on page 5, it said, "FortisBC cannot answer this
14 question without speculating on PLC functionality
15 since it did not receive any PLC AMI responses to its
16 RFP." Again, I submit, no order required, regardless
17 of the view of scope.

18 Five, very similar, and that one is Mr.
19 Shadrack asking "Can FortisBC please state how
20 deployment of PLC AMI would contravene or fail to
21 support provincial energy objectives." The January
22 22nd filing had nothing to do with provincial energy
23 objectives in its articulation. That's a reference
24 back, it appears, to Exhibit B-1 and the list that's
25 contained in IR 3, where provincial energy objectives
26 were mentioned. And again, that's something about

1 which IRs could have been posed at any time. It's not
2 something that's properly the subject of IR round 3.
3 But again, FortisBC flagged that and went back and
4 tried to explain its substantive position, which is
5 that FortisBC can't answer the question in any event
6 without speculating on PLC functionality since it did
7 not receive any PLC AMI responses to its RFP. So, a
8 bit of a consistent theme there.

9 Number 6, a bit of a variation on the
10 theme, but similar theme. There, Mr. Shadrack asked
11 would FortisBC please list and describe the enhanced
12 capabilities requiring more expensive PLC
13 infrastructure, to which it referred in Exhibit B-6, a
14 round 1 response to a BCUC IR. On its face, again,
15 there is an issue here because Mr. Shadrack's question
16 is premised on a Round 1 response, not on FortisBC's
17 January 22nd evidentiary filing, which well post-dated
18 the IR filing.

19 **Proceeding Time 9:28 a.m. T7**

20 And so again there's a scope issue,
21 FortisBC flagged it, but it again looped back to
22 saying why it couldn't provide a substantive response
23 which was in any event of scope, can't answer the
24 question since FortisBC did not receive any responses
25 from AMI PLC vendors to its RFP.

26 Now, question 7 is one of the examples of

1 earlier -- one of the examples of a question that Mr.
2 Shadrack had in mind before FortisBC's evidentiary
3 filing, and it's an example that he submitted on
4 January 18th before the evidentiary filing was made on
5 the 22nd. So what Mr. Shadrack has set out is a
6 quotation from some proceedings involving Idaho Power.
7 The quotation derives from Mr. Shadrack's own
8 research, not the January 22nd filing. The only
9 concession to the January 22nd filing is the statement,
10 it's after the italics, "In light of FortisBC's
11 submission of January 22nd," but then it goes straight
12 back into what Mr. Shadrack had wanted to ask in any
13 event and that's about benefits, relative benefits of
14 PLC versus FortisBC's system, and an irrigation peak
15 awards program, which again has nothing to do with the
16 January 22nd filing. The filing didn't deal with the
17 benefits of AMI, relative benefits of AMI. No
18 ratepayer programs. It didn't deal with O&M, which is
19 part of the quotation that Mr. Shadrack has included
20 from the Idaho proceeding. And so again, there's a
21 scope concern that FortisBC appropriately raised.

22 But just in terms of the substantive -- one
23 of the substantive issues raised, FortisBC did flag in
24 its response that the benefits of the AMI project have
25 been raised throughout its filings in any event. But
26 again, another example I say, no order is required

1 because of scope, and if it were required there's
2 already material on the record that Fortis has
3 flagged.

4 No. 8 is an example of a question where
5 FortisBC thought this was so far beyond the pale that
6 a substantive response wasn't provided, and that's in
7 some ways similar but in some ways a bit more stark.
8 And in that one, in direct testimony Mr. Heintzelman,
9 and this is a quote from materials that Mr. Shadrack
10 has assembled, asked a certain question and this is
11 again Idaho Power proceedings. There's a long quote,
12 there's a second long quote, and then there's a
13 question "Could FortisBC please describe how long it
14 has had a working relationship with Itron and what
15 field tested pilot programs it has undertaken with
16 Itron to test the equipment it's proposing to deploy?"

17 Now, this is almost an exact quote from one
18 of the questions that Mr. Shadrack had proposed on
19 January 18th, so four days before FortisBC's
20 evidentiary filing. It doesn't have to do with
21 FortisBC's evidentiary filing. It's clearly derived
22 from some filings that Mr. Shadrack had made. There's
23 a reference to Exhibit C13-7 and it is again not
24 something that should be addressed in Round 3. Itron,
25 as a player within the FortisBC application, has been
26 known about from the outset. Questions about a

1 working relationship could have been asked at any
2 point from July 26, 2012 onward rather than being
3 reserved to this IR round.

4 Now, IR 9, "Could FortisBC please state
5 whether or not PLC AMI systems have the capability to
6 gather hourly energy use data and comparable load
7 control capability?" This is one of the questions to
8 which FortisBC flagged that -- it flagged the scope
9 concern, certainly, because again this is a question
10 of functionality that wasn't raised in FortisBC's --
11 no questions of functionality were raised in
12 FortisBC's January 22nd filing and it could have been
13 asked about at any time before. But also FortisBC has
14 said at the end of the question why it can't answer in
15 any event. It couldn't do so without speculating on
16 PLC functionality since it didn't receive PLC AMI
17 responses to its RFP.

18 **Proceeding Time 9:32 a.m. T08**

19 No. 10, again similar thing. Fortis has
20 been asked about confirming whether its evidence
21 regarding capabilities of PLC AMI contained in its
22 application is current, accurate and up-to-date. This
23 relates to Exhibit B-1, the July, 2012 filing. It
24 doesn't relate to the January 22nd filing, which
25 doesn't have to do with capabilities or
26 functionalities in any sense other than there is a

1 technical -- a set of technical issues that some
2 authors that FortisBC cites run through. But that's
3 not a capability, functionality issue in my
4 submission.

5 In any event, again, despite flagging the
6 scope concern, FortisBC also explained that it
7 couldn't answer the question in any event since it
8 didn't receive PLC-specific responses to its RFP.

9 IR number 11 is another one of the very few
10 that FortisBC didn't provide any sort of substantive
11 response to. And that is a further quotation from the
12 Idaho proceedings that Mr. Shadrack has found. So
13 again, this isn't something found in the January 22nd
14 filing of FortisBC. It also references, and so there
15 is a long -- fairly long quotation about proposed
16 deployment in Idaho. And then the question says, "Can
17 FortisBC please explain how its deployment assessment
18 differs from Idaho Power." And it refers expressly to
19 a round 2 IR response to Mr. Shadrack. So, again, not
20 derived from the January 22nd filing, it's derived from
21 an earlier IR response. And this is another example
22 of a question that is almost word-for-word one that
23 Mr. Shadrack had contemplated and raised on January
24 18th, so, four days before the evidentiary filing as
25 one that he would want to pose. And I keep saying the
26 January 18th filing of Mr. Shadrack. That's Exhibit

1 C13-16. So again, it's not reactive to FortisBC's
2 filing.

3 In IR 12, similar sort of issue. FortisBC
4 has stated the IR says something about lower meter
5 density. It's not attributed to the January 22nd
6 filing, quite properly. It's attributed to Exhibit B-
7 6, which is an IR 1 round, or first-round IR response
8 by FortisBC to a Commission staff Information Request,
9 and then the question is, "Please describe in detail
10 the negative economic causes and effects of lower
11 meter density." This is one that is entirely out of
12 scope, I say. It obviously relates back to an earlier
13 IR round, could have been pursued at an earlier time.
14 Certainly wasn't to be the subject matter of IR round
15 3.

16 Now, IR round -- sorry. IR 13 is one that
17 no scope concern was raised. It's a long Information
18 Request. It does specifically at the end of it go
19 back to the evidentiary filing that FortisBC made on
20 January 22nd. FortisBC was content with that and
21 provided a substantive response without flagging any
22 concern.

23 IR 14 is a reference to describing -- or a
24 question about describing in detail why telephone line
25 and fibre optic use are not suitable for back haul of
26 data from a substation to a data centre, where billing

1 is undertaken. FortisBC flagged in responding to this
2 that it's not its position that fibre optic cable or
3 telephone lines are not valid media for the back haul
4 of data. So I think perhaps there was something of a
5 misunderstanding. In any event, there has been a
6 clarification here.

7 In terms of scope, something was flagged
8 here, because the position is not that taken in
9 FortisBC's January 22nd filing as to FortisBC itself.
10 Although there might have been some misunderstanding
11 as to an author that was cited. But in any event,
12 it's been addressed and I think nothing remains there
13 to be addressed.

14 IR 15 is a reference by Mr. Shadrack to
15 FortisBC's original application, as is stated.
16 Original application of power line carrier systems.
17 Again, that's the July filing, Exhibit B-1, not the
18 January 22nd filing to which the IR round 3 round was
19 to be directed.

20 **Proceeding Time 9:37 a.m. T9**

21 FortisBC, though, has in any event
22 responded in terms of substance to the extent of
23 explaining why it couldn't provide an answer in any
24 event of its scope concern. It said "FortisBC can't
25 answer the question as it did not receive any
26 responses from AMI PLC vendors to its RFP."

1 Question 16 is another of the long quotes
2 from Mr. Shadrack's derived material, so not the
3 January 22nd filing and so much of the italics in that
4 question derive from Mr. Shadrack's research. And Mr.
5 Shadrack then contrasts that with what FortisBC says,
6 but not what it says in its January 22nd filing but
7 something that it says in response to BCUC IR 2, 35.3
8 as he says there expressly. So again there is a scope
9 concern. That's not directed toward the January 22nd
10 filing. The question is "What is the source for
11 FortisBC's response in IR Round 2, and is more than
12 one injector always required for PLC AMI system?"

13 And so in terms of that, that's quite a
14 technical question and FortisBC said that in any event
15 of its concerns as to scope, Fortis can't answer the
16 question without speculating on PLC functionality
17 since it did not receive any PLC AMI responses to its
18 RFP.

19 Almost exactly similar in -- almost exactly
20 the same in question 17 from Mr. Shadrack. The
21 question starts with a quotation from Mr. Shadrack's
22 material, not January 22nd, not the January 22nd filing
23 by Fortis. Mr. Shadrack contrasts his material not to
24 the January 22nd filing but to FortisBC's response to a
25 first round IR from CEC, which he cites in the middle
26 of the page. And then he asks for confirmation that

1 all PLC AMI systems require equipment to be installed
2 on each heater and so on. And so in addition to
3 having a concern about scope since this is clearly not
4 January 22nd related, FortisBC says that in any event
5 it couldn't answer without speculation because it
6 didn't receive any PLC AMI specific responses to its
7 RFP.

8 So again, not only is there the scope
9 issue, but in any event there's no information to be
10 extracted here from FortisBC given the circumstances
11 that it's flagged.

12 In IR 18 from Mr. Shadrack, again these are
13 two old references, not references to the January 22nd
14 filing. It hinged on a response by FortisBC to a
15 Commission Staff second round IRs, Mr. Shadrack notes
16 at the beginning, and then he continues on to refer to
17 a section called Power Line Carrier Systems. But
18 that's not a section in the January 22nd filing. It's
19 a section of Exhibit B-1, FortisBC's July 2012
20 application. And he goes on to ask about the source
21 for your information on the possibility and
22 consequences of potential bandwidth overwhelming PLC
23 AMI systems.

24 And so there's a scope concern properly
25 that Fortis has identified, but again it says: "In
26 any event of the scope concern, it can't answer the

1 question as it didn't receive any responses from AMI
2 PLC vendors to its RFP."

3 The IR 19 is again hinged on not the
4 January 22nd filing, but as is apparent from its
5 opening words by Mr. Shadrack, a passage in a Round 2
6 IR that was posed to FortisBC by Commission Staff. So
7 again a scope concern. That being said, Fortis,
8 because there had been an error it had identified
9 within the response to -- or within earlier evidence,
10 it did address this in some detail on page 17. So
11 again for a different reason, FortisBC has responded
12 and there's no further information to extract, even
13 apart from the scope issue.

14 **Proceeding Time 9:41 a.m. T10**

15 IR 20, again this is one of the issues that
16 goes back to not January 22nd but something else. And
17 so there's Mr. Shadrack's material starting off at
18 Exhibit C13-9, a quotation from that. And then
19 contrasted with a FortisBC position, which derives not
20 from January 22nd but as Mr. Shadrack's evidence notes,
21 a response that it had made to an earlier IR round in
22 Exhibit B-11.

23 And so, Fortis again properly raised a
24 scope concern. That being said, given it had already
25 answered IR 19, which has a similar purview, it
26 referred back to that response for a further

1 explanation of corrected meter density figures.

2 Paragraph 21, IR 21. And I am reaching the
3 end. It again starts off with a long quotation from
4 Idaho proceedings that was not contained in the
5 January 22nd filing, but is Mr. Shadrack's material
6 from elsewhere. It's contrasted, not to the January
7 22nd filing, but at the bottom of page 18 to a response
8 that FortisBC had made to Keith Miles in the first
9 round of IRs. So, and the citation -- the citation is
10 there to Exhibit B-11. Again, then, FortisBC raises
11 scope concern. But flagged again that in any event of
12 the scope concern, it didn't have further information
13 to provide and it hadn't received AMI -- PLC AMI-
14 specific responses to its RFP. It simply didn't have
15 the body of information to provide. And this is all
16 consistent with the premise, or one of the premises,
17 of its January 22nd filing, in terms of the substance
18 of the response, which is that FortisBC didn't have a
19 PLC-specific RFP, but its RFP was open to all, but
20 only wireless responses were received. It's inhibited
21 in terms of the information that it has.

22 Paragraph or IR 22 refers to an evidentiary
23 filing by Mr. Shadrack, or evidence put forward by Mr.
24 Shadrack, not the January 22nd filing by FortisBC, and
25 it again refers to Idaho. And so Mr. Shadrack puts
26 that out. It asks about whether the bid that Idaho

1 Power received was for deployment of AMI PLC or RF
2 AMI. And so, besides raising a scope question, Fortis
3 says that in any event it can't answer because it's
4 not familiar with the Idaho Power Company RFP.

5 Now, IR 23 is one that did seem to have a
6 more direct tie-in to January 22nd, and there is a
7 quotation from that filing. And so FortisBC responded
8 without raising any scope concerns. So there is no
9 issue there.

10 IR 24 from Mr. Shadrack, it requests or it
11 asks, given that Aclara, which is an entity involved
12 in the Idaho Power case, is one of the top ten smart
13 grid vendors in North America, did FortisBC consider a
14 TWACS system for deployment in its service area?
15 Again, something that didn't arise out of the January
16 22nd filing. Fortis, to be helpful, though, did
17 clarify in terms of the list of vendors to which the
18 RFP had been sent. And so again, scope concern raised
19 but there is no further information to be extracted.

20 IR 25 is just a general question that was
21 posed by Mr. Shadrack. Did FortisBC consider the
22 possibility of a TWACS system in the design of its RFP
23 proposal? Fortis raises scope concern. This doesn't
24 come out of the January 22nd filing. It's a general
25 question that Mr. Shadrack could have posed at any
26 time. And so, that wasn't responded to. And I say

1 properly, given the limited scope, strictly limited
2 scope of the third round of IRs.

3 IR number 26 was responded to without a
4 scope concern. And it ties in as well to IR number
5 24. And IR 27 is just a general question again,
6 that's not tied to the January 22nd filing. "What's
7 the meter reading performance rate of the proposed
8 Itron RF system?" This is something that could have
9 been posed at any time.

10 **Proceeding Time 9:46 a.m. T11**

11 Itron's involvement and the fact that Itron
12 meters were proposed has been brought forward since
13 the July, 2012 filing. But in any event, Fortis, to
14 be helpful, addressed the question to the best it
15 could. It noted that it was unclear as to the meaning
16 of meter reading performance rate, but did say what
17 the proposed AMI system was designed to do.

18 And finally, IR number 28 was responded to.
19 This one does directly relate to the January 22nd
20 filing in the sense that gas and water meter reading
21 data was -- or the fact of gas and water meters was
22 brought forward in that filing. So, that is the total
23 of the -- of Mr. Shadrack's IRs. And I say FortisBC
24 has properly been raising scope concerns. It's
25 responded, however, where it was near enough, or where
26 it was simple enough to just say why further

1 information couldn't be provided in any event. Some
2 are just completely beyond scope and no information
3 was provided. And I say that was properly so.

4 Now, Mr. Bennett, finally, has four pages
5 of IR requests. And my position as to each of those
6 is the same. So, Mr. Shadrack's had some variation,
7 which is why I went through in some detail. My
8 position as to Mr. Bennett's, as I said, is the same.
9 None of them were responded to by FortisBC and I say
10 that's because they are entirely out of scope in terms
11 of the third round of IRs. And again, for example,
12 question 1,

13 "How many buildings in the FortisBC coverage
14 areas? Can Fortis please adjust the unit
15 cost for wireless meter to accommodate the
16 costs for each and every building hit by the
17 EMFs? The frequency interaction with the
18 buildings will put the buildings in
19 violation of Part 4 of the B.C. *Building*
20 *Code.*"

21 This is, of course, Mr. Bennett's theory,
22 and one that he has proposed throughout this
23 proceeding. It doesn't have any interconnection with
24 the January 22nd filing. It starts off as not even
25 relating to costs, as asking for the number of
26 buildings and then a later IR asks for whether there

1 are timber leases or lumber mills. Another IR asks
2 about types of agriculture in the FortisBC area. So,
3 very much out of scope, I say.

4 In terms of a reference to costs, this
5 isn't the sort of thing that was being considered in
6 the January 22nd filing, and so I think out of scope.
7 I say as well that Mr. Bennett has been able to raise
8 these issues or the liabilities or the factoring of
9 costs that he contends for in the course of cross-
10 examination. Even apart from scope issues, it's not
11 necessary to go back here. There is a fundamental
12 disconnect between FortisBC's position and Mr.
13 Bennett's and the premise on which Mr. Bennett's IR
14 are posed is simply not one that is accepted by
15 FortisBC. There are later questions about adjusting
16 the unit cost per meter to reflect the cost of
17 adversely affecting everything in the ecosystems
18 within the coverage areas. Even apart from scope
19 concerns, this simply isn't an assumption that
20 FortisBC can work with or meaningfully respond to, and
21 so I say for all those reasons none of Mr. Bennett's
22 IRs should be responded to.

23 So, thank you for your patience in going
24 through, in some detail. I just wanted to not leave a
25 stone unturned in that sense. And, subject to any
26 questions, though, those are my submissions on the

1 Information Requests.

2 THE CHAIRPERSON: Thank you. Mr. Fulton?

3 MR. FULTON: Yes. Mr. Shadrack?

4 **REPLY BY MR. SHADRACK:**

5 MR. SHADRACK: Thank you, Mr. Chairman. In response to
6 the fairly detailed outline that FortisBC gives you, I
7 want to put it to you that over the period of the
8 three IRs we had an evolving situation where, in its
9 initial application, FortisBC made certain assertions,
10 and then I've tried to put into evidence a number of
11 points that contradict that.

12 **Proceeding Time 9:51 a.m. T12**

13 If the Commission Panel goes to B-23, page
14 2 and looks at the extensive quote at 723 and 724,
15 what they'll find is that FortisBC quotes issues
16 related to infrastructure costs, high latency and
17 bandwidth. And that was what I was trying to address
18 with the questions that I posed to Fortis. The
19 contradiction between their ongoing assertion and the
20 evidence that I had found, I wanted some answers, I
21 wanted an explanation as to why. So I was trying to
22 speak directly to what was raised in B-23 on page 2,
23 and there's an extensive quote there. And in
24 addition, there are a number of URLs. And if you go
25 and look at those URLs, you then find other matters
26 related to what I tried to ask.

1 In relation to 11 and 12, for example,
2 which Fortis not to ask -- answer, I think those
3 questions speak directly to infrastructure cross,
4 which FortisBC raise in B-23. And I will simply leave
5 it at that. No, and I also agree that I laid out my
6 questions prior to Fortis laying out its answer in B-
7 23, simply because I was asking the Commission to
8 consider whether or not a third round should be asked.
9 So I laid out some questions, which if you compare
10 what I laid out prior to B-23, I tried to alter
11 somewhat, to dovetail to what they'd said in B-23.
12 Maybe I didn't succeed but I tried to. But Fortis is
13 right. I laid out what I wanted to ask. So the
14 Commission was making a decision whether to allow a
15 third round of IRs. They therefore have the chance.
16 And thank you very much for being able to give a
17 reply.

18 THE CHAIRPERSON: Thank you, sir. Mr. Bennett, do you
19 have a reply to make?

20 **REPLY BY MR. BENNETT:**

21 With respect to Fortis, they did not answer
22 the questions in the cross-examination. As a matter
23 of fact they confirmed a 3-foot ground penetration
24 that does not -- it can't reflect agricultural costs
25 and relate to Safety Code 6. You can't relate
26 infrastructure damage to Safety Code 6. The questions

1 are relevant, they're insurable, there's going to be
2 liability associated with it, and even, I would
3 respect it, Fortis can estimate these real costs
4 associated with this.

5 Municipalities are under the assumption
6 that a meter is being exchanged here, not that their
7 infrastructure is being radiated. The buildings are
8 being radiated and it's causing real damage. And my
9 discussion, my cross-examination of the panel,
10 anything I referred to was called hypothetical, even
11 though I'm a building -- even though I'm an electrical
12 professional.

13 THE CHAIRPERSON: Mr. Bennett, we're talking about the
14 information requests that were asked.

15 MR. BENNETT: Yes.

16 THE CHAIRPERSON: And I'm asking for your reply to
17 Fortis's comments.

18 MR. BENNETT: Again I apologize. Fortis did not answer
19 the questions nor in cross-examinations. The
20 questions are incredibly relevant to what you're doing
21 here and I'd like them answered.

22 THE CHAIRPERSON: Thank you, sir. Mr. Aaron took a
23 position supporting.

24 MR. AARON: No further comment.

25 THE CHAIRPERSON: Okay, thank you. I think that
26 concludes our process then. I'm getting a shake of

1 the head here from Mr. Fulton. I suspect I've
2 wandered beyond the procedural boundaries.

3 MR. FULTON: Well, you did not because Mr. Aaron
4 accommodated us.

5 THE CHAIRPERSON: Thank you, Mr. Aaron.

6 MR. FULTON: In any event that does conclude the
7 submissions on the requests for responses to IRs.

8 THE CHAIRPERSON: Thank you. The Panel will take this
9 information and consider it and I expect we'll have a
10 decision on Thursday, with reasons, to provide further
11 direction on this.

12 **Proceeding Time 9:55 a.m. T13**

13 MR. FULTON: And we do have Dr. Jamieson on Thursday
14 morning, Mr. Chairman. So I am anticipating that you
15 will be delivering your reasons after Dr. Jamieson's
16 evidence?

17 THE CHAIRPERSON: Following that, yes. Yes.

18 MR. FULTON: The next matter for today relates to an
19 application by some party -- I haven't been advised
20 which party is going to make the application at this
21 point -- but it relates to the use of a decision of
22 the Public Utility Commission of Texas. So, it
23 appears that Mr. Weafer will be making the
24 application.

25 And this is a matter that we do need a
26 decision on this morning, before the cross-examination

1 of Dr. Maisch commences, so that parties will be aware
2 of the scope of the cross of Dr. Maisch, and it's
3 brought now so that we won't be interfering with the
4 time that has been allotted for Dr. Maisch.

5 THE CHAIRPERSON: Certainly.

6 **SUBMISSIONS BY MR. WEAVER:**

7 MR. WEAVER: Thank you, Mr. Chairman. Thank you, Mr.
8 Fulton. Firstly, to clarify, Mr. Fulton indicated the
9 document in issue is a decision of the Public Utility
10 Commission of Texas. It's actually a staff report of
11 the Public Utility Commission of Texas, and the
12 application that is being brought is that the document
13 be filed on the record in the proceeding.

14 The background to this document, if I could
15 hand it up for convenience, a copy of an Information
16 Request in the proceeding. And if the Panel prefers,
17 I could also hand up a copy of the report so you have
18 it in front of you for the consideration of the
19 application. Mr. Chairman, would you like a copy of
20 the report in front of you while I make this
21 application?

22 THE CHAIRPERSON: How large is the --

23 MR. WEAVER: I have copies of this.

24 THE CHAIRPERSON: Okay. We might as well, please, yes.

25 Thank you.

26 MR. WEAVER: And lastly, Mr. Chairman, a document I will

1 refer to is the transcript, Volume 6, at page 1197.
2 1196, 1197. So we'll get to that in my presentation.
3 Mr. Chairman, you've had reference to
4 Section 40 of the *Administrative Tribunal Act*
5 throughout this proceeding, in terms of the latitude
6 that the Commission has with respect to filing of
7 evidence in the proceeding. And the test in that *Act*
8 is whether it's relevant, necessary, and appropriate.
9 And in the submission of the CEC, the filing of this
10 document on the record is appropriate and meets the
11 test under Section 40 of the *Act*, and the reason is
12 quite simple. The document was referred to in
13 Information Requests which dated -- the request was in
14 early February and was responded to by the witness for
15 CSTS in February. And that's found in Exhibit C9-13-
16 3. And this is an Information Request of FortisBC to
17 Dr. Carpenter, a witness for CSTS. And that's the
18 document I handed up to you and the IR is Fortis IR
19 2.4.3. And the question,
20 "Please refer to and submit a copy of the
21 Public Utility Commission of Texas staff
22 report on health and radio frequency
23 electromagnetic fields from advanced meters
24 dated December 12th, 2012."
25 **Proceeding Time 10:00 a.m. T14**
26 And the URL for the report is given. And the response

1 of Dr. Carpenter is, "Then you have it."

2 So, I would suggest that the response is
3 not particularly responsive, and the result was the
4 report wasn't filed. So this is not an issue of a
5 document being referenced by surprise at the end of
6 proceeding or late in a proceeding. This is a
7 document that was specifically identified in the
8 Information Request process and there is no surprise
9 that this document -- this ought to be put on the
10 record in the proceeding.

11 The second reference that I would point to
12 -- and this document was referred to in other
13 Information Requests, but that's the specific request
14 where it was asked to be put on the record, and it did
15 not get put on the record.

16 If I could turn you, then, to the
17 transcript reference, Volume 6, at page 1196. And
18 this is the cross-examination of the Fortis panel by
19 Mr. Bennett. And it starts at line 5 on page 1196.

20 "MR. BENNETT: Q: Did you know the Texas
21 Public Utilities Commission in their safety
22 sheet says that ten feet from the smart
23 meter makes you safe? From the frequencies.
24 Did you know that?"

25 Witness response, further on down the page to Mr.
26 Loski at line 20.

1 "I can't remember the exhibit here, but I
2 find that difficult to believe in that I
3 believe we had filed a report from the staff
4 of the Texas Public Utilities Commission
5 that -- in the absence of having it in front
6 of me, but the staff concluded that advanced
7 meters were safe."

8 So, we clearly have an understanding by
9 Fortis that the document is on the record, and that
10 would be -- it would flow from the fact that the
11 witness likely recalled the IR to CSTS and the
12 specific reference to the report.

13 To the substance of the report, briefly, I
14 would point out in terms of relevance and
15 appropriateness, it's a report of December, 2012.
16 It's basically concurrent with this proceeding. And
17 so it is timely. We've had references to documents
18 back to the '70s in this proceeding. Here is a
19 document that is certainly contemporaneous with the
20 review you're undertaking.

21 And further, with respect to relevance,
22 this oral proceeding is in relation to health and AMI.
23 And I can just simply refer you to the subject of the
24 report, a project relating to advanced metering
25 issues, report on health and radio frequency
26 electromagnetic fields from advanced meters. You

1 could not have a report more squarely on the topic
2 that you're considering in this oral hearing.

3 In terms of the communication with counsel
4 for CSTS on submission of this document to the
5 proceeding, again I would highlight the document was
6 referred to in February IR interaction, and at no time
7 did counsel object to the IR, or raise issue with the
8 reference to the report. And so the assumption made
9 was that it was appropriate it be a part of the
10 proceeding. I provided -- sorry.

11 COMMISSIONER MORTON: Sorry. I think the reference you
12 gave, I think it's C9-13-1.

13 MR. WEAVER: I'm sorry, sir.

14 COMMISSIONER MORTON: Sorry to interrupt.

15 MR. WEAVER: No, that's -- I would rather have an
16 accurate record, so no apology from you, apology from
17 me.

18 The exchange with Mr. Aaron, just to make
19 sure the Commission understands the background, I had
20 anticipated referring to this document in cross-
21 examination with his witnesses. I had provided Mr.
22 Aaron a hard copy of the document last Wednesday to
23 confirm that I would be referring to it. I sent him
24 an e-mail on Sunday confirming that I would be
25 referring to it and he indicated that he may have some
26 objection, and he raised that again yesterday. So,

1 I'm not sure what his objection is going to be, so I'm
2 giving you my views as to whether this is quite
3 straightforward, that the document has been in play
4 for some time. And that it is appropriate, relevant,
5 and necessary to be on the record in this proceeding.

6 And so, those are my submissions at this
7 point. I'll wait to hear what Mr. Aaron has to say
8 about the document, and I may have reply.

9 THE CHAIRPERSON: Thank you. Mr. Aaron?

10 MS. HERBST: I just get up to say that I have something
11 to say in support. I don't know how --

12 MR. FULTON: I think we will adopt the same -- we should
13 adopt the same procedure, Mr. Chairman --

14 THE CHAIRPERSON: Yes, thank you, Mr. Fulton.

15 MR. FULTON: -- that we used with the other application.

16 THE CHAIRPERSON: Yes.

17 MR. FULTON: So we'll first deal with those parties who
18 support the application. Go next to those who take no
19 position, and then to those who oppose, and finally
20 with reply to --

21 **Proceeding Time 10:06 a.m. T15**

22 THE CHAIRPERSON: Yes.

23 MR. FULTON: -- to Mr. Weafer.

24 THE CHAIRPERSON: Thank you.

25 MR. FULTON: Okay, so we'll begin with those who support
26 the application.

1 **SUBMISSIONS BY MS. HERBST:**

2 MS. HERBST: I do on behalf of FortisBC and I just speak
3 very briefly. Mr. Weafer drew attention to the fact
4 that Mr. Loski when testifying clearly did believe
5 that the document that Mr. Weafer proposes be entered
6 into evidence was already in evidence, and so for
7 completeness I'd say that should happen.

8 I also note that FortisBC, when it was
9 asked various information requests, was asked as part
10 of that to file various documents to which it was
11 given a link, and I don't know that that was
12 specifically via CSTS, but at least I recall by one of
13 the other interveners. And so, and FortisBC did so.
14 So I wouldn't like to see CEC disadvantaged by having
15 followed the same practice when asking questions of
16 CSTS witnesses and likely anticipating that they would
17 provide documents when asked about them as well.

18 So those are my submissions in support.

19 Thank you.

20 THE CHAIRPERSON: Thank you.

21 MR. ANDREWS: I take no position.

22 THE CHAIRPERSON: Are there any other parties that wish
23 to speak in favour of this or take no position?

24 MR. SHADRACK: I take no position.

25 THE CHAIRPERSON: Anyone else? Mr. Bennett?

26 MR. BENNETT: I take no position.

1 THE CHAIRPERSON: Thank you. Mr. Aaron.

2 **SUBMISSIONS BY MR. AARON:**

3 Thank you, Mr. Chair. Can I start please
4 by referring the Panel to C9-13-1. This is an
5 information request advanced by Fortis, and I will
6 refer to this document just for ease of reference, the
7 document in issue, as the Texas Staff Report.

8 In Fortis's information request there are
9 two references to the Texas Staff Report. The first
10 is on page 2 at line 5, and what Fortis is doing here
11 is they are saying, "A copy of the Texas Staff Report
12 is located here at this website. Please confirm that
13 it says the following." No further question."

14 The next time the Texas Staff Report is
15 mentioned is at page 8, line 19 and it's the same
16 modality of question, "Here's the report, question, at
17 line 27 2.4.4, please confirm that it says the
18 following." And then no further question. You have
19 the same thing at page 49 of that information request.

20 My submission has to do with this. Is the
21 information request process an opportunity to -- or a
22 vehicle for a party to submit further documentary
23 evidence, past the dead -- otherwise applicable
24 deadline for doing so. Because that is what this
25 Information Request has been used for.

26 **Proceeding Time 10:10 a.m. T16**

1 The document is here. Please confirm that
2 it says this. It's not even a further question. It's
3 just a means of submitting the Texas document into
4 evidence on February 7th, after the time where my
5 client had the opportunity to make its Information
6 Requests. We haven't had an opportunity to read this
7 document and make Information Requests on it, or put
8 it to our experts in the context of their reports.
9 Our deadline for our expert reports was January 24th,
10 or something like that.

11 And our deadlines for Information Requests
12 were back in December of 2012. So here on February
13 7th, by way of Information Request, under the guise of
14 an Information Request a party is putting in another
15 document and it's not -- it's untimely. And I submit
16 that what you have before you, Mr. Chair, is the risk
17 of creating a precedent whereby the Information
18 Request process turns into another document submission
19 process that's out of time, and inappropriate because
20 we -- we put together our expert evidence on behalf --
21 on the basis of the material that (a) was in the
22 applicant's application materials, and (b) that we had
23 the opportunity to canvass by way of Information
24 Request. And then we were held to a deadline for
25 adducing our expert evidence and whatever evidence we
26 had, of January 24th, and no further opportunity to

1 adduce Information Requests.

2 So, for subsequent Information Requests of
3 us to be used as an opportunity to adduce further
4 documents, here is a document that -- to add to the
5 problem, a document which reflects the opinion of
6 someone else, I don't know who they are. A staff
7 report from a utility whose -- staff members of a
8 Texas utility. It's not fair.

9 And you don't even have the view of Dr.
10 Carpenter elicited in this Information Request.
11 Doesn't even give him an opportunity to say, comment
12 on it, tell us, do you think it's valid? They're
13 asking Dr. Carpenter to do a clerical function just to
14 get it off a website, read it and confirm it says what
15 it says. He's a public health specialist. He's not a
16 librarian.

17 So my submission is that this is
18 inappropriate use of the IR process. Document was out
19 of time then, and it's out of time now. For the same
20 reason that the Li reports were found to be out of
21 time.

22 Those are my submissions, thank you.

23 **Proceeding Time 10:15 a.m. T17**

24 THE CHAIRPERSON: Thank you. Any reply, please?

25 **REPLY BY MR. WEAVER:**

26 MR. WEAVER: Thank you, Mr. Chairman. Just in reply, I

1 understand that Dr. Carpenter attached a number of
2 documents to some of his IR responses, and did put in
3 further evidence at that stage of the process, but let
4 me deal specifically with this IR request, which my
5 friend neglected to highlight the point that I would
6 highlight, that the request was to submit a copy of
7 the report. And the response was, "Then you have it."
8 And so the witness was indicating, as I read that
9 response, that it's available. It's there. And all
10 we're seeking to do with this application is ensure
11 that the written copy is available.

12 My friend says this should have been filed
13 as evidence by Fortis. Fortis filed their evidence in
14 July and this document wasn't produced until December.
15 It wasn't available at the time of their filing their
16 evidence. So it's new and more current information,
17 reviewing evidence on the record.

18 Lastly, in terms of the reference to Dr.
19 Li, I addressed this in my initial submissions, but
20 just to make sure it's understood, this is not a
21 circumstance, something being referred to at the end
22 of cross-examination of a panel. Mr. Aaron's panels
23 have not stood yet, and have the opportunity to
24 address this report if questioned on it, because it
25 has been referenced for the past six weeks in this
26 proceeding. And if at the time this Information

1 Request was asked there had been an objection by Mr.
2 Aaron, that is being made today, parties and his
3 witnesses would have had an opportunity to determine
4 the conclusion by the Commission. But to lay in the
5 weeds and raise the objection at the time his panel is
6 to be tendered, is, I submit, unfair. If Mr. Aaron on
7 the face of the letter requesting the document be
8 filed had a problem with it, that was the time to
9 raise those submissions, in fairness to this process,
10 and in fairness to this Commission, having full
11 information in front of it, and not just a URL in an
12 IR, but the actual full document which was requested.
13 And those are my submissions.

14 THE CHAIRPERSON: Thank you.

15 MR. FULTON: Mr. Chairman, I need to reference one
16 section of the *Utilities Commission Act* and it arises
17 as a result of Mr. Aaron's submissions. So that --
18 and I believe you're familiar with this section, but
19 for those here who may not be, it's Section 75. And
20 Section 75 provides that:

21 "The Commission must make its decision on
22 the merits and justice of the case and is
23 not bound to follow its own decisions."

24 So that speaks to the issue of precedents that was
25 raised by Mr. Aaron.

26 THE CHAIRPERSON: Thank you. It's important that we make

1 this decision, as has been stated, before the cross-
2 examination commences this afternoon.

3 Mr. Fulton, are there any other matters
4 this morning?

5 MR. FULTON: No, there are not, Mr. Chairman. But I
6 think to the extent that it was possible, parties
7 would benefit by having a decision from the Panel,
8 say, some time around noon or so, so Mr. Aaron could
9 at least communicate whatever the decision is to Dr.
10 Maisch before we commence Dr. Maisch's cross-
11 examination.

12 THE CHAIRPERSON: Thank you. I think, looking at the
13 time, we'll take a break now and reconvene at eleven.
14 And at that time we can come back with our decision.
15 Then you have some housekeeping matters to talk about
16 in terms of the conduct of the cross-examination and
17 we can deal with that as well. Will that work from
18 your point of view, Mr. Fulton?

19 MR. FULTON: Yes, it will, Mr. Chairman, and my other
20 matters will be very brief.

21 THE CHAIRPERSON: Okay. Well, let's then reconvene at
22 11:00 a.m. Thank you.

23 MR. FULTON: Thank you.

24 **(PROCEEDINGS ADJOURNED AT 10:20 A.M.)**

25 **(PROCEEDINGS RESUMED AT 11:14 A.M.)**

T18/19

26 THE CHAIRPERSON: Please be seated.

1 Earlier today the CEC and the Municipal
2 Electric Utilities, which I'll refer to simply as CEC,
3 submitted a document which we will refer to as the
4 Texas Staff Report, asking that this document, in
5 paper form, be submitted into evidence. CEC submits
6 that in answer to Fortis IR 2.4.3 of Exhibit C9-13-1,
7 which requested that the Texas Staff Report be
8 submitted, that a hyperlink to the report was
9 referenced and the response "Then you have it"
10 followed. It is CEC's position that the document was
11 in this way filed as evidence. CSTS did not object to
12 this request at the time of the IR, and Dr. Carpenter
13 responded to several IRs related to the report.

14 Further, Mr. Bennett asked questions, and
15 I'll refer you to Transcript 7 at page 1196, based on
16 the report. In response Mr. Loski said he believed
17 the report had been filed. There was no objection
18 raised at that time.

19 CSTS now objects -- pardon me. The
20 Commission also notes that reference was made to the
21 report by Fortis in its submission B-23 on page 1, and
22 that submission was dated January 22, 2013, and
23 contained a hyperlink, and again no objection was
24 raised at that time.

25 CSTS now objects to the filing of the Texas
26 Staff Report because in its view it is an

1 MR. FULTON: Thank you, Mr. Chairman. In terms of
2 accepting the document into evidence, it is there
3 already by hyperlink, but no hard copy is on the
4 record, as you've noted and as the parties have noted.
5 For ease of reference, then, for everyone, I suggest
6 that we mark the Texas staff report the next CEC
7 exhibit, which will be C17-24.

8 THE CHAIRPERSON: Thank you.

9 THE HEARING OFFICER: Marked C17-24.

10 **(STAFF REPORT OF PUBLIC UTILITY COMMISSION OF TEXAS**
11 **DATED DECEMBER 17, 2012 MARKED EXHIBIT C17-24)**

12 MR. FULTON: That takes me to the last two matters that I
13 had, Mr. Chairman. Both of them relate to the cross-
14 examination of the interveners' witnesses, which are
15 going to take place today. Last night when we had our
16 test run, it was agreed that Mr. Aaron would sit at
17 this dais, from where I am speaking now, and FortisBC
18 would use their usual dais.

19 If there is an objection to a question, Mr.
20 Aaron will stand up and the cross-examiner will then
21 stop the cross-examination so that Mr. Aaron can
22 communicate his objection. I should also say that
23 other interveners who are cross-examining will also
24 use the FortisBC mike for the purposes of cross-
25 examination.

26 If the Commission Panel has questions that

1 arise during the course of the cross-examination, I
2 suggest that the Panel raise its hand so that we'll
3 know that there is a question at this point, so that
4 the cross-examiner can stop. The witness can complete
5 its question -- or complete its answer to the cross-
6 examiner's question, and then the Panel can ask its
7 question. The process, as I understand it, will
8 involve moving the laptop around the room somewhat, so
9 the Hearing Officer will be responsible for moving the
10 laptop when it's necessary to move it.

11 And I think that's all I will say, in terms
12 of the protocol for how we proceed with this, the
13 video conferencing.

14 **Proceeding Time 11:21 a.m. T21**

15 Just ask everyone to bear in mind that for
16 the Commission this is a new experience and that there
17 will be some learning as we go, certainly in terms of
18 today as a first case where we've done it, and then
19 hopefully any of the glitches will be ironed out, if
20 glitches occur, in time for tomorrow morning at 8:00.

21 The next item is the order of cross for the
22 intervener panels, and I have prepared an order of
23 cross for Dr. Maisch which I circulated to counsel
24 yesterday and I'll pass to the Hearing Officer so he
25 can provide the Commission Panel with a copy, and just
26 provide a few comments about that order.

1 The order contains all those parties who
2 are interveners, together with FortisBC, who have
3 cross-examined previously. As Exhibit A-25 sets out,
4 parties who support a position are not expected to
5 cross-examine and we have from time to time during the
6 last week of this hearing heard a reference to
7 friendly cross-examination, and so that is what we
8 wish to avoid.

9 So, while the order of cross-examination in
10 rows 1 through 4 refer to West Kootenay Concerned
11 Citizens, Riding of B.C. Southern Interior, Electoral
12 Area D of Regional District Central Kootenay and Jerry
13 Flynn, I'm not anticipating that they will be cross-
14 examining Dr. Maisch.

15 Now, I pause here to say that Mr. Shadrack
16 on behalf of the Electoral Area D Regional District
17 Central Kootenay has expressed an intention to request
18 the opportunity to cross-examine Dr. Carpenter on
19 Friday, and my suggestion in that respect is that we
20 leave that application until the conclusion of Dr.
21 Jamieson's evidence on Thursday and then deal with it
22 then.

23 Then in terms of the other parties, I do
24 expect cross-examination from BCPSO, BCSEA *et al.*,
25 CEC. B.C. Hydro advised me through their counsel
26 yesterday that they will not be attending the hearing

1 further and so that they will not be cross-examining.
2 And then FortisBC, as is generally the case and in
3 fact most often the case in terms of cross-
4 examinations of intervener panels, cross-examines
5 second to last, followed by me. That is something
6 that's set out in Exhibit A-25 as well.

7 So subject to any questions that the Panel
8 might have on the order of cross-examination and what
9 I anticipate happening this afternoon, that concludes
10 the matters that I have for this morning.

11 THE CHAIRPERSON: Thank you, Mr. Fulton. I did have just
12 a couple of comments.

13 First, I think it might be helpful to the
14 witness who will be cross-examined if we take just a
15 minute or two at the beginning of the session to
16 introduce the Panel and give them a sense of the
17 environment that they're working in here. Again, we
18 haven't had experience with cross-examination by video
19 link, and it just strikes me it would be a courtesy to
20 let the witness have a sense of the other end of the
21 cross-examination. So we'll do that, just take a
22 minute or two to do that.

23 Mr. Aaron, is that reasonable from your
24 point of view? Mr. Aaron replies in the affirmative.

25 Secondly, I would like to just back up for
26 a moment and make reference to the exhibit that we've

1 agreed to allow into evidence, and CEC has copies of
2 that available and I'll ask the Hearing Officer to
3 make those available to everybody.

4 I think that concludes -- well, let me just
5 add one other comment and that is I think it would be
6 useful if we reconvened at five to one. I would like
7 to start the proceedings with the witness at 1:00 to
8 allow us as much time as possible, and so we will
9 reconvene at five minutes to one just to allow for the
10 connections to be made and people to get settled.

11 MR. FULTON: And might I also suggest, Mr. Chairman, that
12 the Panel determine, either now or before we start,
13 when would be an appropriate time to take a break for
14 the witness?

15 THE CHAIRPERSON: Well, we've been breaking a little
16 after 3:00. I think to some degree that has to be
17 phased into the questions. But let's target 3:00 for
18 a break, and we may have to vary that a little
19 depending on -- we don't want to stop right in the
20 middle of a question, but we'll aim for 3:00.

21 MR. FULTON: Thank you.

22 THE CHAIRPERSON: Okay, thank you, so we'll reconvene
23 then at five minutes to one.

24 **(PROCEEDINGS ADJOURNED AT 11:27 A.M.)**

25 **(PROCEEDINGS RESUMED AT 12:55 P.M.)**

T22/23

26 THE CHAIRPERSON: Please be seated.

1 So we'll just take a few minutes to get set
2 up, and I don't see Mr. Aaron here at this stage, but
3 presumably he'll be along in a moment. I think I'd
4 rather wait for Mr. Aaron to arrive first.

5 Okay, I see that Mr. Aaron has arrived.
6 And so I'd like to start off by just introducing our
7 witness to the Panel. So, Mr. Bemister, I would ask
8 you to swing the camera around.

9 Well, I was going to say "Good afternoon",
10 sir, but it may be morning for you.

11 DR. MAISCH: Yes.

12 THE CHAIRPERSON: I am the chair of the Panel,
13 Commissioner Len Kelsey, and on my left is
14 Commissioner David Morton, and on my right, hopefully
15 you can see him, is Commissioner Norman MacMurchy.

16 DR. MAISCH: Good morning.

17 THE CHAIRPERSON: And Mr. Bemister, who we're going to
18 swing the TV around now, Mr. Bemister is the Hearing
19 Officer. And perhaps you could just take the laptop
20 over to Gordon Fulton, the Commission counsel. And I
21 think you may have got a sense of the hearing room
22 while we were waiting for Mr. Aaron's arrival, but the
23 hearing, as you probably know, is being held in
24 Kelowna, British Columbia. And I'd like to extend a
25 welcome to you.

26 This is the first time the Commission has

1 used this technology for cross-examining a witness,
2 and so we're hoping it will work well. If there are
3 any problems, though, I'm asking everybody to bear
4 with us while we attempt to solve them.

5 So, Mr. Bemister, with that, I'd ask you to
6 swear in the witness. Oh -- Mr. Fulton.

7 MR. FULTON: Yes, Mr. Aaron should come forward,
8 introduce the witness and then ask for him to be
9 sworn.

10 THE CHAIRPERSON: Okay, thank you.

11 Mr. Aaron, let's not have a discussion
12 about whether your watch is fast or slow at this
13 stage. Let's begin.

14 MR. AARON: Thanks for joining us, Dr. Maisch.

15 DR. MAISCH: Yes, good morning.

16 THE CHAIRPERSON: Now, I'm having trouble with the
17 volume, so --

18 DR. MAISCH: Can you hear me okay?

19 THE CHAIRPERSON: We'll just turn the volume up.

20 MR. AARON: We're just attending to your volume.

21 DR. MAISCH: Okay.

22 MR. AARON: What time do we have for you in Australia?

23 DR. MAISCH: It's now 7:00 a.m. in the morning.

24 MR. AARON: All right. Good morning, then.

25 DR. MAISCH: Yes, good morning.

26 MR. AARON: All right.

1 DR. MAISCH: Can you hear me okay now?
2 MR. AARON: Yes. So can we have your full name for the
3 Panel?

4 DR. MAISCH: Yes. Donald Raymond Maisch.

5 MR. AARON: All right. I'll now hand you over to the
6 Hearing Officer, who will administer an oath.

7 DR. MAISCH: Yes.

8 **Proceeding Time 1:01 p.m. T24**

9 THE HEARING OFFICER: Could you please state your full
10 name for the record?

11 DR. MAISCH: My name is Donald Raymond Maisch.

12 **CITIZENS FOR SAFE TECHNOLOGY - PANEL 1**

13 **DONALD RAYMOND MAISCH, Affirmed:**

14 **EXAMINATION IN CHIEF BY MR. AARON:**

15 MR. AARON: Q: Thank you, Dr. Maisch. I'm going to
16 spend a short amount of time asking you questions,
17 just to review your qualifications.

18 DR. MAISCH: A: Yes.

19 MR. AARON: Q: And then counsel for various other
20 parties will spend a more significant amount of time
21 asking you more substantive questions.

22 DR. MAISCH: A: Okay.

23 MR. AARON: Q: So, Dr. Maisch, you've been directly
24 involved in telecommunication standard setting since
25 1966 -- sorry, since 1996, is that right?

26 DR. MAISCH: A: Yes, sir.

1 MR. AARON: Q: Can you tell us the particulars of your
2 involvement in that regard?

3 DR. MAISCH: A: Well, my direct involvement began with
4 -- I was on the TE7 committee, human exposure to radio
5 frequency fields. Now, before then I was actually
6 doing some research for one of the senators down here
7 on standard setting. Now, my main experience has been
8 in TE7 committee, directly working on RF standards.

9 MR. AARON: Q: Could you just spell out for us what
10 that acronym stands for, TE7?

11 DR. MAISCH: A: Well, TE7, that was the name of a
12 standards committee. TE7 Committee, human exposure to
13 electromagnetic fields. That concluded in 1999, I
14 believe.

15 MR. AARON: Q: All right.

16 DR. MAISCH: A: On the strength of that, I did a Ph.D.
17 through the University of Wollongong looking at the
18 history of radio frequency standard setting and how
19 conflict of interest influenced standards.

20 MR. AARON: Q: All right, and in the course of doing
21 that Ph.D., you authored a thesis which is enclosed in
22 your materials.

23 DR. MAISCH: A: That's true.

24 MR. AARON: Q: All right. And can you tell us a little
25 bit about the way your thesis has been dealt with in
26 terms of external review?

1 DR. MAISCH: A: Well, external review, you mean during
2 the approval process.

3 MR. AARON: Q: Well, you say that it's passed external
4 review and was accepted by the university?

5 DR. MAISCH: A: Yes. Yes, that was reviewed by two
6 external reviewers besides my two supervisors in the
7 university.

8 MR. AARON: Q: All right. And you're also a
9 consultative committee member on the Powerline
10 Standards Review Committee under the auspices of the
11 Australian Radiation Protection and Nuclear Safety
12 Agency?

13 DR. MAISCH: A: That's right. That is true.

14 MR. AARON: Q: Is that a government agency?

15 DR. MAISCH: A: It is.

16 MR. AARON: Q: All right. Can you tell us a little bit
17 about your publications. I see you've got one in a
18 journal with the acronym JACNEM?

19 **Proceeding Time 1:04 p.m. T25**

20 DR. MAISCH: A: That's the Journal of the Australian
21 College of Nutritional and Environmental Medicine
22 based in Melbourne, Australia.

23 MR. AARON: Q: All right, and that's a 2002
24 publication. What's that about, sir?

25 DR. MAISCH: A: That one there, there's several -- I
26 will just refer to this one here. Okay, first one

1 there, the first -- you want to see the first
2 publication I did in the journal or the 2002 one?
3 The 2002 one was changes in health status in a group
4 of CFS, chronic fatigue syndrome, in chronic fatigue
5 patients following removal of excessive 50 hertz
6 magnetic field exposure. That was published in the
7 journal in April 2002.

8 MR. AARON: Q: All right, and then there's a 2012 one
9 as well?

10 DR. MAISCH: A: Okay, the latest one is one on smart
11 meters, believe it or not. Yeah, smart meter health
12 concerns, just a NOCEBO effect, or an emerging public
13 health nightmare.

14 MR. AARON: Q: The NOCEBO effect, is that N-O-C-E-B-O?
15 All right.

16 DR. MAISCH: A: N-O-C-E-B-O, NOCEBO effect.

17 MR. AARON: Q: All right. And could you tell us about
18 your work with the Sustainable Living Tasmania? Is
19 that a group or a publication?

20 DR. MAISCH: A: That's a group. They used to be an
21 environment centre. They're now looking at
22 sustainable living, looking at ways of living more
23 environmentally, using less energy, and I've been
24 involved in that for a few years just writing public
25 -- you know, writing information sheets for them.

26 MR. AARON: Q: All right, and what about *EMFacts*

1 magazine? Have you been involved with that?

2 DR. MAISCH: A: There's not *EMFacts* magazine. That's
3 my consultancy.

4 MR. AARON: Q: Oh, all right.

5 DR. MAISCH: A: EMFacts Consultancy.

6 MR. AARON: Q: What about *Electromagnetics Forum*? Is
7 that a publication?

8 DR. MAISCH: A: Yeah, that was one I did some time ago
9 started out, basically as an experiment and see how a,
10 you know, a magazine on this topic would go. And
11 after running it for about a year, four issues,
12 decided a website is probably a better way.

13 MR. AARON: Q: All right. And you offered a report at
14 my request for the purposes of these proceedings?

15 DR. MAISCH: A: Yes.

16 MR. AARON: Q: And that was dated January 22nd, 2013?

17 DR. MAISCH: A: Yes, I believe so. I've got it right
18 here.

19 MR. AARON: Q: And you stand by the contents of that
20 report?

21 DR. MAISCH: A: Yes, I do. There's a few minor changes
22 in there. For instance, when I wrote that I was
23 depending upon the earlier copy of Safety Code 6, and
24 I've since amended that.

25 MR. AARON: Q: All right. And would you be willing to
26 adopt the contents of that report for the purposes of

1 your testimony?

2 DR. MAISCH: A: Yes.

3 MR. AARON: Q: Also you replied to at least three
4 information requests by various parties in these
5 proceedings and you authored those replies?

6 DR. MAISCH: A: Yes.

7 MR. AARON: Q: And similarly I would ask if you'd be
8 willing to adopt the contents of those replies as your
9 evidence, as part of your testimony in these
10 proceedings.

11 DR. MAISCH: A: Yes.

12 **Proceeding Time 1:08 p.m. T26**

13 MR. AARON: Well then, Mr. Chair, I would seek to qualify
14 -- to have Dr. Maisch qualified as an expert in health
15 standards relating to exposure to electromagnetic
16 radiation.

17 THE CHAIRPERSON: Thank you. Are there any challenges to
18 that qualification? Hearing --

19 MR. MACINTOSH: Mr. Chair, I will not be challenging Dr.
20 Maisch's capacity to give evidence. I may have a
21 question or two which will cause me to perhaps submit
22 that a lesser amount of weight should be given to his
23 evidence.

24 THE CHAIRPERSON: Certainly. Hearing no challenges, then
25 we will accept that.

26 MR. AARON: All right. That will be all from me, Dr.

1 Maisch, thank you very much.

2 DR. MAISCH: A: Thank you.

3 MR. FULTON: Dr. Maisch, you are now available for cross-
4 examination, and the first party that will cross-
5 examine you is the British Columbia Pensioners' and
6 Seniors' Organization *et al.*

7 **CROSS-EXAMINATION BY MS. BRAITHWAITE:**

8 MS. BRAITHWAITE: Q: Good afternoon, Commissioners.
9 Dr. Maisch. Dr. Maisch, my questions are going to
10 focus on your statement of January 22nd, 2013. And I
11 believe you just said you have a copy of that with
12 you.

13 DR. MAISCH: A: Yes.

14 MS. BRAITHWAITE: Q: I'd like you to turn to page 2 of
15 that report. Up in the first paragraph on page 2, you
16 say that the problem is,

17 "...in relation to smart meters, this is new
18 technology where no research has yet been
19 conducted specifically addressing human
20 exposure to smart meter emissions."

21 Do you see that?

22 DR. MAISCH: A: Yes, I do.

23 MS. BRAITHWAITE: Q: My understanding is that the Itron
24 meters that are subject -- the subject of this
25 proceeding transmit to the LAN at a frequency of 900
26 to 928 megahertz. Is it fair to say that we've had

1 electronic devices that transmit at that same
2 frequency for several decades? In our --

3 DR. MAISCH: A: That's true.

4 MS. BRAITHWAITE: Q: Okay. And is there a reason why
5 the transmissions from smart meters would be different
6 from transmissions from other sources? That transmit
7 in the same frequency? That is, assuming that they're
8 at comparable power levels, distances from meters, and
9 that sort of thing.

10 DR. MAISCH: A: Okay. As I see it, the primary
11 difference is the amount of transmissions, the
12 frequency, very brief pulses that from my
13 understanding can be up to 190,000 times a day. Very
14 brief transient high-frequency exposures. I have to
15 qualify -- my primary concern here is what happens
16 when a smart meter is located quite close to a bed
17 head, which is a situation which is very common in
18 Australia. I'm not quite sure what it's like in
19 Canada. I think in those situations, this represents
20 a possible health issue.

21 MS. BRAITHWAITE: Q: Okay. That's maybe going into a
22 bit of a new area. So, I'm just trying to clarify if
23 there is a reason that we would need research that's
24 specific to smart meters, or whether it's possible to
25 extrapolate research done from other radio frequency
26 transmitting sources.

1 DR. MAISCH: A: I think other sources can be
2 suggestive, but I think in order to really determine
3 whether there is a health impact from smart meters, I
4 think you need to do focused research, in my opinion,
5 that would actually look at smart meter emissions, and
6 not try to look back at previous research and try to
7 find out whether there is -- we can prove anything.

8 MS. BRAITHWAITE: Q: Okay. And is that because, as you
9 say, the smart meters pulse differently? Or the
10 frequency of the transmission is different from other
11 transmitting sources? Is that the reason?

12 DR. MAISCH: A: My opinion is, if there is going to be
13 an issue, it's probably going to be in the constant
14 brief frequency of transmissions.

15 MS. BRAITHWAITE: Q: Sorry, the constancy of the
16 frequency of transmission?

17 DR. MAISCH: A: Yes. Over a 24-hour period, say, for
18 instance.

19 MS. BRAITHWAITE: Q: Okay.

20 MR. AARON: Sorry. I'm just wondering if -- oh, sorry.
21 Just the technical position with respect to the
22 volume. Is it possible to have Dr. Maisch a little
23 bit louder for the room? I'm straining myself to get
24 enough volume in my ears.

25 THE CHAIRPERSON: Perhaps I could just add to that
26 concern. It may be just a case of the pace that Dr.

1 Maisch is speaking at. I'm finding it difficult to
2 hear every word clearly, and it might be worthwhile if
3 we -- if the witness just slowed down a little bit in
4 responding. Let's try that, at least, and see if that
5 is a little easier to follow.

6 MR. AARON: Is that all right, Dr. Maisch?

7 DR. MAISCH: A: That's fine.

8 MR. AARON: All right, thank you. Thank you.

9 MS. BRAITHWAITE: Q: Dr. Maisch, beginning on page 3 of
10 your report, you list a number of concerns that you
11 say were raised by the radio frequency inter-agency
12 work group.

13 DR. MAISCH: A: That is true.

14 MS. BRAITHWAITE: Q: Do you share or adopt the concerns
15 identified by that group?

16 DR. MAISCH: A: Yes, I do.

17 **Proceeding Time 1:14 p.m. T27**

18 MS. BRAITHWAITE: Q: Okay. One of the concerns that is
19 set out on page 3 of the report speaks to the
20 difference between chronic, which is described as low
21 intensity prolonged, as opposed to acute, which is
22 described as high intensity short-term exposures. And
23 I'm wondering --

24 DR. MAISCH: A: Yes.

25 MR. BENNETT: Q: -- can you tell me where there is an
26 accepted or established definition or standard for

1 what constitutes a chronic exposure versus what
2 constitutes an acute exposure?

3 DR. MAISCH: A: Okay, well in the standards, an acute
4 exposure is virtually very short-term exposure to a
5 radio frequency field that would be of sufficient
6 power to cause a thermal effect, a heating effect.
7 Chronic exposures are over a longer period of time to
8 exposures that will not cause a noticeable heating
9 effect. There may be heating effects at very low
10 levels, but basically we're looking at gross effects
11 here, fairly high-level exposures causing a heating
12 effect as immediate health effects.

13 Does that answer your question?

14 MS. BRAITHWAITE: Q: Well, so as I understand your
15 answer, there's both an intensity distinction. So
16 you're using thermal versus non-thermal effects for
17 intensity. And there's also -- sorry, is that
18 correct?

19 DR. MAISCH: A: Yes.

20 MS. BRAITHWAITE: Q: Okay. And then there's also a
21 component of duration of exposure. Is that correct?

22 DR. MAISCH: A: That is correct.

23 MS. BRAITHWAITE: Q: And so is there any set amount of
24 exposure in terms of duration that constitutes
25 chronic?

26 DR. MAISCH: A: Duration of exposure of would be in

1 relation to chronic. I mean in relation to the
2 purpose of this hearing I would define chronic as over
3 an eight-hour period. Like we're now getting back to
4 the fact that if someone is in close proximity to a
5 smart meter for a number of hours. The chronic
6 exposure basically is referring to a longer period of
7 time, maybe days, maybe weeks, you know, any length of
8 time.

9 Now, to clarify here now, the standards do
10 say that the thermal standards are for, you know, they
11 can be for 24 hours a day or longer. But that's only
12 providing protection against the thermal effects,
13 immediate health effects of heating. It's not
14 addressing that low -- the other effects that may be
15 happening below the thermal level.

16 MS. BRAITHWAITE: Q: Right. I understand the
17 distinction between the thermal effects and the non-
18 thermal effects. Well, I'm not sure. That's probably
19 giving myself too much credit. I understand there's
20 heat effects and non-heat effects, or potentially
21 effects that are not heat-related. But I guess my
22 understanding is that the type of smart meter that is
23 proposed in this proceeding will be transmitting
24 between four and six times a day for very short --
25 less than a second at a time.

26 And my question is, is that sufficient to

1 DR. MAISCH: A: Well, that's probably going to be
2 different for the meters you have there. I'm not
3 quite sure of the exact totality of the meters that
4 you are using there. But generally speaking, four to
5 six times a day, it's just data transmission. There
6 is a lot of other transmissions during a day, or
7 during the night too.

8 MS. BRAITHWAITE: Q: Okay. And I think you address
9 this further up the same page, page 18, when you say
10 there are many thousands of other transmissions for
11 network management.

12 DR. MAISCH: A: Yes.

13 MS. BRAITHWAITE: Q: Those are the ones you're
14 referring to? Isn't it the case, though, that
15 virtually all of those other transmissions would be at
16 a point distant from any particular person?

17 DR. MAISCH: A: Well, that would very much depend upon
18 where the meter is located on a building. It's
19 proximity that -- it's proximity that is the issue
20 here.

21 MS. BRAITHWAITE: Q: Yes. So you're saying if I have a
22 -- sorry. Are you saying that if I have a smart meter
23 on my house, my meter is not transmitting 4 to 6 times
24 a day, my transmitter is -- my meter is transmitting
25 many thousands of times per day? Is that what you're
26 saying?

1 DR. MAISCH: A: Yes, that's my understanding.

2 MS. BRAITHWAITE: Q: And is it your understanding that
3 that is true of every smart meter? Or does it depend
4 on -- does it vary from one smart meter to another?

5 DR. MAISCH: A: It's going to vary depending upon the
6 type of meter which is being used.

7 MS. BRAITHWAITE: Q: Okay. The type of meter that is
8 being used, but not my house as opposed to my
9 neighbour's house, or opposed to someone who lives in
10 another town.

11 DR. MAISCH: A: Well, there is one qualification here
12 that some of the meters may be collector meters. This
13 is one thing which I've seen in Melbourne, you might
14 get a street full of mesh network meters. You can
15 find -- I've found one on that street that would be a
16 collector meter that would be far more active than the
17 other meters. So there can be a difference between
18 meters themselves, but also different manufacturing
19 processes of meters.

20 MS. BRAITHWAITE: Q: Okay.

21 DR. MAISCH: A: For instance, I've seen in Melbourne,
22 we've also got Wiremax meters, which are different
23 smart meters, which are different again, which isn't
24 an issue for the hearings here, though.

25 MS. BRAITHWAITE: Q: Okay. I'm just going to stop you
26 there. One of the Commissioners has a question.

1 THE CHAIRPERSON: Yes, I had difficulty following your
2 description for about the last minute. And if it's
3 not an imposition, if you can recall what you said, it
4 would be helpful to me and perhaps my colleagues, if
5 you could repeat your description. Perhaps re-asking
6 the question might be a good place to start. And I
7 apologize for that. I just really wasn't able to
8 clearly understand what you were saying.

9 DR. MAISCH: A: Okay.

10 MS. BRAITHWAITE: Q: So, Dr. Maisch, we were talking
11 about your assertion in the report at page 8 that the
12 meter may transmit many thousands of times a day.

13 DR. MAISCH: A: That's true.

14 MS. BRAITHWAITE: Q: And you were saying that some
15 meters act as collector meters, I believe. Could you
16 explain that a bit?

17 DR. MAISCH: A: From what I have seen in, say, for
18 instance, in a suburban street, you will have one
19 meter -- this is a mesh network -- that will be
20 collecting the data that the other meters are sending
21 out, and this data is actually then sent to a nearby
22 tower that will be going back to the utility. So that
23 particular collector meter will be more active than
24 other meters in the street.

25 **Proceeding Time 1:23 p.m. T29**

26 MS. BRAITHWAITE: Q: Okay, thank you.

1 THE CHAIRPERSON: Thank you.

2 MS. BRAITHWAITE: Q: So I'm going to go back now.
3 We've jumped ahead a little bit. I'm going to go back
4 to page 3 and we were talking about the concerns set
5 out by the radio frequency interagency work group.

6 DR. MAISCH: A: Yes.

7 MS. BRAITHWAITE: Q: And one of the concerns that's
8 identified is the difference in standards that are in
9 place between controlled and uncontrolled
10 environments.

11 DR. MAISCH: A: That's right.

12 MS. BRAITHWAITE: Q: Now, my understanding is that the
13 reason for that difference is that in controlled
14 environments there would be shorter, typically shorter
15 and known exposure levels, whereas in uncontrolled
16 environments there may not be. Do you not believe
17 that that's a valid consideration as a basis on which
18 to make a distinction?

19 DR. MAISCH: A: Whether or not they're in a controlled
20 environment would tend to be people who are aware of
21 the exposures, like workers for instance, whereas in
22 an uncontrolled environment, which would include the
23 public, would not be aware, necessarily be aware of
24 what their exposures are.

25 MS. BRAITHWAITE: Q: Oh, I see, so the difference -- I
26 maybe don't understand what a controlled versus an

1 uncontrolled environment is. Is your evidence that
2 the difference between a controlled environment and an
3 uncontrolled environment is the awareness of the
4 person who's subjected to it?

5 DR. MAISCH: A: That's part of it, but of course the
6 thing is I think what they're referring to there is
7 biological validity. Why have two standards? Whereas
8 if there's going to be a biological effect of RF it's
9 going to be acting on people to the same extent. So
10 having a two-tiered approach, as I understand it, it's
11 mainly for RF workers.

12 MS. BRAITHWAITE: Q: Okay.

13 DR. MAISCH: A: That you have an understanding that --
14 you may be climbing a tower. You have an
15 understanding that you may be exposed to high-level
16 RF, but you take some sort of protection to reduce
17 your exposure. That's my understanding.

18 MS. BRAITHWAITE: Q: Okay. And is it correct to say
19 it's not your opinion that the taking of protective
20 measures, or the ability to take protective measures
21 because you're aware of the level of exposure is a
22 valid basis for making a distinction?

23 DR. MAISCH: A: I think it's very necessary to have
24 those exposure levels to allow people who are working
25 in high RF environments to be able to take protective
26 action. Does that answer your question?

1 MS. BRAITHWAITE: Q: Yes, I think it does.

2 And now I just want to make sure that I
3 understand how these frequencies work. So the next
4 issue that you flagged from the working group is the
5 rationale for the relaxation of exposure limits above
6 1.5 gigahertz. And you say that causes concern but
7 the standard is not restrictive enough for continuous
8 exposures at lower microwave frequencies.

9 Am I correct -- sorry, am I correct in
10 assuming that this means that there are more relaxed
11 exposure standards for frequencies that are above 1.5
12 gigahertz?

13 DR. MAISCH: A: This was one of the issues that we had
14 over here in the Australian, sort of mentioned this in
15 the Australian standard setting arena, that there was
16 a disagreement over bringing in -- well, the
17 Australian standard was a flat standard, which meant
18 there was an exposure level, 200 microwatts per
19 centimetre squared, regardless of frequency. Now, the
20 ICNIRP standard was saying that the higher the
21 frequency the less the penetration of the radio
22 frequency microwave exposure is into the body.
23 Therefore you can allow higher exposure levels, as it
24 goes up.

25 **Proceeding Time 1:28 p.m. T30**

26 Now, in the Australian situation, that

1 meant for 400 and -- well, about 900 megahertz, the
2 exposure level would have gone up from 200 to 450.
3 So, the difference there is the fact that the higher
4 the exposure level, the less there is penetration into
5 the body. So the ICNIRP standard saying at the higher
6 frequencies you can increase the exposure level. You
7 can increase the allowable limits.

8 Now, there is a disagreement there over
9 whether that is really protective against other
10 effects other than thermal. So, that idea makes sense
11 purely on a thermal effect issue only.

12 MS. BRAITHWAITE: Q: Okay.

13 DR. MAISCH: A: But as far as there are possible non-
14 thermal effects, that's where a disagreement was.

15 MS. BRAITHWAITE: Q: Okay. I guess I'm partly
16 wondering whether that's relevant to the discussion
17 we're having here, in this proceeding. The RF LAN
18 transmissions, my understanding is, occur at 900 to
19 928 megahertz. Which is below 1.5 gigahertz.

20 DR. MAISCH: A: Mm-hmm.

21 MS. BRAITHWAITE: Q: On the frequency scale. And so is
22 it correct to say the relaxed standards do not apply
23 to those frequencies?

24 DR. MAISCH: A: Not at that level, there wouldn't be
25 much of an effect.

26 MS. BRAITHWAITE: Q: Okay. Over on page 4 of your

1 report, you say that there is substantial peer-
2 reviewed and published research in existence that
3 found scientific evidence of adverse biological
4 effects at exposure levels far below the official
5 standards -- standard limits/guidelines.

6 DR. MAISCH: A: Okay. I'm just looking -- which
7 paragraph is that on page 4?

8 MS. BRAITHWAITE: Q: It's the third paragraph down,
9 towards the end of that paragraph.

10 DR. MAISCH: A: On page 4. Okay, yes, I have that.

11 MS. BRAITHWAITE: Q: Okay. And when you say the
12 standard limits, you've just referred to the IEEE
13 C95.1 standard. And my question is, at what level is
14 there no evidence of biological effects?

15 So, to give you some context, we've heard
16 in this proceeding that the smart meters proposed in
17 this case involve exposure that is something in the
18 range of 0.00013 percent of the limit provided by
19 Safety Code 6.

20 DR. MAISCH: A: Yes.

21 MS. BRAITHWAITE: Q: Would you expect, or do you know
22 of any studies that have shown biological effects at
23 exposure levels that much below the standard?

24 DR. MAISCH: A: Well, first of all, I would question
25 whether that -- the maximum exposure level through a
26 smart meter is that level. Now, the other thing is

1 too, as far as looking at exposure levels, I think we
2 would refer back to the Bioinitiative report that
3 shows that there can be levels -- effects at very low
4 levels. And this is also depending upon proximity to
5 the meter too.

6 MS. BRAITHWAITE: Q: Okay. So, let's leave aside the
7 issue of whether that number that I gave you, the
8 0.00013 percent of Safety Code 6 is correct. Are you
9 saying that you can point to studies, the
10 Bioinitiative being one of them, that found adverse
11 biological effects at those levels of exposure?

12 DR. MAISCH: A: Now, I've got that somewhere here.
13 I've got a large pile of papers here.

14 MS. BRAITHWAITE: Q: I think we all have that same
15 problem.

16 DR. MAISCH: A: Excuse me a moment. Now. Now, as far
17 as the Bioinitiative report, they're proposed -- they
18 -- one of their suggestions was for an indoor
19 accumulate from all sources of exposure of .001
20 microwatts per centimetre squared. And your figure
21 was .00013.

22 MS. BRAITHWAITE: Q: Well, yeah. My figure was as a
23 percentage of the limit provided by Safety Code 6. So
24 I'm actually not sure how that compares.

25 DR. MAISCH: A: Yeah. So, I mean, the point here is
26 that there is evidence that there can be effects far

1 below the standard levels, not related to heating.

2 MS. BRAITHWAITE: Q: Right. Yeah. And what I'm trying
3 to get at is, how far below the standard levels?

4 DR. MAISCH: A: Well, that's a question which I
5 couldn't really answer at this time. We'd have to
6 look at the -- go to the studies and then look at what
7 levels. So I don't have that in front of me at the
8 moment. Sorry.

9 **Proceeding Time 1:34 p.m. T31**

10 MS. BRAITHWAITE: Q: Okay. Thank you. And when you
11 refer in your report to biological effects, are you
12 distinguishing biological effects from health effects,
13 more generally?

14 DR. MAISCH: A: Well, biological effects can be health
15 effects, or it can be not be a health effect.
16 Biological effect does not necessarily mean it's an
17 adverse effect. But if you're getting biological
18 effects below the standard, say -- I mean, the
19 standard assumes that there is below the limits, there
20 is going to be no adverse biological effects. I think
21 the issue that we're looking at here, okay, are there
22 adverse biological effects at levels far below the
23 standard?

24 MS. BRAITHWAITE: Q: Okay. So is it correct to say
25 that a biological effect may not have any health
26 implications?

1 DR. MAISCH: A: That's true.

2 MS. BRAITHWAITE: Q: Okay. And so for the studies that
3 you have been involved in, or that you've reviewed,
4 when you say that they found adverse biological
5 effects at levels far below the levels of exposure set
6 out in the standards, have they found health effects
7 at those levels? Or just biological effects that do
8 not have health implications?

9 DR. MAISCH: A: Oh, there's evidence of health effects
10 far below the standards, yes.

11 MS. BRAITHWAITE: Q: Okay. And you may not be able to
12 answer this question, because it's very similar to the
13 one I just asked you, which is, do you know at what
14 level -- like, how far below the standard do you see
15 health effects in some of the studies?

16 DR. MAISCH: A: I couldn't answer that at this point in
17 time.

18 MS. BRAITHWAITE: Q: I'd like to go back for a minute
19 to this distinction between chronic exposure and acute
20 exposure. And I'd like you to explain to me, again
21 not in terms of the intensity of the exposure but in
22 terms of the duration, why it is that that's relevant?
23 So, I'll break that down a little bit.

24 Is it correct to say that the effects
25 accumulate over time in tissue, based on the studies
26 that you've either been involved in or have reviewed?

1 DR. MAISCH: A: My understanding that there can be a
2 cumulative effect over time, yes.

3 MS. BRAITHWAITE: Q: Okay.

4 DR. MAISCH: A: Not so much as something's accumulating
5 in tissue, but there can be, say, a stress response,
6 prolonged exposure.

7 MS. BRAITHWAITE: Q: And are those effects that
8 dissipate or disappear during periods of non-exposure?

9 DR. MAISCH: A: Yes, I would say so. So, it's the
10 chronic exposure over time, but if I can give an
11 example, what I've seen, whereas there's various
12 studies that show when exposed and people are removed
13 from exposure, the symptoms disappear. When they go
14 back into the exposure situation, the symptoms return.
15 That was seen for instance in -- which I've referred
16 to the Out meter study. A study in the health effects
17 of the shortwave transmitter station of Schwarzenberg,
18 Bern, Switzerland.

19 MS. BRAITHWAITE: Q: Okay, is that in one of your
20 appendices?

21 DR. MAISCH: A: Yes. Yes, just a brief summary in
22 Appendix T. And also Appendix S.

23 MS. BRAITHWAITE: Q: In your view, do the studies that
24 show a removal of the source of RF emission also
25 remove any symptoms associated with that, does that
26 impact your view that any harm caused by the emissions

1 is permanent?

2 **Proceeding Time 1:38 p.m. T32**

3 DR. MAISCH: A: I would say there that it depends upon
4 the duration of exposure. For instance, looking at
5 the -- and I don't know if I have actually referred to
6 this. I don't think so, so maybe I shouldn't bring it
7 up, but looking at the -- I mentioned the Russian
8 research that tended to show the longer exposure, one,
9 three, five years. When exposure is removed, symptoms
10 -- like one to three years, move exposure, symptoms
11 would disappear. Three to five years exposure, it was
12 much more difficult for those symptoms to go.

13 In other words what it was tending to
14 showing that duration of exposure may make it harder
15 for people to recover from exposure over years.

16 MS. BRAITHWAITE: Q: Okay, and is the intensity of the
17 exposure one of the factors that also plays into that
18 equation?

19 DR. MAISCH: A: I would say so.

20 MS. BRAITHWAITE: Q: I'm moving to page 12 of your
21 report. Right at the very top, the sentence actually
22 begins over on page 11, which is:

23 "The range and consistency of ill health
24 effects from smart meters now being reported
25 in Canada and internally may constitute what
26 Safety Code 6 has termed 'unexpected and

1 unique problems'."

2 DR. MAISCH: A: Yes.

3 MS. BRAITHWAITE: Q: Is there any particular report
4 that you're referring to? Like, is there a
5 comprehensive report or reporting system of people who
6 believe they have health impacts from smart meters?

7 DR. MAISCH: A: There's no comprehensive one at the
8 moment. Just quite a bit of anecdotal reports.

9 MS. BRAITHWAITE: Q: Okay. So when you say "the range
10 in consistency of ill health effects from smart meters
11 now being reported", what reports are you referring
12 to? Is it just things that you've seen in the media
13 or --

14 DR. MAISCH: A: There is a survey done in America, I
15 don't have that in front of me at the moment, which
16 looked at symptoms being reported. I've looked --
17 I've been over and also interviewed people in Victoria
18 who, you know, Stop Smart Meter groups, looking at the
19 symptoms that are actually being reported by people.
20 And they're also trying to see, you know, where the
21 people are situated for prolonged periods of time in
22 proximity to the meters.

23 What tended to come out was that when
24 someone was sleeping quite close to a meter, the
25 effects seemed to be quite consistent. Effect on
26 sleep primarily.

1 MS. BRAITHWAITE: Q: Okay.

2 DR. MAISCH: A: That's all anecdotal, I -- you know, as
3 far as that's concerned. Like I say, I've been seeing
4 a consistency.

5 MS. BRAITHWAITE: Q: So I noted your study -- or one of
6 the appendices, I'm actually not sure if it was your
7 study, relating to sleep disturbance and radio
8 frequency transmissions. Is it --

9 DR. MAISCH: A: I haven't done a study in relation to
10 sleep disturbance and radio frequency transmissions.
11 I've been involved in studies looking at sleep
12 disturbance and 50 hertz hour frequency.

13 MS. BRAITHWAITE: Q: Okay.

14 DR. MAISCH: A: So maybe the one you're referring to is
15 the Swiss transmitter study.

16 MS. BRAITHWAITE: Q: You know, I'm actually not sure
17 which. It was one of your appendices that I was
18 reading, and what I was wondering about with that
19 study is the possibility that the other effects,
20 health effects that people report are actually related
21 to disturbed sleep as opposed to any kind of
22 electromagnetic frequency exposure.

23 DR. MAISCH: A: Are you referring to Appendix Q? Have
24 a look there.

25 **Proceeding Time 1:43 p.m. T33**

26 MS. BRAITHWAITE: Q: There's a reference to a study was

1 done on people, they were healthy people that were
2 exposed to EMF radiation on alternate nights during
3 sleep? Exposed one night, not exposed the next,
4 exposed one night, not exposed the next. There was
5 also a reference to --

6 DR. MAISCH: A: I'm not sure which one you're referring
7 to there.

8 MS. BRAITHWAITE: Q: Okay. Let me see if I can find
9 it. Appendix P, this is your 50 hertz --

10 DR. MAISCH: A: Yes. Okay.

11 MS. BRAITHWAITE: Q: Your study involving the 50 hertz
12 magnetic field exposure.

13 DR. MAISCH: A: Okay. The issue there is the fact that
14 with chronic fatigue patients, it tends to be a long,
15 drawn-out condition, that they try quite a few
16 different -- that the causes are relatively unknown.
17 And so we considered the fact that, well, if -- well,
18 we looked at it, and thought, if our -- it's power
19 frequency. Because we're getting off the subject,
20 we're talking power frequency now. That if power
21 frequency was having an effect on -- because we did an
22 early paper from this, a hypothesis paper. Raising
23 the possibility that 50 hertz power frequency, it may
24 be one of the factors in chronic fatigue syndrome. So
25 we wrote that hypothesis paper, and then we actually
26 got some funding to do a small-scale study that

1 actually looked at the home exposures of a group. I
2 think it was 49, 47 people.

3 Now, in that study, we did not want to have
4 anybody involved in it who had any preconceptions
5 about EMFs. Because you wanted to rule out, you know,
6 a possible psychosomatic effect there. As it shows
7 there, so, we found -- the exact details, about 11
8 people -- without having the core paper here -- who
9 had exposures, I believe it was over 6 milligauss
10 night-time exposures. And then the larger group, 30
11 some-odd people, 37 -- I can't -- I don't have the
12 exact thing without going through this -- who had
13 exposures, I think it was 0.67. So we had a smaller
14 group that had very high exposures and then we had
15 another group that had very -- six -- over 6
16 milligauss versus 0.67, I think it was.

17 So, the low control group, we -- that more
18 or less operated as the control. They had low
19 exposures, so we made no intervention. With the
20 smaller group that had exposures, we used 2 milligauss
21 as, like, a cut-off point. That we were able to
22 locate where those exposures came from, in almost
23 every case except one we were able to eliminate those
24 exposures. And then we followed both groups for a
25 period of six months.

26 And the only intervention that was made --

1 there was -- we ruled out a couple of people because
2 there was confounders, but with the other people in
3 the study who went -- followed through, there was
4 really no other intervention except removing that
5 night-time exposure to EMF, power frequency EMF.

6 And as Appendix Q states, that was a
7 significant difference between the people who were
8 removed exposure and the people that we did not as far
9 as improvements. So the primary difference was
10 improvement in sleep.

11 MS. BRAITHWAITE: Q: Okay. So, as you've pointed out,
12 this study actually involved power line frequencies as
13 opposed to the radio --

14 DR. MAISCH: A: Yes. So it's not really relevant here.
15 But it's relevant to the issue of electromagnetic
16 hypersensitivity.

17 MS. BRAITHWAITE: Q: Right. And my original question
18 about this was, the extent, and maybe you can't speak
19 to this, or the potential extent of disturbed sleep on
20 these other symptoms. Or in the creation of these
21 other symptoms. Are you able to address that?

22 DR. MAISCH: A: Do you mean the fact that -- no, the
23 people involved in this were being treated by a
24 medical practitioner for chronic fatigue syndrome. So
25 I'm not quite sure what you're getting at here. One of
26 the symptoms is disturbed sleep.

1 **Proceeding Time 1:48 p.m. T34**

2 MS. BRAITHWAITE: Q: Yeah, I guess what I'm getting at,
3 is it possible that that's -- the disturbed sleep is
4 not so much a symptom but a cause of the other
5 symptoms?

6 DR. MAISCH: A: Of CFS. Oh yes, yeah, of course.

7 MS. BRAITHWAITE: Q: Well, a cause of --

8 DR. MAISCH: A: It's a common -- yeah, disturbed sleep
9 is one of the issues with chronic fatigue syndrome.
10 So we're not saying that it's caused by EMF because it
11 can be caused -- it can be a symptom of other issues
12 too, I agree. But what we were trying to see, if we
13 removed that exposure, whether it would improve the
14 health status of some of these people. And it seemed
15 to be that -- we said this is possibly a co-factor, in
16 chronic fatigue syndrome. In other words, if a person
17 who suffering from chronic fatigue or chronic fatigue
18 syndrome, if you add on top of that excessive
19 nighttime exposure to power frequency, that may make
20 the symptoms worse. That's what we were looking at.
21 We weren't trying to say that this is causing chronic
22 fatigue syndrome. We're saying this may be one of the
23 co-factors.

24 MS. BRAITHWAITE: Q: Okay. My final area of questions,
25 on page 13 in response to question 15, we have it
26 labeled DM Response No. 15, you say you agree that

1 animal and human studies are of more relevance than *in*
2 *vitro* studies for the question at hand?

3 DR. MAISCH: A: Yes, that's my opinion.

4 MS. BRAITHWAITE: Q: What relevance, if any, would you
5 assign to *in vitro* studies?

6 DR. MAISCH: A: They are useful, but in relation to the
7 smart meters in question I think the evidence so far
8 is not one way or another. If I can explain it. But
9 *in vitro* studies actually, I think one of the
10 strongest *in vitro* studies, but then we're getting
11 back to 50 hertz again, is the effect on cancer cells
12 with Melatonin, 12 milligauss magnetic field. But
13 there again, that's not relevant to what we're
14 discussing today.

15 MS. BRAITHWAITE: Q: Okay.

16 DR. MAISCH: A: But I think it's the human exposure
17 studies that are most relevant, and I think that's
18 where we have to -- research needs to go.

19 MS. BRAITHWAITE: Q: Is it not the case that *in vitro*
20 studies are really the only type of study that allow
21 us to actually see damage to tissues as opposed to
22 relying on people's reports of symptoms?

23 DR. MAISCH: A: Well, yes, I would agree with that.
24 But I think the language which I have emphasized in my
25 report is the fact that otherwise the very -- probably
26 most focused research that's been done is doing sleep

1 research, sleep studies, looking at the actual effect
2 on the sleep pattern, the exposure to a smart meter.
3 And that's the -- I think, in my opinion I think
4 there's -- I might say a really opportunity here to do
5 some really focused research.

6 MS. BRAITHWAITE: Q: Okay, thank you, Dr. Maisch, those
7 are all my questions.

8 DR. MAISCH: A: Okay, thank you.

9 MR. FULTON: British Columbia Sustainable Energy
10 Association and Sierra Club of B.C.

11 **CROSS-EXAMINATION BY MR. ANDREWS:**

12 MR. ANDREWS: Q: Good afternoon, Dr. Maisch.

13 DR. MAISCH: A: Yes.

14 MR. ANDREWS: Q: My name is Bill Andrews. I represent
15 the B.C. Sustainable Energy Association and the Sierra
16 Club of British Columbia.

17 First let me ask you whether you have had
18 an opportunity to listen to proceedings online or
19 whether you've reviewed the transcript.

20 DR. MAISCH: A: I have reviewed some of the
21 transcripts. I basically ran out of time. Viewing
22 the things online I was having a lot of problems.

23 **Proceeding Time 1:53 p.m. T35**

24 MR. ANDREWS: Q: All right. Dr. Maisch, you say that
25 Health Canada's Safety Code 6 is based on
26 consideration only of thermal effects and not on non-

1 thermal effects, radio frequency exposure. Is that
2 your position?

3 DR. MAISCH: A: Well, I would say that they have
4 considered non-thermal effects in the review process.
5 But in relation to the final exposure standards, the
6 limits only considered thermal effects. In other
7 words, they have considered long-term effects, but
8 have ruled them out as far as being able to use for
9 the actual exposure standards, which are only based on
10 thermal considerations.

11 MR. ANDREWS: Q: And that decision that they made,
12 based on consideration of the non-thermal or potential
13 non-thermal effects, was presumably one of their --
14 one based on their professional judgment, correct?

15 DR. MAISCH: A: Yes. Yes.

16 MR. ANDREWS: Q: So, in your paper itself, you say in a
17 number of places, and in response to my friend, Ms.
18 Braithwaite, you said that the thermal standards are
19 based on the assumption that there are no non-thermal
20 effects. But now are you saying something different
21 now? You're saying that Health Canada did consider
22 non-thermal effects?

23 DR. MAISCH: A: No, I believe I do say in here -- I
24 talk about the weighing of evidence. I don't believe
25 I say anywhere that they have not even considered it,
26 but that they have -- I say one case here I considered

1 it a problem with the weighing of the evidence
2 reviewed.

3 MR. ANDREWS: Q: Well, let me start at page 2 of your
4 statement.

5 DR. MAISCH: A: Okay.

6 MR. ANDREWS: Q: While you're getting it, for the
7 record this is Exhibit C9-8, Appendix 4C. And in the
8 second paragraph, you say

9 "If one addresses the question using the
10 established literature base used to set
11 thermally based RF standards (IEEE C95.1,
12 ICNIRP Safety Code 6) it is a fact that
13 consideration of other possible biological
14 effects not related to heating have not been
15 taken into account in the setting of the
16 exposure limits in these standards."

17 DR. MAISCH: A: Right.

18 MR. ANDREWS: Q: So there you say clearly that it is a
19 fact, certainly with respect to Safety Code 6, that
20 the non-thermal effects have not been taken into
21 account.

22 DR. MAISCH: A: I say into account -- this needs to be
23 clarified -- in the setting of exposure limits. I'm
24 not saying that they haven't even considered it, but
25 they haven't taken it into account when they actually
26 set the actual exposure limits.

1 MR. ANDREWS: Q: All right.

2 DR. MAISCH: A: So they -- looking at it, yeah. I
3 certainly believe they have actually considered it,
4 but they have ruled it as basically inadmissible, as
5 far as being able to be used for standard-setting,
6 which is what ICNIRP has done, and which IEEE has done
7 too.

8 So I'm not saying they haven't even
9 considered it. But they haven't included it in their
10 consideration as far as the actual exposure limits.
11 Does that make sense?

12 MR. ANDREWS: Q: Well, when you say they considered it
13 inadmissible, isn't it closer to what Health Canada
14 says for itself, that they considered them and
15 concluded that in their professional judgment there
16 was not a need for a restriction of exposure at
17 those levels, because of health concerns. Is that a
18 fairly --

19 DR. MAISCH: A: I think that's a fairly accurate
20 statement.

21 MR. ANDREWS: Q: Thank you. So, when you did your
22 original report, it was based on the 1999 Safety Code
23 6. And then in response to the FortisBC IRs, you
24 acknowledged that Health Canada has published a 2009
25 version of Safety Code 6. Is that correct?

26 DR. MAISCH: A: That's correct.

1 **Proceeding Time 1:57 p.m. T36**

2 MR. ANDREWS: Q: I'll be coming back to that aspect of
3 things, but you were talking with Ms. Braithwaite
4 about your statement that there has been no research
5 on health effects of the smart meters, and the
6 reference here is to page 2 in the first paragraph.

7 And then there is another reference on page
8 5 where you say that

9 "Currently there is no research data that I
10 know of specific to possible biological
11 effects from smart meter emissions."

12 Would you agree that in this proceeding, in
13 Exhibit B-43, Fortis has filed as Undertaking 5, an
14 extensive list of studies on long-term chronic effects
15 of the specific modulation involved in this Itron AMI
16 meter?

17 DR. MAISCH: A: Yes, I have that in front of me.

18 MR. ANDREWS: Q: So would you agree that that
19 establishes a similarity between the modulations of
20 the Itron meter in question here and the, for example,
21 GMS cell phones that were the subject of these studies
22 referred to in Exhibit B-43?

23 DR. MAISCH: A: Well, I'd say they're actually similar,
24 but going through it I look at the first one there,
25 Smith, *Studies of Chronic Exposure* on page -- on this
26 is looking at Undertaking No. 5, the first study there

1 on page 2, the exposure was two hours a day, five days
2 a week. On page 3, two hours a day, five days a week.
3 And another one here on page 5, one hour a day, seven
4 days a week. And on page 6, two 30 minute exposures
5 per day.

6 Now, in going through, looking at just
7 taking no studies there, that I don't see how they can
8 be relevant to say an exposure situation if someone's
9 sleeping within 3 metres of a smart meter, which is a
10 prolonged exposure every night.

11 I'd say they're of interest but they're of
12 little relevance in relation to the situation which I
13 keep getting back to. A situation where smart meters
14 would be located quite close to a bed head, which may
15 be a child's bed head or an adult's bed head. They're
16 interesting, but in my opinion they're of little
17 direct relevance. And I think what I keep getting
18 back to again is that we need to do more focused
19 research specific to smart meters.

20 As far as I know there's been no studies
21 done yet that looks at smart meter emissions and
22 possible effects, human health effects.

23 MR. ANDREWS: Q: So the points of difference that you
24 refer to are all differences in exposure, correct?

25 DR. MAISCH: A: Yes.

26 MR. ANDREWS: Q: Not differences in the type of radio

1 frequency being emitted, correct?

2 DR. MAISCH: A: Well, there would be some differences
3 in -- they're using, you know, similar transmission.
4 So these studies are using similar transmissions to a
5 smart meter. Yes.

6 MR. ANDREWS: Q: Thank you. Now, in terms of the
7 exposure levels that are anticipated for these smart
8 meters, or advanced meters as they are called in this
9 proceeding, did you hear the evidence of Dr.
10 Shkolnikov that the Itron smart meters in this
11 proceeding would meet not only Safety Code 6 but other
12 roughly similar standards, and in addition, standards
13 from Russia and China? Did you hear that?

14 DR. MAISCH: A: I don't believe I've actually seen
15 that. I wasn't able to hear the trans -- the
16 proceedings.

17 MR. ANDREWS: Q: If I could refer you to Transcript
18 Volume 5 at page 898.

19 DR. MAISCH: A: Hold on, I do have that. Okay, I've
20 got the page here.

21 **Proceeding Time 2:02 p.m. T37**

22 MR. ANDREWS: Q: Line 23 toward the bottom of the page.
23 There had been a discussion about standards in the
24 Eastern Bloc.

25 DR. MAISCH: A: Yes.

26 MR. ANDREWS: Q: And then Dr. Shkolnikov says -- refers

1 to reports that he might have to do hypothetically in
2 another country such as Russia, China, or Poland. And
3 he says we would do those comparisons, but, he says,
4 "...specifically for FortisBC AMI smart
5 meters, the conclusion would have been the
6 same. That they are below the safety limits
7 in all those other countries."

8 Do you have any reason to disagree with Dr.
9 Shkolnikov on that point?

10 DR. MAISCH: A: No, I think I would tend to agree with
11 on that.

12 MR. ANDREWS: Q: Thank you. And Dr. Shkolnikov also
13 indicates that the Fortis AMI meters would be
14 compliant with the Bioinitiative 2007 proposed
15 standard, if it was indeed a standard. And my
16 reference here is page 901 --

17 DR. MAISCH: A: Yes. This --

18 MR. ANDREWS: Q: -- of the same Volume, 5.

19 DR. MAISCH: A: Just bear with me. Okay. I've got
20 this here now. The -- okay. The 2007 Bioinitiative
21 report for indoor exposures, they would -- they
22 suggested, yeah, .001 microwatts per centimetre
23 squared.

24 MR. ANDREWS: Q: So at line 24, Dr. Shkolnikov says
25 "The Bioinitiative report, 2007, is not part
26 of any jurisdiction."

1 He says. And then over the page,
2 "If there was a jurisdiction that was under
3 Bioinitiative 2007 report, FortisBC smart
4 meters would still meet those limits."
5 Do you --
6 DR. MAISCH: A: Now, which page are you on?
7 MR. ANDREWS: Q: I'm on the bottom of 901, over to the
8 top of 902.
9 DR. MAISCH: A: Okay, yes. Okay, I've got it.
10 MR. ANDREWS: Q: Do you have any reason to disagree
11 with Dr. Shkolnikov on that point?
12 DR. MAISCH: A: I've just got it highlighted here.
13 Okay. At what distance is -- I'm just -- because I
14 haven't actually read this bit yet. At what distance
15 is he talking about?
16 MR. ANDREWS: Q: Well, I'm not going to go into the
17 details of what --
18 DR. MAISCH: A: No, no. Okay. Because I understand a
19 person -- well, my understanding here, from some
20 discussions closer than 10 feet, it would exceed --
21 smart meter emissions would exceed the Bioinitiative
22 report. So, I would say looking at this --
23 MR. ANDREWS: Q: What are you looking at?
24 DR. MAISCH: A: If a smart meter can meet those
25 requirements, I would have no problems with that. But
26 it's the distance that is important.

1 THE CHAIRPERSON: I'm having difficulty. Could you
2 repeat the question, please?

3 MR. ANDREWS: Q: The question began with, do you have
4 any reason to take issue with Dr. Shkolnikov's point
5 that these Fortis AMI meters would meet a standard --
6 if it was a standard -- as described in the
7 Bioinitiative 2007 report? And I believe, Dr. Maisch,
8 you said it would depend on the distance. And then
9 you said you were referring to something. Perhaps you
10 could identify what it is that you're referring to,
11 and repeat your answer.

12 DR. MAISCH: A: Okay. Now, with this discussion on the
13 Bioinitiative report standards, okay. My feeling
14 would be that if the smart meters in question could
15 meet that standard, and it depends upon the proximity
16 too, but if -- with that exposure, let's say for
17 instance it was at night. Meeting that standard, I
18 would have no issue with that.

19 MR. ANDREWS: Q: Thank you.

20 DR. MAISCH: A: But there again, I would qualify that
21 is, I have a question as far as at what distance. I'm
22 not sure.

23 MR. ANDREWS: Q: Thank you. I have a question --

24 MR. AARON: Sorry. Sorry. The Chair asked that the
25 question be repeated, because the Chair didn't hear
26 the answer. The answer that was given prior to your

1 comment was more elaborate than the answer that came
2 out now, and it had to do specifically with the
3 question of whether, in the witness's opinion, the
4 proposed AMI meters exceed the standards set out by
5 the Bioinitiative report. And I'm not sure if that
6 answer, the witness had an opportunity to answer that
7 question directly, more audibly.

8 **Proceeding Time 2:07 p.m. T38**

9 MR. ANDREWS: Q: Dr. Maisch, did you hear the question
10 posed by your counsel just now?

11 DR. MAISCH: A: Yes, I did.

12 MR. ANDREWS: Q: Would you please feel free to answer
13 that question?

14 DR. MAISCH: A: I would basically qualify my statement
15 to say that if the smart meters in question have
16 emissions below the Bioinitiative report
17 recommendation, I would be comfortable with that. But
18 the qualification I would have is that distance is
19 all-important. But --

20 MR. ANDREWS: Q: Thank you. Was there more you wanted
21 to add?

22 DR. MAISCH: A: Just saying that for instance, if the
23 bed head is one metre away from a smart meter, I
24 question whether the emissions would still meet the
25 Bioinitiative report. That's what I'm not quite sure
26 about. Distance is an important factor.

1 MR. ANDREWS: Q: Yes.

2 DR. MAISCH: A: My personal opinion is that at 3 metres
3 distance there should be no problem from a bed head.
4 I'm quite happy to put that on the record.

5 MR. ANDREWS: Q: Turning to page 2 of your report, I
6 have some questions about your treatment of the Adair
7 and Black 2003 study.

8 DR. MAISCH: A: Yes.

9 MR. ANDREWS: Q: Now, tell me if I'm correct in my
10 understanding of the context in which Adair and Black
11 2003 fits in. The standards set by IEEE and ICNIRP
12 and Health Canada to do with preventing thermal
13 effects were based in part on studies involving
14 laboratory animals, specifically rodents, and the
15 point being made by Adair and Black is that rodents
16 are less able to control their body heat than humans,
17 and that that -- well, let me stop there. Is that
18 correct?

19 DR. MAISCH: A: That is correct.

20 MR. ANDREWS: Q: And as a result, by setting levels
21 that correspond to preventing excessive heat in a lab
22 rodent, the standard would be in a sense extra
23 conservative in terms of humans because humans can
24 actually control their body heat fluctuations better
25 than these smaller animals, correct?

26 DR. MAISCH: A: That is correct.

1 MR. ANDREWS: Q: So then you say that -- you observe
2 that the authors Adair and Black say:

3 "The conclusion is inescapable that humans
4 demonstrate far superior thermal regulatory
5 ability over other tested organisms that are
6 of exposure or even above."

7 And then you say:

8 "However, their admission clearly suggests
9 that if the scientific research database for
10 thermal biological effects is based on 'poor
11 models for human beings', trying to
12 extrapolate that to human RF exposures
13 introduces a large degree of scientific
14 uncertainty."

15 You see that reference in your --

16 DR. MAISCH: A: Yes. I agree.

17 MR. ANDREWS: Q: So I'd suggest to you that given the
18 point that was just made by Darren Black, the
19 scientific uncertainty is all in the direction of more
20 conservative, cautious standards, correct? They're
21 saying that lab rats are more susceptible to problems
22 than human beings.

23 **Proceeding Time 2:12 p.m. T39**

24 DR. MAISCH: A: No, I put that as that they're only
25 looking at thermal effects, you know, chronic,
26 immediate, high-level exposures, these animals and

1 extrapolating as to what would happen -- you know.
2 Now, that -- what I'm referring to there is the fact
3 that, okay, there is a huge degree of uncertainty as
4 far -- because this whole body of research is based
5 on, you know, a majority of it, on these small
6 animals. Acute exposure situations. Extrapolating
7 that to humans, for even thermal effects, introduces a
8 degree of uncertainty for thermal effects.

9 MR. ANDREWS: Q: And caution.

10 DR. MAISCH: A: Now, in trying to take that even
11 further to say these standards are somehow relevant to
12 possible non-thermal effects is even more uncertain.
13 That's what I was -- the point I was trying to get
14 across.

15 MR. ANDREWS: Q: And do you have any basis for
16 asserting that lab rats are less susceptible to non-
17 thermal effects than human beings? What -- do you
18 have references for that?

19 DR. MAISCH: A: No. Well, basically what I'm referring
20 to is the fact that the studies have been done on
21 small animals, exposed to acute exposure situations,
22 and then extrapolated to what was thought would happen
23 in a human. That has very little relevance to what
24 might be happening if someone's sleeping within three
25 metres of a smart meter. We're not looking at --
26 they're only concerned about acute effects here.

1 Trying to extrapolate those to human exposure
2 standards, there's a great deal of uncertainty, in my
3 opinion.

4 MR. ANDREWS: Q: Thank you. Now, at the top of page
5 12, my friend took you to your statement in which you
6 say -- you refer to the range and consistency of ill-
7 health effects from smart meters now being reported in
8 Canada. And you referred, if I understood correctly,
9 to some anecdotal reports from America. Am I right to
10 assume that you don't have any reports of ill-effects
11 from health -- ill-health effects from smart meters in
12 Canada?

13 DR. MAISCH: A: The only effects I would have there is
14 basically discussions with people who are involved in
15 the issue.

16 MR. ANDREWS: Q: Thank you.

17 DR. MAISCH: A: The thing is, I was trying to say,
18 there is no -- there has been no research been done
19 yet. This is all very -- it's new technology. We
20 need to do the research to determine if there is a
21 problem.

22 MR. ANDREWS: Q: I'm just trying to confirm that we
23 haven't missed anything. When you've referred to
24 studies, we would, of course, be quite interested in
25 them, whether they were scientific studies or reports.
26 And you're telling me that you haven't seen such

1 reports, except -- and you said from people that
2 you've talked to.

3 DR. MAISCH: A: Anecdotal.

4 MR. ANDREWS: Q: Anecdotal. Thank you. Now, on the
5 same page, page 12, I'm going to give a fairly lengthy
6 preamble to set up this question, so if there is
7 anything in the preamble that you disagree with,
8 please tell me, when you have the opportunity to
9 answer. But at the bottom of the page, the question
10 number 12, you're asked for a response to a statement
11 by Fortis's expert, the E^xPonent. And the full quote
12 -- the bottom of the page there is the second sentence
13 of the quote. But just to get it more full, more
14 fully explained, the quote is from CSTS IR No. 1,
15 question 24, and the response by Fortis is at Exhibit
16 B-15, CSTS IR 2.23.1.1.3. And it says:

17 "The range of opinion suggesting that
18 adequate protection from radio frequency
19 fields is not provided by compliance with
20 thermally based exposure limits is for the
21 most part represented by any authors of the
22 Bioinitiative report cited in response to
23 CSTS IR No. 1, Q-24."

24 And then the next sentence is the one that's quoted in
25 your report.

26 "This minority opinion is not shared by

1 scientists who have performed reviews for
2 national and international health and
3 scientific agencies as explained in the
4 response to 23.1.1.2."

5 So that's the quote from Fortis. And then you're
6 asked to comment on that. And your comment at the top
7 of page 13 begins -- the first sentence is:

8 "This question is largely addressed in my
9 response number 3."

10 So let's turn there. This is page 6 of
11 your report. And here's my first question.

12 **Proceeding Time 2:17 p.m. T40**

13 DR. MAISCH: A: Response 3 starts, yeah, page 6, right.

14 MR. ANDREWS: Q: Page 6 at the top. Can you confirm
15 that this response 3, the gist of it is your thesis
16 that radio frequency standards setting, the process,
17 is very much influenced by the reviewer's affiliation.
18 And then you go on to discuss conflicts of interest
19 involved in the setting of these RF standards. Is
20 that a fair summary of --

21 DR. MAISCH: A: That's correct. Yes.

22 MR. ANDREWS: Q: Is that a fair summary?

23 DR. MAISCH: A: Yes.

24 MR. ANDREWS: Q: Thank you. And then back to page 13
25 at the top, you continue in your comment, you say:

26 "From what I've seen in my examination of

1 many of these expert review committees,
2 especially ICNIRP, membership is not an open
3 process. Members are selected according to
4 their adherence to the prevailing viewpoint
5 that the only established health
6 consideration that can be given in RF
7 standards is protection against heating from
8 short-term acute RF exposures."

9 Now, I suggest to you that you actually
10 don't have any evidence of that assertion. Is that
11 right?

12 DR. MAISCH: A: Well, if we go to the ICNIRP standard
13 itself, it does say in there about the limitations of
14 the standard, which are, you know --

15 MR. ANDREWS: Q: Well, you've highlighted that at one
16 point in the late '90s, in a list of what were
17 described as principles, it was said that the --

18 DR. MAISCH: A: Well, that's IEEE principles.

19 MR. ANDREWS: Q: Yes. Is that what you're referring
20 to?

21 DR. MAISCH: A: No. No. In relation to the ICNIRP
22 membership, it's not an open membership.

23 MR. ANDREWS: Q: No, but what I'm asking is do you have
24 any evidence that adherence to the prevailing
25 viewpoint is a selection criteria, or is that the
26 conclusion of your observations?

1 DR. MAISCH: A: That's the conclusion of my
2 observations.

3 MR. ANDREWS: Q: Thank you. And likewise, you have no
4 evidence that Health Canada selects the authors of
5 revisions to Safety Code 6 according to their
6 adherence to the prevailing viewpoint.

7 DR. MAISCH: A: No, I do not.

8 MR. ANDREWS: Q: Okay. So putting those two responses
9 to your comments to the E^xponent statement about the
10 minority views of the authors of the Bioinitiative
11 report, the gist of your response is that the reason
12 why the views of the authors of the Bioinitiative
13 report are not accepted by the majority of the
14 scientists at the national and international agency
15 level is that, in your view, the scientists who do the
16 reviews for the national and international agencies
17 are biased. Is that correct?

18 DR. MAISCH: A: I wouldn't say -- I wouldn't put it
19 that way. I would say that if you look at my thesis,
20 the problem with standard setting right from the
21 beginning has been that the organizations involved in
22 it have very much based their advice on thermal
23 considerations only. If you look in the very early
24 days IEEE, World War II, how it was formulated. So
25 the IEEE, you know -- America basically came up with a
26 standard that was justified at the time because it was

1 only based on thermal considerations. Now, and then
2 that was -- that idea carried over to the ICNIRP when
3 they were formed. Now, that has basically come on us
4 like a paradigm.

5 Now, I think the problem was safety with
6 Health Canada, is the fact that they basically tend to
7 look at these expert groups and accept, with not too
8 much criticism, their advice.

9 **Proceeding Time 2:22 p.m. T41**

10 DR. MAISCH: A: Well -- go ahead, then.

11 DR. MAISCH: A: So, there is a bias involved in there.
12 There is very much -- as I have said there, the
13 problem is, in my opinion, is the weighting of
14 evidence that non-thermal effects aren't really
15 considered anywhere near as important as thermal
16 considerations in the standard-setting. And I think
17 when I refer to the IEEE, there are the 12 principles
18 that, I think, pretty much lays it out as far as what
19 standard-setting bodies look at.

20 MR. ANDREWS: Q: How do you contend -- deal with the
21 fact that your conclusions are based on events that
22 occurred in the late -- ending in the late '90s, and
23 you reviewed the 1999 Health Canada Safety Code 6, and
24 criticized its weighting of evidence, and now ten
25 years later Health Canada says that they've considered
26 ten years' worth of new research studies on this

1 topic, and they've come to the same conclusion, but
2 you're still criticizing their weighting of the
3 evidence. What's the basis for that?

4 DR. MAISCH: A: Well, they are -- they still -- their
5 standards in relation to radio frequency are still
6 based only on thermal considerations.

7 MR. ANDREWS: Q: Yes.

8 DR. MAISCH: A: Now, the -- in order to do that, I
9 don't see any consideration of -- like, for instance,
10 the Bioinitiative report.

11 MR. ANDREWS: Q: So you note that the Health Canada
12 doesn't refer to the Bioinitiative report, is that
13 you're saying?

14 DR. MAISCH: A: I'm saying that the evidence -- in my
15 opinion, the evidence that's contained in the
16 Bioinitiative report is quite credible in relation to
17 the possible existence of non-thermal biological
18 effects that should be taken into account in setting
19 standard settings, in the standard-setting situation.

20 MR. ANDREWS: Q: Would you agree --

21 DR. MAISCH: A: My -- that really hasn't been, you
22 know, taken into consideration.

23 MR. ANDREWS: Q: Well, I think I'll leave that point
24 there. Dr. Maisch, on page 8 you have, in the second
25 paragraph, and the actual sort of rest of the sentence
26 isn't as important for my point here, but you begin in

1 the second paragraph by saying, "As for the
2 possibility that smart meters pose a public health
3 risk ..." And so my question has to do with public
4 health risk.

5 You would agree that there are many, many
6 public health risks. Correct?

7 DR. MAISCH: A: Yes.

8 MR. ANDREWS: Q: And there are even more possible
9 public health risks, correct?

10 DR. MAISCH: A: Well, we're surrounded by public health
11 risks. I mean, there's a public risk to using a cell
12 phone. There's a public health risk every time you
13 take your car out to the street.

14 MR. ANDREWS: Q: Okay. Or --

15 DR. MAISCH: A: It's a matter of how you handle these
16 risks. It's all a matter of how you handle the risk,
17 and when new risk comes up, how to address it.

18 MR. ANDREWS: Q: You would agree that no country has
19 sufficient resources to fully tackle every single
20 public health risk and possible health risk, and so
21 it's important to prioritize the risks to which scarce
22 resources are devoted. Would you agree with that?

23 DR. MAISCH: A: I'd agree with that.

24 MR. ANDREWS: Q: And would you agree that exposures
25 from cell phone usage, even in terms of non-thermal RF
26 exposure, are many times higher than exposure from

1 smart meters?

2 DR. MAISCH: A: I would qualify that. Again, as far as
3 -- it's all a matter of proximity. Like --

4 MR. ANDREWS: Q: If I can interrupt, I don't know that
5 what you just said was heard, so perhaps you could
6 repeat it.

7 DR. MAISCH: A: Sorry. It may be my microphone here.
8 I'm not sure. But I would qualify that. Sure. When
9 you are using a cell phone next to the head, your
10 exposure is far higher than what you -- you know,
11 that's exposures to the head, then smart meter. But
12 the issue -- coming back to -- it's level of
13 proximity. If you're sleeping next to a smart meter,
14 you're at whole body exposure. You know, over an
15 eight-hour time period. I don't think you can really
16 relate that to cell phone exposure.

17 MR. ANDREWS: Q: I'll leave that point, and I have one
18 more question -- Mr. Chairman, if that will be --

19 **Proceeding Time 2:26 p.m. T42**

20 THE CHAIRPERSON: Yes, thank you.

21 MR. ANDREWS: Q: You were asked in the information
22 requests whether the primary thrust of your evidence
23 is that Health Canada should make Safety Code 6 more
24 stringent, and you said yes. Does that remain your
25 evidence?

26 DR. MAISCH: A: It is.

1 MR. ANDREWS: Q: Thank you. Those are my questions.

2 THE CHAIRPERSON: Thank you very much. We did indicate
3 we were going to take a break at 3:00. However
4 there's a need for a short comfort break, so I would
5 like to break at this stage for five minutes if we
6 could. That will allow our witness to refill his
7 water glass which I notice is getting low, and we'll
8 reconvene in five minutes.

9 **(PROCEEDINGS ADJOURNED AT 2:27 P.M.)**

10 **(PROCEEDINGS RESUMED AT 2:35 P.M.)**

T43/44

11 THE CHAIRPERSON: Please be seated.

12 Mr. Fulton.

13 MR. FULTON: Commercial Energy Consumers of British
14 Columbia.

15 COMMISSIONER MacMURCHY: You have quite an effect, Mr.
16 Weafer.

17 **CROSS-EXAMINATION BY MR. WEAFER:**

18 MR. WEAFER: Q: Dr. Maisch, my name is Chris Weafer and
19 I'm counsel for the British Columbia Municipal
20 Electric Utilities and the Commercial Energy Consumers
21 Association of British Columbia, and we are ratepayer
22 groups, in effect, that pay the bills for Fortis, and
23 so I'm pleased to have a chance to ask you some
24 questions on your evidence today. And I'm going to
25 just start with a reference to Exhibit B-1, Appendix
26 B-6, and that's the Health Canada Safety Code 6, 2009,

1 as filed in these proceedings by Fortis. And you'll
2 let me know when you have that in front of you?

3 DR. MAISCH: A: I will.

4 MR. WEAFFER: Q: Thank you.

5 DR. MAISCH: A: Yes, I have it.

6 MR. WEAFFER: Q: Thank you, sir. Actually I just sent
7 an e-mail to your counsel to make sure you have the
8 documents I was going to refer to, so just for the
9 sake of ensuring we have a smooth discussion, I
10 understand from prior cross-examination you have your
11 evidence in front of you, C9-8.

12 DR. MAISCH: A: Yes, the Safety Code 6, 2009.

13 MR. WEAFFER: Q: Yes, but also just to confirm you have
14 available to you, you have your evidence, you have
15 your responses to information requests with you as
16 well?

17 DR. MAISCH: A: Right.

18 MR. WEAFFER: Q: And you have Exhibit C17-24 which was
19 an exhibit entered today, which was the Public
20 Utilities Commission of Texas Staff Report?

21 DR. MAISCH: A: Yes, I have part of it. I have not had
22 time to read that in detail since I only got it
23 yesterday.

24 MR. WEAFFER: Q: Okay, that's fine. Let's proceed from
25 what you have with you now then. With respect to
26 Appendix B-6 and Health Canada Safety Code 6, are you

1 aware of Health Canada Safety Code 6 limits of human
2 exposure to radio frequency electromagnetic energy in
3 the frequency range from 3 kilohertz to 300 gigahertz?
4 DR. MAISCH: A: Yes.
5 MR. WEAFFER: Q: You have that document? Yes. And are
6 you aware that Safety Code 6 is prepared by the
7 Consumer and Clinical Radiation Protection Bureau of
8 Canada, and that's set out at page 3 of 30 of the
9 document?
10 DR. MAISCH: A: Yes.
11 MR. AARON: I'm wondering if we can just attend to the
12 sound check before we proceed with the evidence.
13 THE CHAIRPERSON: Can we just do a sound check?
14 (SOUND CHECK PERFORMED)
15 MR. WEAFFER: Q: We were confirming that you're aware
16 that this document is prepared by Consumer and
17 Clinical Radiation Protection Bureau of Health Canada
18 as identified at page 3 of 30 of that document?
19 DR. MAISCH: A: Yes.
20 MR. WEAFFER: Q: And to your knowledge does Safety Code
21 6 specify the requirements for the safe use of or
22 exposure to radiation emitting devices in the
23 frequency range from 3 kilometres to 300 gigahertz?
24 DR. MAISCH: A: Yes, for thermal effects.
25 MR. WEAFFER: Q: Well, sir -- we'll come back to it.
26 Does your report say anywhere that the advanced meters

1 DR. MAISCH: A: So it's not part of the --

2 MR. WEAFFER: Q: Well, perhaps I could just ask the
3 question and I think it's fairly straightforward.
4 Would you agree with me that Health Canada is the
5 federal department responsible for helping the people
6 of Canada maintain and improve their health?

7 DR. MAISCH: A: That's true.

8 MR. WEAFFER: Q: Thank you, sir. Sir, I'd like to just
9 move to a brief discussion of credentials, and Safety
10 Code 6, keep it handy, we'll come back to it later.

11 With respect to credentials, and sir, I'm
12 not challenging you as an expert. But I would like to
13 have a brief discussion to understand your background
14 a bit better, to deal with the issues with respect to
15 weight of your evidence. So that, just so you know
16 where these questions are coming from.

17 And there have been Information Requests on
18 your background, and you've confirmed you have no
19 formal education related to epidemiology. Is that
20 correct?

21 DR. MAISCH: A: That's true.

22 MR. WEAFFER: Q: And you have no educational background
23 or medical expertise with respect to sleep disorders?

24 DR. MAISCH: A: That's true.

25 MR. WEAFFER: Q: And you have not had any training in
26 tinnitus, and that it requires -- and you would agree

1 that it requires a medical assessment?

2 DR. MAISCH: A: Yeah, that's true.

3 MR. WEAVER: Q: Thank you, sir. You referred in
4 earlier cross-examinations, and this is in your
5 evidence in Exhibit C9-8, and I just want to have a
6 high-level discussion around the studies that
7 appendices P and Q, which are studies that you had
8 involvement with, as I understand it, from the
9 attributed authors. Is that correct?

10 DR. MAISCH: A: That's correct.

11 MR. WEAVER: Q: And as I understand these reports,
12 these were done in 2002?

13 DR. MAISCH: A: Hold on. Just bear with me a moment.

14 MR. WEAVER: Q: Certainly, sir.

15 DR. MAISCH: A: Yeah, 2002, that's correct.

16 MR. WEAVER: Q: And that's for both P and Q, Appendix P
17 and Q.

18 DR. MAISCH: A: They were published 2002. Yeah. In
19 2002.

20 MR. WEAVER: Q: Right. And at that time, as I
21 understand it, you obtained your Ph.D. in 2010, is
22 that correct?

23 DR. MAISCH: A: That's right.

24 MR. WEAVER: Q: And so, when you were working on these
25 two studies, what were your academic credentials at
26 that time?

1 DR. MAISCH: A: No academic credentials in relation to
2 that issue.

3 MR. WEAFFER: Q: And so beside your name in the first
4 study, Appendix P, it's Don Maisch, AASc. What does
5 that mean?

6 DR. MAISCH: A: Okay. That was Associate in Applied
7 Science in relation to structural design in buildings.

8 MR. WEAFFER: Q: Thank you, sir. So, with respect to
9 your involvement in those studies, what were you
10 actually doing?

11 DR. MAISCH: A: Okay, working with the other people
12 involved in it, we wrote up a hypothesis paper, which
13 isn't here. And then I was the one who actually was
14 doing the field work, taking the measurements and
15 interviewing people.

16 MR. WEAFFER: Q: Taking the measurements and, sorry?

17 DR. MAISCH: A: Taking spot measurements in their
18 homes.

19 MR. WEAFFER: Q: And you said, I believe, in --

20 DR. MAISCH: A: Okay. Measuring magnetic fields.

21 MR. WEAFFER: Q: Thank you. And you also, I think, said
22 interviewing people. Is that correct?

23 DR. MAISCH: A: Yeah. We had a survey form that we --
24 and I would give to them. And they would fill that
25 out.

26 MR. WEAFFER: Q: Did you prepare the questions for the

1 survey form?

2 DR. MAISCH: A: No, I did not. John Podd from the
3 Department of Psychology at Massey University, that
4 was his department.

5 MR. WEAVER: Q: Thank you, sir. I'll move on.

6 DR. MAISCH: A: And he did the analysis for that too.

7 MR. WEAVER: Q: Thank you, sir. I appreciate that.
8 Your academic credentials that bring you to bear in
9 this proceeding that I take it are your Ph.D. from
10 2010 as opposed to the work done in 2002, is that fair
11 comment?

12 **Proceeding Time 2:45 p.m. T46**

13 DR. MAISCH: A: That's true, yes. These are only
14 included in relation to electrosensitivity.

15 MR. WEAVER: Q: Thank you, sir. I'd like to move on.
16 In your direct examination from counsel, your counsel,
17 you mentioned EMFacts Consultancy, and that's an
18 organization that you are the principal of, as I
19 understand it?

20 DR. MAISCH: A: Yes.

21 MR. WEAVER: Q: And can you tell me exactly what
22 EMFacts Consultancy does?

23 DR. MAISCH: A: Well, I've been involved in doing
24 electromagnetic field survey work in the past and also
25 in the future, and also writing of various reports and
26 submissions, and also being involved in the -- well,

1 as a consultative committee member of ANSO, the power
2 line standards. In the past I was also on the TE7
3 Committee which I mentioned before. But in there I
4 was representing the Consumers Federation of
5 Australia.

6 MR. WEAVER: Q: And so in your role with EMFacts
7 Consultancy, do you do advocacy work?

8 DR. MAISCH: A: No.

9 MR. WEAVER: Q: You do consulting work in relation to
10 EMF.

11 DR. MAISCH: A: The main thing has being doing actually
12 is survey work.

13 MR. WEAVER: Q: Survey.

14 DR. MAISCH: A: Looking at --

15 MR. WEAVER: Q: So can you elaborate on that a bit?
16 What type of surveys would you do? You're looking at
17 houses to whether they have EMF exposure issues?

18 DR. MAISCH: A: Mostly in relation to people who had
19 health complaints and wanting to check out magnetic
20 fields. And that's why survey work has been involved
21 in looking at those fields and seeing, you know,
22 whether there is an issue, and just advising ways of
23 reducing exposure.

24 MR. WEAVER: Q: Right, so if someone has a concern
25 about exposure, you're somebody they call and you are
26 compensated to assess that exposure, is that correct?

1 DR. MAISCH: A: That's correct.

2 MR. WEAVER: Q: Thank you, sir.

3 I'm just moving on to another topic. As I
4 understand the position you put forward to this
5 Commission and trying to avoid duplication of work of
6 other cross-examiners, I think you've proposed that
7 study is needed, is that correct?

8 DR. MAISCH: A: That is correct.

9 MR. WEAVER: Q: And you've put forward a research
10 proposal as part of your evidence, I believe it's
11 Appendix Y, your research proposal.

12 DR. MAISCH: A: I think it's --

13 MR. WEAVER: Q: Is that correct? Is that the proposed
14 --

15 DR. MAISCH: A: That's right. It's a very brief
16 outline.

17 MR. WEAVER: Q: Could you give me an understanding of
18 the potential costs of a study like that? It is a
19 significant costly exercise, or is it a fairly
20 straightforward exercise? Could you give a ballpark
21 estimate of something like that?

22 DR. MAISCH: A: Well, I could give you a ballpark
23 estimate but I don't think it would be extensive. For
24 instance, looking in the Melbourne situation there are
25 research centres that do very similar sort of work.
26 There actually is one that actually has a program

1 where people can be wired up. It's not a blind study,
2 of course, wired up and go home and sleep at night and
3 they follow their sleep patterns. But from what I
4 hear I don't think it's an expensive study. But
5 that's not my field of expertise, so I'd probably
6 better say I don't know what the cost would be,
7 especially if it's going to be a blind study; that's
8 going to be fairly expensive.

9 MR. WEAVER: Q: And I'm not trying to pin you down for
10 the numbers, sir, but an order magnitude, is it
11 hundreds of thousands of dollars or tens of thousands
12 of dollars?

13 DR. MAISCH: A: I would say tens of thousands of
14 dollars.

15 MR. WEAVER: Q: So, sir, you're involved in this area
16 quite extensively and I'm just trying to understand
17 how -- as I understand your evidence, this will be a
18 very key study to do to get a sense of whether there's
19 a risk for sleep disorders in relation to EMF. Is
20 that correct?

21 DR. MAISCH: A: That's true, but I should state right
22 now I would not be doing this study.

23 MR. WEAVER: Q: And I don't -- I'm not trying to put
24 you in that spot, sir. What I'm trying to understand
25 is, given the significant concern about this issue
26 that these studies aren't happening at -- are being

1 funded.

2 **Proceeding Time 2:50 p.m. T47**

3 Do you have any thoughts on that as to what
4 is preventing what seems to be a fairly reasonable
5 cost study being done to try and create more certainty
6 around this issue?

7 DR. MAISCH: A: Well, I think this is all -- this whole
8 issue is fairly new. It's pretty controversial, but
9 it -- I think now is the time that we really need to
10 start looking at research, because there is
11 significant public concern, and the longer this goes
12 on, the more concern it's going to be. Maybe a lot of
13 the concerns are unjustified, I don't know, but there
14 is a level of concern.

15 One way of solving that, one way or
16 another, would be to do these -- this sort of study.
17 Now, for instance, if it finds that there is no
18 effects, well, that would go a long way of assuring
19 the public that there is not a problem. But of course
20 if it does find an issue, then it's a matter of
21 saying, well, okay, if there are sleep effects, that
22 would have -- of course, that would have to be
23 replicated in another study. Would have to start
24 looking at maybe there is situations where you don't
25 want a smart meter being placed. Maybe it -- maybe
26 people need to be say three meters away from a bedroom

1 situation. Maybe that would solve the problem.

2 So, there is a lot of interesting avenues
3 that this could go in, but considering the fact that
4 the smart meters being rolled out in Canada, the
5 States, they are starting to be rolled out in
6 Australia. My opinion is that this is a lot of
7 research that should be done, as a matter of priority.

8 MR. WEAVER: Q: I understand your evidence, sir. And
9 I'm just trying to understand why it hasn't happened
10 yet. So, I have your answer, and that's -- thank you.

11 I would like to turn you to a document
12 which I -- and I recognize, sir, that you indicate you
13 would have only recently received, but I do want to
14 take you to it. And it is Exhibit C17-24.

15 DR. MAISCH: A: Yes, the Public Utility Commission of
16 Texas.

17 MR. WEAVER: Q: That's correct, sir.

18 DR. MAISCH: A: Okay.

19 MR. WEAVER: Q: And I'd like you to turn to page 45 of
20 that document.

21 DR. MAISCH: A: Okay. What I'll have to do there, my
22 printer went up to page 19 before it gave up the
23 ghost. So, I shall just connect the internet and grab
24 that.

25 MR. WEAVER: Q: If that's efficient for you, sir.

26 DR. MAISCH: A: Okay, I have it. You still see me?

1 MR. WEAFFER: Q: Yes, sir.

2 DR. MAISCH: A: Okay. Now, page 45, is it?

3 MR. WEAFFER: Q: Yes, sir. And this is dealing with
4 smart meter installations in the state of Victoria in
5 Australia. And I'm going to ask you to take the
6 opportunity to read page 45, and all of page 46, and
7 I'll have a couple of questions for you in relation to
8 it.

9 DR. MAISCH: A: Okay.

10 Okay. Yeah.

11 MR. WEAFFER: Q: So have you read that page and a half,
12 sir?

13 DR. MAISCH: A: Yeah, I know the study they're talking
14 to.

15 MR. WEAFFER: Q: You do. Well, that's great. If we
16 look at page 46, and the paragraph above the bold
17 print, "*Smart meters have lower ELF EMF levels than*
18 *electro chemical meters*". If we look at that
19 paragraph before, which reads

20 **Proceeding Time 2:54 p.m. T48**

21 "RF EMF tests were also conducted on various
22 household appliances that emit RF fields - a
23 wireless modem, a microwave oven, baby
24 monitor, mobile phone and cordless phone.
25 The RF EMF levels from the meters, even when
26 measured from a foot away, were lower than

1 the levels from these other common household
2 items. The actual EMF levels from the
3 meter, when measured inside the house, were
4 very low compared to the levels for the
5 above-mentioned items."

6 Do you agree with that paragraph, sir?

7 DR. MAISCH: A: No.

8 MR. AARON: I'm sorry. I'm --

9 DR. MAISCH: A: I --

10 MR. AARON: Hold on, please, Dr. Maisch.

11 My concern is this. That my friend has
12 read a statement to the witness and asked if the
13 witness agrees. And the statement -- this statement
14 is a statement of -- first of all, it's a statement of
15 measurements taken in the context of a study that the
16 witness wasn't a participant in. And it's -- the
17 witness is being asked if he agrees with the
18 conclusion of those measurements. And so I don't know
19 how that knowledge is within the -- that information
20 is within the knowledge of the witness, or can
21 possibly be within the knowledge of the witness.

22 My second concern is that the statement
23 with which the witness is being asked to agree is
24 vague. The statement is that the actual EMF levels
25 from a meter when measured inside the house were very
26 low compared to the levels from the above mentioned

1 items. And that's not -- that's vague language, and
2 it's -- I'm concerned that the witness is being put in
3 a situation of agreeing or disagreeing with something
4 that he really cannot get a grip on, due to those two
5 factors.

6 THE CHAIRPERSON: Mr. Weafer, do you have a response to
7 that?

8 MR. WEAFER: Mr. Chairman, the witness is from the
9 jurisdiction this report refers to, and he sits on a
10 committee that is involved in review, ARPANSA, in
11 Australia. And so I'm assuming he has some technical
12 background and knowledge of studies that are done
13 there. And so, the question was put to him and he's
14 -- he has answered the question "No", and so now he
15 can provide his evidence as to why he doesn't.

16 THE CHAIRPERSON: Mr. Aaron, do you have any response to
17 that?

18 DR. MAISCH: A: Okay, I say --

19 THE CHAIRPERSON: Do you have a response to that?

20 MR. AARON: Perhaps the question has to be put to the
21 witness, do you know of these studies? Are you
22 familiar with the -- I mean, the fact that these
23 measurements were taken in his jurisdiction doesn't
24 give him any further knowledge of the accuracy of the
25 measurements. I mean --

26 THE CHAIRPERSON: Thank you. Just pause for a moment

1 here, please.

2 MR. AARON: Just hold on a sec, Dr. Maisch, they're just
3 deciding.

4 THE CHAIRPERSON: Mr. Weafer, this is -- and Mr. Aaron,
5 this is an expert witness. And in the same way that
6 the previous expert witness panels were asked a broad
7 range of questions and relied in part on their general
8 knowledge and in other cases on their very specific
9 knowledge, they, to the best of their ability,
10 answered the question. But were quick to qualify
11 their answer if they were not able to be precise. If
12 they didn't have direct knowledge of the material or
13 if they felt that question was posed in a way that
14 really required some additional information.

15 So I think, although, yes, the question is
16 in some respects a vague question, I think the witness
17 here is in a position to answer it to the best of his
18 ability, and if he wants to qualify his answer, as the
19 other expert witnesses have, he's at liberty to do so.

20 **Proceeding Time 2:59 p.m. T49**

21 MR. WEAFER: Thank you, sir, and perhaps I can just back
22 up a step to satisfy Mr. Aaron's objection a bit.

23 Q: As I understood, sir, you indicated you were
24 familiar with this study. Is that correct?

25 DR. MAISCH: A: I am familiar with this study. I did
26 not participate in it and I don't know the exact

1 measurement criteria that they used. That's what I
2 question. Now, I question that because beyond
3 measurements that I've taken -- the few measurements
4 I've taken in Melbourne shows that there's a great
5 difference in the different measures. Whether it's a
6 collector meter, whether it's a street meter, and also
7 if it's a Wiremax meter it's another story entirely.
8 So I questioned this study.

9 It's also a matter of proximity, too, when
10 you compare things, like if you're comparing such as,
11 you know, stoves, microwave ovens, proximity is all
12 important. And you know, duration of exposure.
13 Household appliances, you know, if you've got a fridge
14 or microwave oven or a normal oven, you're not
15 normally sleeping close to it for eight hours a night.

16 So I think there's a lot of questions about
17 this study, so I do not agree with it.

18 MR. WEAVER: Q: Fair enough. The study was conducted
19 by EMC Technologies. Are you familiar with EMC
20 Technologies?

21 DR. MAISCH: A: Yes, I am.

22 MR. WEAVER: Q: And are they -- I take it that ARPANSA
23 have retained them, that they are a credible
24 technology company in Australia?

25 DR. MAISCH: A: Oh yes.

26 MR. WEAVER: Q: Thank you, sir. On an associated

1 topic, sir, and there's been a fair bit of cross-
2 examination today and you've raised it again in this
3 response, and you emphasize the distance from the
4 meter in your evidence. Is that correct, in terms of
5 the proposed sleep study?

6 DR. MAISCH: A: That's right.

7 MR. WEAVER: Q: And, sir, do you have any knowledge of
8 the shielding factor of the AMI meters that Fortis is
9 planning to apply to install in this territory? Do
10 you know if they have a shield behind the meters which
11 mitigates the RF exposure?

12 DR. MAISCH: A: I'm not sure there, no, so I'd say no
13 to that.

14 MR. WEAVER: Q: And are you -- in your assessment of
15 distance from the meter, do you in any way take into
16 account the construction materials of a house such as
17 if it's a stucco --

18 DR. MAISCH: A: I think that would have an effect.

19 MR. WEAVER: Q: Thank you, sir.

20 THE CHAIRPERSON: Mr. Weaver, I'm going to interrupt you
21 again and I apologize for that. Where are you in your
22 cross-examination at the moment?

23 MR. WEAVER: I would say I'm three quarters of the way
24 through.

25 THE CHAIRPERSON: Okay. It is 3:00 and in spite of the
26 fact we did have a short break 20 minutes ago, we did

1 announce that we would break at 3:00 for a 15-minute
2 break. So if it's not going to throw you off your
3 line of questioning, we will have that 3:00 break now.
4 It's just coming up to five after, so we'll reconvene
5 at 20 minutes after 3:00.

6 MR. WEAFFER: Thank you.

7 **(PROCEEDINGS ADJOURNED AT 3:03 P.M.)**

8 **(PROCEEDINGS RESUMED AT 3:18 P.M.)**

T50/51

9 THE CHAIRPERSON: Please be seated.

10 Mr. Weafer, please continue.

11 MR. WEAFFER: Q: Dr. Maisch, before the break we were
12 dealing with the Exhibit C17-24. And that's the
13 Public Utility Commission of Texas staff report, and
14 you still have that in front of you?

15 DR. MAISCH: A: Okay. I can just -- yes, I've got it
16 in front of me. You can still see me all right?

17 MR. WEAFFER: Q: Yes, sir.

18 DR. MAISCH: A: Okay.

19 MR. WEAFFER: Q: And in your evidence you do refer to
20 the Bioinitiative report, and you refer to it in your
21 cross-examinations prior to this one. You're familiar
22 with the Bioinitiative report?

23 DR. MAISCH: A: Yes.

24 MR. WEAFFER: Q: And I take it you're a believer.
25 You're supportive of the Bioinitiative report in terms
26 of the evidence in that document.

1 DR. MAISCH: A: I believe the Bioinitiative report
2 gives credible evidence to the existence of non-
3 thermal effects below the standard limits.

4 MR. WEAFFER: Q: And the report is considered by the
5 Public Utility Commission of Texas staff, in this
6 document. And I'd like to turn you to pages 17 and
7 18, and undertake the same exercise we took a few
8 minutes ago. Perhaps you can tell us when you're
9 there.

10 DR. MAISCH: A: Okay. I've got page 17 here.

11 MR. WEAFFER: Q: And rather than read this into the
12 record, would you please just read to yourself page
13 17, starting with the sentence, "The Bioinitiative
14 report is an example of a report that received
15 notoriety despite being reviewed negatively by the
16 research community." If you could read the balance of
17 that page, and then over to page 18 through to the
18 quote: "Clearly, the witness Carpenter, expert or not,
19 does not meet the criteria of objectivity which the
20 Board is entitled to expect." Can you read those --

21 DR. MAISCH: A: Okay. I'm just now -- I've got -- I
22 downloaded my copy from their website, and the paging
23 -- the pages are different. So, I'll just have to
24 find that.

25 MR. WEAFFER: Q: The heading that introduces the topic
26 is the previous page, in bold, "*Inherent problems and*

1 *layman difficulties with scientific research; non-*
2 *traditional medicine"*.

3 DR. MAISCH: A: Okay. I'm just -- I'm just looking at
4 the table of contents. Just trying to look there.
5 Excuse me for this.

6 MR. WEAVER: Q: Sir, that's no problem at all.

7 DR. MAISCH: A: The table of contents, executive
8 summary, and it gives pages.

9 MR. WEAVER: Q: So, if you look at "The scientific
10 method, the value of meta-analysis, layman
11 difficulties and other cautions", and 14.

12 DR. MAISCH: A: "Recent studies and expert opinions",
13 page -- "The scientific method", okay.

14 MR. WEAVER: Q: Keep going, you're getting there.

15 DR. MAISCH: A: Yes, okay, got it. Sorry, I was on the
16 wrong page. Okay.

17 Now, the particular part you wanted me to
18 read was the part about the Bioinitiative report?

19 MR. WEAVER: Q: That's correct, sir.

20 DR. MAISCH: A: There it is. Yes, I've got it. It's
21 on page 17 in mine, yeah.

22 Yes, okay, ask away.

23 MR. WEAVER: Q: Sir, were you aware of those types of
24 critiques of the Bioinitiative report?

25 DR. MAISCH: A: Yes.

26 **Proceeding Time 3:53 p.m. T52**

1 MR. WEAFFER: Q: And were you aware of the critique -- I
2 note the footnote in the second paragraph referred to:
3 "The report is often cited by opponents of
4 wireless technology, but it was widely
5 criticized by government research agencies
6 and subject matter experts in Australia."
7 Are you familiar with the critique in Australia
8 identified in footnote 46?
9 DR. MAISCH: A: Yes, I am.
10 MR. WEAFFER: Q: And I take it -- well, do you agree
11 with that critique?
12 DR. MAISCH: A: No, I do not.
13 MR. WEAFFER: Q: The bullet points after the second
14 paragraph, the summary review in this report is that
15 the Bioinitiative report provided views that were not
16 consistent with the consensus of science. Do you
17 agree with that comment?
18 DR. MAISCH: A: Now, what do you mean by -- what do
19 they mean by "the consensus of science"? Now, I read
20 that as the consensus of science would be that the
21 only established effects are thermal, and anything
22 else is not established, and that's what I disagree
23 with, the thermal -- they're talking about the thermal
24 restraints on the standards as the consensus of
25 science. I disagree with that.
26 MR. WEAFFER: Q: Sir, I don't wish to go over your

1 cross-examination with Mr. Andrews, but with respect
2 to the Canadian standard, I believe you acknowledged
3 that there was not sufficient weight given to the non-
4 thermal effects.

5 DR. MAISCH: A: In the standards, yes.

6 MR. WEAVER: Q: So the matter was considered, but
7 little weight was given to it, and not enough weight
8 to incorporate it into the standards. Is that
9 accurate?

10 DR. MAISCH: A: But I do not consider that it's a fair
11 weighting of evidence.

12 MR. WEAVER: Q: I accept that, sir, you disagree on the
13 weighting, but you're not disagreeing that it was
14 considered.

15 DR. MAISCH: A: It was considered, yes.

16 MR. WEAVER: Q: Thank you, sir.

17 The next page, page 18 refers to the
18 finding with respect to the Quebec Energy Board and
19 Dr. Carpenter. Dr. Carpenter is one of the co-authors
20 of the Bioinitiative report, is that correct?

21 DR. MAISCH: A: That's true, yes.

22 MR. WEAVER: Q: Were you aware of Dr. Carpenter's --
23 the determination of his status by the Quebec Energy
24 Board in this case reference in this report?

25 DR. MAISCH: A: I was not aware of that until I just
26 read it.

1 MR. WEAFFER: Q: Thank you, sir. We can put that report
2 away now, sir.

3 The last document I'm going to refer you
4 to, sir, I also identified to your counsel in the e-
5 mail I sent him on Saturday -- sorry, Sunday, and it's
6 Exhibit B15-1 and it's a Fortis response to a B.C.
7 Hydro Information Request 2.1. Do you have that
8 document?

9 DR. MAISCH: A: I can drag that up. Just bear with me
10 just a minute.

11 MR. WEAFFER: This document, Mr. Chairman, it relates to
12 health concerns about cellular phone transmission,
13 antenna base station, and it's a statement of the
14 Chief Medical Health Officer for Vancouver Health.

15 MR. WEAFFER: Q: And have you had an opportunity to
16 review this document, sir?

17 DR. MAISCH: A: No, I haven't. I only got it yesterday
18 and it's 100 -- yeah, 1088 pages so --

19 MR. WEAFFER: Q: No, sir, this a five-page information
20 request response. So if you were not able to go to it
21 I don't wish to put you in an unfair position. So let
22 me deal with it a different way.

23 DR. MAISCH: A: Is this May 15-1.

24 MR. WEAFFER: Q: It is B15-1 and it's --

25 DR. MAISCH: A: Oh well, okay, E, right. I've got a
26 different document.

1 MR. WEAVER: Q: B as in Bob, sir.

2 DR. MAISCH: A: B. I've got B15-1 here, which is over
3 1,000 pages.

4 MR. WEAVER: Q: Well, sir, let's deal with this a
5 different way and maybe more efficiently. This
6 document is a statement of the Chief Medical Health
7 Officer dealing with risks in relation to cellular
8 phone transmission antennae and base stations, and
9 there's been discussions around the difference between
10 AMI meters and cell phones, and that's not where I
11 intend to go.

12 **Proceeding Time 3:28 p.m. T53**

13 What I wish to highlight in this
14 jurisdiction, the concluding comment after reviewing
15 the evidence, the Chief Medical Officer says they will
16 continue to -- and I'm dealing with page 10 of the
17 exhibit.

18 "The Chief Medical Health Officer will
19 continue to monitor new scientific knowledge
20 in this area, and will provide updates when
21 necessary."

22 Would you agree with me that that's an
23 appropriate role for health authorities?

24 DR. MAISCH: A: Yes, it is.

25 MR. WEAVER: Q: Thank you, sir. Those are my
26 questions. Thank you, Dr. Maisch. You've been very

1 forthright in your answers, and it's appreciated.

2 MR. FULTON: FortisBC Inc.

3 **CROSS-EXAMINATION BY MR. MACINTOSH:**

4 MR. MACINTOSH: Q: Dr. Maisch, my name is George
5 Macintosh, and I'm the Fortis lawyer. Through your
6 lawyer, or I should say through Mr. Aaron, I sent
7 certain documents for you to have handy when I
8 examined you. And what I would like to do first is
9 just see if you've got those documents handy, all
10 right?

11 DR. MAISCH: A: That's fine.

12 MR. MACINTOSH: Q: And the first one, of course, is
13 your own report. That's part of Exhibit C9-8.
14 Obviously you have that handy.

15 DR. MAISCH: A: Yes.

16 MR. MACINTOSH: Q: And then the Maret, or Maret report,
17 which is also part of C9-8.

18 DR. MAISCH: A: Yes. I'll just grab it. It's just on
19 my desk. Excuse me a moment.

20 MR. MACINTOSH: Q: Yes.

21 DR. MAISCH: A: Yes, I have that.

22 MR. MACINTOSH: Q: Thank you. And we know you have
23 Safety Code 6, that's Exhibit B-1, Appendix B-6.

24 DR. MAISCH: A: Yes.

25 MR. MACINTOSH: Q: And just two more items. And these
26 are two individual pieces of paper or close to it.

1 One is a diagram -- or it's two graphs that look like
2 what I am showing you. And that is Exhibit B11-2.

3 Did you receive that from Mr. Aaron?

4 DR. MAISCH: A: Yes. I've printed it out.

5 MR. MACINTOSH: Q: All right.

6 DR. MAISCH: A: I shall find that.

7 MR. MACINTOSH: Q: Thank you.

8 DR. MAISCH: A: Just bear with me.

9 I cannot find that, but I can just quickly
10 print it out again.

11 MR. MACINTOSH: Q: Thank you.

12 DR. MAISCH: A: Okay, I have it. I'm just printing it
13 out.

14 MR. MACINTOSH: Q: Thank you.

15 DR. MAISCH: A: Apologies for this.

16 MR. MACINTOSH: Q: No worries. As you would say.

17 DR. MAISCH: A: Yes. Okay, that's printing out now.
18 And there was another document?

19 MR. MACINTOSH: Q: That's right. Just one more. And
20 it also is short. It's only two pages and it looks
21 like this.

22 **Proceeding Time 3:33 p.m. T54**

23 DR. MAISCH: A: That's right.

24 MR. MACINTOSH: Q: And for the record while you're
25 looking --

26 DR. MAISCH: A: *It's Your Health.*

1 MR. MACINTOSH: Q: That's right. It's Exhibit B15-1,
2 Attachment BCH 2.4. So you have that batch of
3 material collected nearby now?

4 DR. MAISCH: A: Yes, it's right here, so we're ready to
5 roll.

6 MR. MACINTOSH: Q: Q: Thank you.

7 DR. MAISCH: A: Yes, got it.

8 MR. MACINTOSH: Q: Now, like Mr. Weafer, the lawyer who
9 talked to you before I did, I have quite a small
10 number of questions on your background before we get
11 into the material itself, and I start these questions
12 with the point that you were introduced as an expert
13 witness by Mr. Aaron and he introduced you as an
14 expert in health standards relating to exposure to
15 electromagnetic radiation.

16 DR. MAISCH: A: Yes.

17 MR. MACINTOSH: Q: And you gave evidence to Mr. Weafer
18 with respect to your credentials, and did I hear you
19 to say that you did not have any academic credentials,
20 apart from the Ph.D., in relation to the matters that
21 we are investigating here?

22 DR. MAISCH: A: Well, my Ph.D. is in RF standard
23 setting.

24 MR. MACINTOSH: Q: Yes, and I'll come to Ph.D. in a
25 moment. But leaving it aside for the moment, do you
26 have any other academic credentials in relation to the

1 matters that the Commission is considering?

2 DR. MAISCH: A: No.

3 MR. MACINTOSH: Q: The Ph.D., I saw on the document
4 that it was submitted, and it was submitted to the
5 Faculty of Arts in June of 2010, correct?

6 DR. MAISCH: A: It was actually submitted in 2009 when
7 I sent it in.

8 MR. MACINTOSH: Q: Very well, I may have misread the
9 document, but the one I'm looking at is dated 2010 and
10 there is a date by you under the abstract of June of
11 2010, and that may have been my misreading. Just to
12 keep it clear then, the Ph.D. was obtained by you in
13 2010.

14 DR. MAISCH: A: Yes.

15 MR. MACINTOSH: Q: Very well. And in looking at that
16 Ph.D. document and in particular the abstract, but the
17 document is called "The Procrustean Approach", and
18 then the abstract of it, it says:

19 "It will be shown that these processes have
20 been prone to political manipulation and
21 conflicts of interest leading to various
22 scientific perspectives being marginalized
23 with reluctance on the part of regulators to
24 make decisions that might inconvenience
25 industry interests."

26 And further on you say in your abstract:

1 MR. MACINTOSH: Q: And I notice that the university
2 where you attended for this has a science faculty, and
3 it has an arts faculty, am I correct?

4 DR. MAISCH: A: Yes.

5 MR. MACINTOSH: Q: And I notice this was preceded with,
6 and obtained through the Faculty of Arts. Is that
7 correct?

8 DR. MAISCH: A: That's true.

9 MR. MACINTOSH: Q: Very well. Now, I'll just set aside
10 credentials for now and go into the evidence. First
11 of all, do you accept, sir, that Fortis, my client,
12 FortisBC is bound to follow official national
13 standards, including Safety Code 6?

14 DR. MAISCH: A: That is true. That's the same as
15 Australia, in relation to, you know, corporations.
16 And following national standards.

17 MR. MACINTOSH: Q: And there is no doubt in your mind,
18 is there, that FortisBC, with the proposed smart
19 meters, clearly complies with Safety Code 6?

20 DR. MAISCH: A: Yes.

21 MR. AARON: So, I'm going to rise at this point. Excuse
22 me.

23 Mr. Chair, questions regarding whether
24 FortisBC is bound to a regulatory regime and whether
25 it complies with that regulatory regime are, in my
26 view, questions of law. And my concern is that the

1 witness will receive those questions as if they are
2 questions of -- technical questions, with respect to
3 levels. And so there is a separation between those
4 two concepts, and as the chair -- the Panel already
5 knows, there is an outstanding legal issue as to
6 whether Safety Code 6 has application. So, I would
7 just ask my friend to draw a distinction between those
8 two concepts in questioning the witness.

9 THE CHAIRPERSON: Mr. Macintosh?

10 MR. MACINTOSH: Mr. Chair, thank you. I asked Dr. Maisch
11 -- I said "Do you accept that FortisBC is bound to
12 follow official national standards such as Safety Code
13 6?" And he said, "Yes." And I didn't just make that
14 up. I took it from Dr. Maisch's report. And what he
15 said, at page 12, he said, "FortisBC is bound to
16 follow national official standards such as Safety Code
17 6." So I think we're well inside Dr. Maisch's sense
18 of his own capacities, and it's something he's already
19 said. And I wanted confirmation of that.

20 THE CHAIRPERSON: Do you have anything further?

21 MR. AARON: If my friend is able to link the statement to
22 the witness's own report, then I have no basis for my
23 objection.

24 THE CHAIRPERSON: Thank you. Please continue, Mr.
25 Macintosh.

26 MR. MACINTOSH: Now, thank you, Mr. Chair.

1 MR. MACINTOSH: Q: Now, where we were, Dr. Maisch, I
2 think we're on common ground. There is no doubt that
3 if FortisBC is allowed to proceed with the proposed
4 smart meters, there will be a clear plain obvious
5 compliance with Safety Code 6.

6 DR. MAISCH: A: That is my opinion.

7 MR. MACINTOSH: Q: Yes. And -- go ahead, sir.

8 DR. MAISCH: A: Oh, in relation to exposure levels.

9 MR. MACINTOSH: Q: Yes. Thank you. And I can go so
10 far as to say that you would accept that it would be
11 far below the human exposure limits that are set out
12 in Safety Code 6?

13 DR. MAISCH: A: Well, excuse me. I would be very
14 surprised if smart meter emissions were in excess of
15 Safety Code 6.

16 **Proceeding Time 3:42 p.m. T56**

17 MR. MACINTOSH: Q: I went a little further in that
18 question. I took you to the agreement I was hoping
19 for, that the smart meter emissions would be far below
20 the human exposure limits. And in fairness to you, if
21 there's an issue on this, I'm quoting from your report
22 at page 8, and toward the top of that page if you want
23 to get that handy.

24 DR. MAISCH: A: Okay.

25 MR. MACINTOSH: Q: And the sentence I'm reading is
26 toward the end of the long paragraph at the top of

1 page 8 and it says:

2 "As for smart meter emissions being far
3 below the human exposure limits in Safety
4 Code 6, that is true."

5 That's --

6 DR. MAISCH: A: I agree with that.

7 MR. MACINTOSH: Q: All right. And the exhibit that we
8 were addressing not too long ago when you reprinted
9 it, it's Exhibit B-11-2. Can you place that in your
10 hands, please?

11 DR. MAISCH: A: Yes, I have it here.

12 MR. MACINTOSH: Q: And what that does, first of all it
13 contains a correction so that you'll see the column
14 for human body is a lower column, a smaller column in
15 the corrected version. But otherwise the two graphs
16 are the same. You accept that?

17 DR. MAISCH: A: Yes.

18 MR. MACINTOSH: Q: And if you look at the vertical
19 axis, the title is "Percent of Health Canada Safety
20 Code 6 Limit", and the lowest item in the horizontal
21 axis is the RF LAN, and that's from within the smart
22 meters, correct?

23 DR. MAISCH: A: Yes, that would be from smart meters.

24 MR. MACINTOSH: Q: And what the evidence was, and this
25 was from the E^xponent Report, is that the RF LAN inside
26 the smart meter would be .01 percent, that's one-tenth

1 of one percent of the Health Canada Safety Code 6
2 limit. I'm sorry, one one-hundredth down. So it's
3 .01 percent. And my --
4 DR. MAISCH: A: Well, I -- sorry?
5 MR. MACINTOSH: Q: Sorry. My question to you is this.
6 Do you have knowledge to advise whether you can accept
7 that statement, or instead are you in a position where
8 you would elect to challenge that statement?
9 DR. MAISCH: A: Well, I could not be sure of -- I could
10 not be sure of the validity of that statement.
11 MR. MACINTOSH: Q: All right. You're not necessarily
12 in a position to challenge it, but at the same time
13 you're not in a position to accept it.
14 DR. MAISCH: A: That's right.
15 MR. MACINTOSH: Q: All right. And there are other
16 comparisons in that graph, and I'll just note them for
17 now. This graph would indicate that the earth emits
18 more radio frequency than the smart meter RF LAN. Are
19 you in a position to accept or dispute that?
20 DR. MAISCH: A: I think it's ridiculous, quite frankly.
21 MR. MACINTOSH: Q: You think that the earth emits less
22 radio frequency than the emission from a smart meter
23 RF LAN.
24 DR. MAISCH: A: I mean we're not -- we're not talking
25 about natural earth emissions here. We're talking
26 about smart meter manmade RF.

1 MR. MACINTOSH: Q: Quite so.

2 DR. MAISCH: A: Just to make your statement that the
3 earth emits more, I really question that.

4 MR. MACINTOSH: Q: Are you in a position to dispute
5 that or do you just say you really question it?

6 DR. MAISCH: A: I'm not in a position right now to come
7 with the facts and figures to dispute that, but I
8 severely question it.

9 **Proceeding Time 3:47 p.m. T57**

10 MR. MACINTOSH: Q: And the graph as corrected would
11 indicate -- this is the E^xPonent graph -- that a human,
12 a person standing next to another person, emits more
13 radio frequency than the RF LAN that's inside a smart
14 meter. And again, are you in a position to agree with
15 that or contest it?

16 DR. MAISCH: A: I question that whole graph.

17 MR. MACINTOSH: Q: Yes.

18 DR. MAISCH: A: Very seriously.

19 MR. MACINTOSH: Q: All right. And the last item in it,
20 just to close off the graph before we move along, WiFi
21 is shown in the graph as emitting ten times the RF of
22 the RF LAN in the smart meter. You can accept that,
23 can you, sir? Or would you challenge that as well?

24 DR. MAISCH: A: I'd be more accepting of that basically
25 because there is -- it depends on what sort of WiFi
26 you're looking at.

1 MR. MACINTOSH: Q: Of course.

2 DR. MAISCH: A: There is some WiFi that, you know,
3 super WiFi. That -- so that's going to vary quite a
4 bit.

5 MR. MACINTOSH: Q: Of course.

6 DR. MAISCH: A: So --

7 MR. MACINTOSH: Q: And are we in the ballpark, though,
8 when you compare the WiFi and the RF LAN as a general
9 statement? Are you prepared to say that it's going to
10 be around 10 times the RF emission from the RF LAN?

11 DR. MAISCH: A: Well, a lot of this in a real world
12 situation --

13 MR. MACINTOSH: Q: -- to the exposure?

14 DR. MAISCH: A: In a real world situation, it is very
15 much going to depend upon proximity.

16 MR. MACINTOSH: Q: Yes.

17 DR. MAISCH: A: As I get into again, you know, if your
18 WiFi is located in a hallway, for instance, versus if
19 someone's sleeping next to a smart meter, their head
20 right by the meter box, it's proximity.

21 MR. MACINTOSH: Q: Yes.

22 DR. MAISCH: A: And I'm not quite sure with this graph
23 as far as the criteria, the measurements, and you
24 know, the distances and everything, at the moment.

25 MR. MACINTOSH: Q: Yes. I understand. And that's fair
26 enough. And so you talked about proximity. And

1 that's one of the key things, isn't it, in
2 ascertaining the exposure that one receives from RF
3 radiation, that is how far you are from it. Right?
4 DR. MAISCH: A: That's right.
5 MR. MACINTOSH: Q: And then another basic thing that
6 you have to look at to figure out what the RF exposure
7 is, is the duration of the emission. How much -- how
8 long the emission is happening. Fair enough?
9 DR. MAISCH: A: That's correct.
10 MR. MACINTOSH: Q: And then another thing that you have
11 to look at to figure out what the RF exposure is is
12 the power density of the RF emission. Fair enough?
13 DR. MAISCH: A: Fair enough.
14 MR. MACINTOSH: Q: Okay. And so, if for example a cell
15 phone and a smart meter emit a similar level of radio
16 frequency, what you then want to figure out is how far
17 away are you from the cell phone, compared to the
18 smart meter. Correct? That's one thing to compare.
19 DR. MAISCH: A: Proximity.
20 MR. MACINTOSH: Q: Yeah. To compare them. And another
21 thing would be to compare the duration of the signal.
22 Fair enough?
23 DR. MAISCH: A: Fair enough.
24 MR. MACINTOSH: Q: And another thing would be to
25 compare the power density, as we said not long ago,
26 but I was saying that may be roughly similar. But

1 MR. MACINTOSH: Q: And are we on common ground that
2 when we're looking at the exposure for members of the
3 public from having a smart meter on their house, we're
4 looking at the uncontrolled environment?
5 DR. MAISCH: A: Yes.
6 MR. MACINTOSH: Q: And that's really a reference to the
7 fact that those people who are in that environment are
8 not sophisticated in RF, and in a sense need
9 additional considerations for protection because they
10 don't --
11 DR. MAISCH: A: Yes.
12 MR. MACINTOSH: Q: Very well. Now, when we look at
13 that chart, Table 6, and RF LAN, I'm advised that the
14 frequency is 900 megahertz. Do you accept that?
15 DR. MAISCH: A: Yeah, it's in that range.
16 MR. MACINTOSH: Q: And that would put it in that box in
17 that table, 1, 2, 3, 4, 5 down, right?
18 DR. MAISCH: A: That's right, got it.
19 MR. MACINTOSH: Q: And over in the far column we see
20 averaging time, we see 6. Do you see that?
21 DR. MAISCH: A: That's right, six minutes averaging
22 time.
23 MR. MACINTOSH: Q: Exactly. And what I'm advised, and
24 it's verifiable in the Industry Canada specifications,
25 is that when the smart meters are tested, it is
26 assumed that they operate at what is called 100

1 percent duty cycle. Do you know whether that's the
2 case or not?

3 DR. MAISCH: A: That's the case in Australia, so it
4 would be the case over there.

5 MR. MACINTOSH: Q: Very well. And when I compare 100
6 percent duty cycle, a duty cycle for lay people is
7 just how much time the device is on duty, how much
8 time the device is working, right?

9 DR. MAISCH: A: Yes.

10 MR. MACINTOSH: Q: And so when Industry Canada set
11 Safety Code 6 and it says, "Well, you've got to look
12 at this for at least six minutes to see what goes on
13 in the six minutes," you then are testing it as if
14 there is a signal coming out the whole six minutes,
15 correct? 100 percent duty cycle.

16 DR. MAISCH: A: That would be the case --

17 MR. MACINTOSH: Q: And --

18 DR. MAISCH: A: -- ending.

19 MR. MACINTOSH: Q: And so we talk about duration, that
20 is how long somebody is exposed. And what the
21 evidence here is is that for these particular smart
22 meters the average duty cycle is 0.06 percent of the
23 time. Now, have you heard that?

24 DR. MAISCH: A: Okay now, I'll just grab -- yes, bear
25 with me for a second here. So we're basically looking
26 at a difference in averaging times. Am I correct

1 MR. MACINTOSH: Q: The total transmission that the
2 meter puts out is -- occupies 0.06 percent of the
3 time. They are working only 0.06 percent of the time.
4 And for six minutes, which is the time in the Safety
5 Code 6 that is set for the test, and for the standard
6 that you're allowed to come to, that comes to one-
7 fifth of a second. So in the six minutes that it is
8 being tested, where the safety limit says that you are
9 to assume that it is operating the whole six minutes,
10 in fact it is only operating one-fifth of a second.
11 That is the duration of the signal. It's one --

12 DR. MAISCH: A: Yes.

13 MR. MACINTOSH: Q: All right? And what the scientists
14 advise me, Dr. Bailey and Dr. Shkolnikov were two
15 expert witnesses who testified here, is that you then
16 have a safety factor on duration alone of 1800 times
17 below the exposures that Health Canada will permit in
18 Safety Code 6. Do you see what I mean with regard to
19 duration?

20 DR. MAISCH: A: Yes, I do.

21 MR. MACINTOSH: Q: Very well. And the -- another
22 factor that I am advised would be taken into account
23 in determining whether the meters are safe or not is
24 this one we talked about a moment ago, of distance
25 away from the person. Correct?

26 DR. MAISCH: A: Yes.

1 MR. MACINTOSH: Q: And so, if I have a smart meter and
2 whatever room you're in, just pretend it's a house,
3 the room we're in here, just pretend it's a house. I
4 go and I take the smart meter and I put it on the
5 outside wall of the building. And so, for example, I
6 could put a smart meter on the wall in the room that
7 we are in here, in Kelowna, and it would be perhaps a
8 meter from where your head happens to be on the
9 screen. But in any event, in any event, that's where
10 the smart meter would be located. You'd only locate
11 it one place on the outside of the house. Correct?

12 DR. MAISCH: A: Normally I think that's the case in
13 Canada.

14 MR. MACINTOSH: Q: Very well. And for Safety Code 6,
15 when they did the levels of exposure that were to set
16 the standard for maximum exposure, the signal was to
17 be measured 20 centimetres away from the meter. Do
18 you accept that?

19 DR. MAISCH: A: Yes, that's in there.

20 MR. MACINTOSH: Q: And the way the physics works, I am
21 told, that if you even go from 20 centimetres away to
22 50 centimetres away, it's a factor of 6. It's a
23 little over a factor of 6 of decline in the impact of
24 the signal.

25 DR. MAISCH: A: Yes.

26 MR. MACINTOSH: Q: What I'm told is -- yeah, you square

1 the greatest --

2 DR. MAISCH: A: Square of the distance, yes, I agree.

3 MR. MACINTOSH: Q: All right. And so you'd square 50
4 over square of 20, and that gives you a factor of 6.
5 And what I'm told is that means as soon as you're 50
6 centimetres away, half a meter away, the signal is six
7 times weaker than it is outside at the house.

8 Correct?

9 DR. MAISCH: A: As it drops off in distance, yes.

10 MR. MACINTOSH: Q: Right. And so what I am advised by
11 the consultants who have been assisting the company is
12 you are then -- when you're figuring out how far you
13 are below Safety Code 6, you've got your 1800 figure
14 first, from duration. You multiply that by 6 and
15 that's approximately 10,000. That's about 10,800.
16 And that's only 50 centimetres from the smart meter.
17 I am advised that one -- that the exposure is one-ten-
18 thousandth of what Safety Code 6 permits as safe. Can
19 you accept that?

20 DR. MAISCH: A: Yes, I do.

21 **Proceeding Time 4:01 p.m. T60**

22 MR. MACINTOSH: Q: Very well. And the big difference
23 there, between a smart meter and a cell phone, is we
24 tend to plaster the cell phone onto our ear, and so
25 it's not 20 centimeters away, let alone 50 centimeters
26 away, let alone a meter away. It's touching us. And

1 so even if the power coming from it is similar, the
2 concerning factor would be how very much closer it is
3 than the smart meter itself. Fair enough?

4 DR. MAISCH: A: Yes.

5 MR. MACINTOSH: Q: And then the other factor would be
6 the duration, and we talked about that earlier, how
7 much time the signal is emitted. And what I'm
8 instructed, and you may be able to agree and you may
9 not, and that's perfectly understandable either way, I
10 suppose, but if we go back to this column which is
11 Exhibit B-11-2, these columns of numbers where we had
12 the two graphs, do you have that, sir?

13 DR. MAISCH: A: Yes, I do.

14 MR. MACINTOSH: Q: And what I am told is that the cell
15 phone is between 10 and 20 percent of what is allowed
16 by Safety Code 6. In other words, a cell phone is
17 five times safer than Safety Code 6, or up to ten
18 times safer. And do you have any sense of that
19 relative exposure presented by a cell phone as
20 compared with a smart meter?

21 DR. MAISCH: A: Well, yes. When you have a cell phone
22 next to your head it's orders of magnitude higher. I
23 don't think there's any question about that.

24 MR. MACINTOSH: Q: And what I'm told is that if you
25 look at this graph that I've got here in Exhibit B-11-
26 2, the cell phone column would be -- it'd be 10 to 20

1 percent of what Safety Code 6 permits. And if I'm
2 right, that's 100 times bigger than the WiFi column.
3 I'm sure you can agree with me on the arithmetic, but
4 I just wonder if you can agree with me in the
5 magnitude that that's how much more concerning a cell
6 phone is, even if it is 10 times or 5 times below the
7 safety standard.

8 DR. MAISCH: A: Well, I would agree there. My concern,
9 which I should say is, to get back to -- isn't so much
10 the power levels but the actually -- over the period
11 of a day, the actual number of times the smart meter
12 is actually transmitting. Now, these are super brief
13 transmissions, fractions of a second.

14 MR. MACINTOSH: Q: Yes.

15 DR. MAISCH: A: But, and the issue, maybe that would be
16 the issue, frequency of transmissions.

17 MR. MACINTOSH: Q: Yes.

18 DR. MAISCH: A: Not 100 megahertz but, yeah, whether
19 it's transmitting 8, 9,000 times a day, very brief
20 transmissions.

21 MR. MACINTOSH: Q: Now, my questioning of you, sir,
22 thus far has been quite technical and it will continue
23 that way just for about five minutes more, and then
24 I'll switch to some other topics. But if you can
25 please go back in Safety Code 6 to that same table,
26 Table 6, the exposure limits.

1 DR. MAISCH: A: Okay.

2 MR. MACINTOSH: Q: It's a little bit technical but it's
3 also of some importance. So are you back in Table 6?

4 DR. MAISCH: A: Yes. Now, I should say here that my
5 expertise is not in the technicalities of the physics
6 of radio frequency. So I shall do my best.

7 MR. MACINTOSH: Q: Well, I will proceed with the
8 questions and if they're not questions that you can
9 answer, you'll advise the Commission. Fair enough?

10 DR. MAISCH: A: Yes.

11 MR. MACINTOSH: Q: Now, in the 1, 2, 3, 4, fifth box
12 down it says 300 to 1500 in column 1. Do you see
13 that?

14 DR. MAISCH: A: Yes.

15 MR. MACINTOSH: Q: And that's where we fit in with the
16 smart meters, right? Because -- at least for the RF
17 LAN that's at 900 megahertz.

18 DR. MAISCH: A: That's right.

19 MR. MACINTOSH: Q: Okay. And then columns 2 and 3 I
20 will ignore, and column 4 is called the power density.
21 Do you see that?

22 DR. MAISCH: A: Yes.

23 MR. MACINTOSH: Q: And that's in watts per metre
24 squared. Do you see that? Column 4? At the top it
25 says "W/m²", m squared?

26 DR. MAISCH: A: Yeah, watts, okay, yeah.

1 MR. MACINTOSH: Q: Okay.

2 DR. MAISCH: A: Sure.

3 MR. MACINTOSH: Q: So to get your power density what I
4 -- all you have to do, I am told, is this. You see
5 where in the power density column it's got F over 150?

6 **Proceeding Time 4:06 p.m. T61**

7 DR. MAISCH: A: Yes.

8 MR. MACINTOSH: Q: So, you use 900 for F, because
9 that's the frequency, right? So it's 900 over 150.
10 That gives you a power density of 6.

11 DR. MAISCH: A: Yes.

12 MR. MACINTOSH: Q: All right? So, the power density
13 that's contemplated in the Safety Code 6 for the smart
14 meters is a power density of 6. And then there is
15 data that has been filed which shows that for these
16 smart meters, and this has been certified by Industry
17 Canada, the peak power density at 20 centimetres is
18 only one-third of that. It's not quite, but it's 2.27
19 watts per metre squared. I am rounding it to 2.

20 So, the power density, it's only one-third
21 of what's allowed in the standard. Do you have
22 knowledge to say whether that's -- whether you can
23 accept that or not?

24 DR. MAISCH: A: Well, I wouldn't have any knowledge to
25 disagree with that.

26 MR. MACINTOSH: Q: Fair enough.

1 DR. MAISCH: A: So, I would accept that.

2 MR. MACINTOSH: Q: Fair enough. Thank you. And what
3 the advisors instruct me is then that you've now got
4 three multiples below the concerns expressed by Safety
5 Code 6. You've got the 1800 reduction from the duty
6 cycle being so small, it's only on 0.06 percent of the
7 time. And you've got only one-third now of the
8 contemplated allowed power density. And if you did
9 what I asked you to do, which was to take the distance
10 and change it from 20 centimetres to 50, just to show
11 how important distance is, that's showing a smart
12 meter at about one-thirty-thousandth, or 30,000 times
13 below what Safety Code 6 contemplates.

14 And are you prepared to say that, yes, that
15 is in the correct ballpark? Or would you be saying I
16 don't have the expertise or I would disagree with you?

17 DR. MAISCH: A: I would say that -- well, I'm not
18 disagreeing with the figures.

19 MR. MACINTOSH: Q: Very well.

20 DR. MAISCH: A: So I would say I would accept that.

21 MR. MACINTOSH: Q: Thank you. Now, there is one other
22 factor which I'm -- the advisors instruct me to take
23 into account. And that is that the smart meter on the
24 side of the house broadcasts outward. And that if
25 you're behind the smart meter, which you are if you
26 are in the house, there is a tenfold reduction in the

1 RF emission that comes from the meter. Outdoors, 20
2 centimetres away, the emission may be X. Behind the
3 meter, and therefore in the house, there is a tenfold
4 reduction, I am advised. And would you be able to
5 accept that, or disagree with that?

6 DR. MAISCH: A: Well, that is -- reading the literature
7 here, that is my understanding.

8 MR. MACINTOSH: Q: Thank you. And where we are --

9 DR. MAISCH: A: It depends -- sorry. Of course it
10 depends on the sort of building materials being used.

11 MR. MACINTOSH: Q: Well, no. The meter --

12 DR. MAISCH: A: Oh, you're talking the meter itself.
13 Sorry. Okay.

14 MR. MACINTOSH: Q: Exactly. I'm talking about two
15 things, before we even get to building materials.
16 Talking about the direction of the meter broadcast,
17 outward instead of inward, and secondly the shielding
18 that's in the meter design itself, the metal shield.
19 And I'm told that those two factors together bring a
20 tenfold -- a further tenfold reduction, without even
21 taking into account what the wall of a house does.
22 Okay?

23 DR. MAISCH: A: I understand that.

24 MR. MACINTOSH: Q: All right. Now, on our multiples,
25 and I realize this is an imperfect exercise, but it's
26 an exercise to try and demonstrate the safety of these

1 meters. In our multiples that we've covered so far,
2 the meters would be 300,000 times below Safety Code 6.

3 DR. MAISCH: A: Okay, that's for the 900 megahertz.

4 MR. MACINTOSH: Q: Yes. With a power density of 6 at
5 50 meters inside the house.

6 DR. MAISCH: A: Right. According to those figures.

7 MR. MACINTOSH: Q: Sorry. Power density of 2.27 inside
8 the house.

9 DR. MAISCH: A: Okay. Well, this is getting to be a
10 little bit beyond my expertise here.

11 MR. MACINTOSH: Q: Fair enough. Well, there may be
12 other people who will speak to it. Now, there is one
13 -- I am told there is a factor that goes back in
14 favour of those who are, in rough terms on your side
15 of the debate, and that is for reflection. Is that
16 something you know about? And if not I'll --

17 **Proceeding Time 4:12 p.m. T62**

18 DR. MAISCH: A: It can have an effect.

19 MR. MACINTOSH: Q: Yes, oaky. Beyond that I'll leave--

20 DR. MAISCH: A: It's nearby.

21 MR. MACINTOSH: Q: I apologize, sir. I crossed with
22 you in my questioning. Just say that again?

23 DR. MAISCH: A: That says, yes, I do know, I've seen
24 that reflections, metal objects nearby can cause an
25 effect.

26 MR. MACINTOSH: Q: Fair enough. Now, and beyond that

1 you don't have knowledge about the reflection factors
2 that are taken into account?

3 DR. MAISCH: A: No, I do not.

4 MR. MACINTOSH: Q: Fair enough. Now, in addition to
5 the factors that I have asked you to discuss with me
6 on the safety factors, I have not yet addressed the
7 safety factor that's built into Safety Code 6 itself,
8 and you recognize that Health Canada itself has built
9 in a safety factor of 50 on top of --

10 DR. MAISCH: A: That's right.

11 MR. MACINTOSH: Q: Quite separate from everything I've
12 said to you.

13 DR. MAISCH: A: In relation to thermal effects.

14 MR. MACINTOSH: Q: Well, we'll come to whether Safety
15 Code 6 is exclusively thermal or not in a short -- not
16 too long from now. But let's just go one step at a
17 time. The various reductions I've been asking you to
18 agree with me on for the level of safety from the
19 meters, separate from all of that, is the safety
20 factor of 50, which has been built into Safety Code 6
21 itself.

22 DR. MAISCH: A: Okay.

23 MR. MACINTOSH: Q: And that is separate. My point is
24 that is separate from all of the reductions in danger
25 that I was asking you to go through with me in the
26 last 10 or 15 minutes.

1 DR. MAISCH: A: Yeah.

2 MR. MACINTOSH: Q: And you accept that, correct?

3 DR. MAISCH: A: Yes.

4 MR. MACINTOSH: Q: You've acknowledged and you would
5 readily agree that Safety Code 6 is very comparable in
6 its limits to those employed by the FCC in the United
7 States?

8 DR. MAISCH: A: Well, very similar to -- yeah, similar
9 to the FCC. They're in the process of reviewing at
10 the moment, I think, but in relation to say the
11 Australian standard in ICNIRP, very similar.

12 MR. MACINTOSH: Q: Yes, FCC, ICNIRP you just mentioned,
13 the International Commission on Non-Ionizing Radiation
14 Protection, and the Australian standards, and the
15 IEEE, is that the Institute of Electrical and
16 Electronic Engineers?

17 DR. MAISCH: A: Yes, their standard C95.1 I think 2005.

18 MR. MACINTOSH: Q: And Safety Code 6, it says within
19 it, and we may not have to go there, but it is
20 essentially comparable to these agencies we've just
21 discussed. I don't think it mentions Australia. But
22 you and I are on common ground that the safety
23 standards in Safety Code 6 are reflective of safety
24 standards of these other institutions?

25 DR. MAISCH: A: Yes.

26 MR. MACINTOSH: Q: All right. Now, can you turn please

1 to the report of Dr. Maret which Mr. Aaron also placed
2 in evidence.

3 DR. MAISCH: A: Okay, which page?

4 MR. MACINTOSH: Q: And in the Maret report there are
5 two graphs that I want to ask you about. Just bear
6 with me for a second. If you can turn to page 13, do
7 you have that?

8 DR. MAISCH: A: Yes, I do. I'm looking at it.

9 MR. MACINTOSH: Q: And you should have a graph which
10 references power density exposure limits.

11 **Proceeding Time 4:16 p.m. T63**

12 DR. MAISCH: A: That's right.

13 MR. MACINTOSH: Q: And we see ICNIRP and Health Canada
14 and the FCC at a relatively high limit, and then
15 Greece halfway, Belgium lower, and so on. Italy,
16 Israel, China, Russia, and Poland. And then finally,
17 although it's not a national standard, no one has
18 adopted it, but the Bioinitiative outdoor. That's
19 what this --

20 DR. MAISCH: A: Yes.

21 MR. MACINTOSH: Q: All right. Now, what I want you to
22 do is keep that page handy. But I also want you to go
23 to Dr. Maret's graph on page 8.

24 DR. MAISCH: A: Okay.

25 MR. MACINTOSH: Q: And I mean, it's, of course,
26 graphics are so interesting in how they are presented

1 for telling a story. But when we look at page 8, we
2 see that that's a power density, and we see it's in
3 the same units. And we see the second item is the
4 Fortis meter. Do you see that?
5 DR. MAISCH: A: Yes, I do.
6 MR. MACINTOSH: Q: And we see in the vertical axis the
7 numbers from zero at the bottom up to the number 1 at
8 the top. Do you see that?
9 DR. MAISCH: A: That's right. Mm-hmm.
10 MR. MACINTOSH: Q: Yes, sir?
11 DR. MAISCH: A: I've got it.
12 MR. MACINTOSH: Q: Okay. Now, if you take that over to
13 page 13, all right?
14 DR. MAISCH: A: Okay. Where you've got 0.1.
15 MR. MACINTOSH: Q: Yeah. The 1 -- it's a common unit.
16 And so your vertical axis over on page 13, the 1 would
17 be down at literally one-one-hundredth. Do you see
18 that vertical graph is zero, 100, 200, 300 and so on.
19 But if you take page 8 and you impress it on page 13,
20 everything on page 8 is very, very, very, very low on
21 that graph, isn't it?
22 DR. MAISCH: A: Yes, okay.
23 MR. MACINTOSH: Q: You see?
24 DR. MAISCH: A: That's true.
25 MR. MACINTOSH: Q: Yeah. Because you see the 1 from
26 page 8. You take it over to page 13, and you can see

1 that the Fortis meter is well under the standards for
2 Belgium, Italy, Israel, China, Russia, and Poland.
3 It's less than one-tenth the standard for Poland or
4 Russia or China, correct?

5 DR. MAISCH: A: That's right.

6 MR. MACINTOSH: Q: Yeah. And that is before we even
7 adjust, make any adjustment on the Fortis meter at
8 page 8. In other words, that's even if that's a true
9 representation where he is indicating it at 0.545 of
10 the 1. That's without even adjusting that. And if we
11 start adjusting it, sir, I suggest it ought to be
12 adjusted radically downward. And here's why I would
13 suggest that.

14 You see, on page 8, it says, "Fortis meter
15 at 3 feet." And that's measured -- taking the
16 measurements 3 feet away, or about a meter away.
17 Right? And it says 5 percent duty cycle.

18 So the assumption there is that that meter
19 is broadcasting -- I don't know if that's the right
20 word, but emitting RF 5 percent of the time. Right?
21 Which would be one-twentieth of Safety Code 6, which
22 assumes 100 percent of the time. But my point is
23 this. That's assuming that the meter is operating
24 five percent of the time, but the evidence is that the
25 meter is operating at 0.06 percent of the time.

26 Now, what I'm instructed is, you can

1 collapse that column for the Fortis meter by a great
2 deal, so that the Fortis meter even complies with the
3 Bioinitiative column over on page 13.

4 DR. MAISCH: A: That's right, I see that.

5 MR. MACINTOSH: Q: Yeah. And that's not even a
6 standard, but whatever it is, it's the lowest there is
7 anywhere on the planet, right?

8 DR. MAISCH: A: As far as I know, it probably is.

9 **Proceeding Time 4:21 p.m. T64**

10 MR. MACINTOSH: Q: Now, we talked a little bit -- or
11 you touched a little bit on whether Safety Code 6 was
12 just thermal or whether it was thermal and non-
13 thermal, and you and Mr. Andrews, who was an earlier
14 lawyer questioning you, you touched on this and we may
15 get to a common position fairly easily, but let us
16 see. Your assertion is that Safety Code 6 addresses
17 only thermal, correct?

18 DR. MAISCH: A: In the radio frequency section, yeah.
19 The radio frequency it only addresses thermal effects
20 in the standard.

21 MR. MACINTOSH: Q: Yeah. And the implication I draw
22 from that as a listener is you're -- are you inviting
23 us to say, "Oh well, Safety Code 6 didn't look at non-
24 thermal levels"?

25 DR. MAISCH: A: No, I don't say, I never said that at
26 all.

1 MR. MACINTOSH: Q: Right.

2 DR. MAISCH: A: I said that they -- it wasn't
3 considered in the actual setting of the limits.

4 MR. MACINTOSH: Q: Right. And then the question might
5 be why.

6 DR. MAISCH: A: The reason why, probably because they
7 would have looked at the advice from the ICNIRP
8 standards. They would have looked at the advice from
9 IEEE standard.

10 MR. MACINTOSH: Q: Yes. And so just to pause --

11 DR. MAISCH: A: And all of earth.

12 MR. MACINTOSH: Q: Just to pause there, it would be
13 consistent with IEEE and ICNIRP to be not having
14 regulating the non-thermal levels of emission, right?

15 DR. MAISCH: A: That's right.

16 MR. MACINTOSH: Q: And I want to put what I believe is
17 your own statement to you on this, and if you want to
18 follow it it's in your report at page 2.

19 DR. MAISCH: A: Okay, I have page 2 here.

20 MR. MACINTOSH: Q: And you say this at the top and you
21 word it carefully as one should. You say:
22 "There is no established research of
23 sufficient strength to say with scientific
24 certainty that RF emissions, as those given
25 off by the AMI meters (hereinafter referred
26 to as smart meters) constitute a serious and

1 irreversible risk to health at non-thermal
2 exposure levels.”

3 And I say that’s carefully worded and I
4 respectfully commend you for that, but you would stand
5 by that statement.

6 DR. MAISCH: A: Yes.

7 MR. MACINTOSH: Q: And as I think you’ve said in so
8 many words, ICNIRP and IEEE and the FCC and other
9 agencies would also stand by that statement, right?

10 DR. MAISCH: A: I would say so, for sure.

11 MR. MACINTOSH: Q: And I just want to make two points
12 on that topic before leaving it. You go on after that
13 part I read to you in your report and you say:

14 “The problem here, however, is that in
15 relation to smart meters, this is new
16 technology.”

17 And that’s the gist of what you say thereafter, fair
18 enough?

19 DR. MAISCH: A: Yes, okay.

20 MR. MACINTOSH: Q: But just let me suggest two points
21 there, and this was covered also, I believe, with one
22 of the earlier questionings, and that is that Safety
23 Code 6 doesn’t focus on which particular device is
24 doing the emitting. Safety Code 6 instead focuses on
25 how much is emitted, you know, the power density of
26 the emission, and how far away it is, and how

1 frequently it's being emitted. Fair enough?

2 DR. MAISCH: A: Yes, that's true.

3 MR. MACINTOSH: Q: I mean Safety Code 6 doesn't care
4 whether it's a WiFi or a phone or a smart meter or
5 anything else. It's looking at frequency of
6 emissions, power density of the emissions, the
7 duration of the emissions, the distance in the
8 emissions. Fair enough?

9 DR. MAISCH: A: Well, it's basically just considering
10 the emissions irregardless of the source.

11 MR. MACINTOSH: Q: Yes, yes, and so the fact that
12 Safety Code 6 has not occupied -- sorry, the fact that
13 smart meters have not occupied the bulk of the
14 research but cell phones have would not detract from
15 looking at Safety Code 6 and applying it to smart
16 meters, and then seeing how smart meters conform or
17 don't conform with Safety Code 6. That's all right,
18 isn't it? Intellectually?

19 **Proceeding Time 4:26 p.m. T65**

20 DR. MAISCH: A: The thing which I get back to is that
21 it's my concern, with smart meters, that it may not be
22 power density. It may be that those frequent very
23 brief transmissions over a period of 24 hours may be
24 -- it's going to affect it. Maybe that. I've said
25 that now numerous occasions here.

26 MR. MACINTOSH: Q: Now --

1 DR. MAISCH: A: And that's what I'm referring to. This
2 may be a new technology, because in relation to close
3 proximity to these very brief transmissions.

4 MR. MACINTOSH: Q: Now, in Safety Code 6 on the
5 question of how it addressed non-thermal levels, if
6 you can turn in Safety Code 6 to page 9 of 30, which
7 is also page 7.

8 DR. MAISCH: A: Okay. What's the -- preference of the
9 code or maximum exposure limits?

10 MR. MACINTOSH: Q: It's under the title of
11 "Introduction" at page 9 of 30. There's an Arabic
12 numeral 1, and then "Introduction". And it's the
13 first --

14 DR. MAISCH: A: Okay. Introduction -- yeah, I've got
15 that as page 7. Sorry.

16 MR. MACINTOSH: Q: Thank you. And then on that page,
17 halfway down the page, Health Canada writes, in part,
18 at the beginning of the paragraph that starts a little
19 more than halfway down the page:

20 "The exposure limits specified in Safety
21 Code 6 have been established based upon a
22 thorough evaluation of the scientific
23 literature related to the thermal and
24 possible non-thermal effects of RF energy on
25 biological systems."

26 And I take it you're not in any better

1 position than I am to question that statement. I
2 mean, you'll take that statement as a correct
3 statement.

4 DR. MAISCH: A: They have considered it, but then you
5 look at the end of that paragraph. They decided to
6 establish and protect the general public against
7 adverse effects associated with acute RF energy
8 exposures.

9 MR. MACINTOSH: Q: So --

10 DR. MAISCH: A: So, yes, they considered it, but then
11 they projected it as far as non-thermal effects.

12 MR. MACINTOSH: Q: So -- mm-hmm. I was going to go
13 along there in the way you were. So, let's just stay
14 on that page 7. And you go down about ten lines in
15 that same paragraph. And after they give an
16 explanation for what they've done, and what they've
17 looked at, and so on, and there is a sentence that
18 begins, "The exposure limits in Safety Code 6 are
19 based upon ...". Do you see that?

20 DR. MAISCH: A: That's in the following paragraph?

21 MR. MACINTOSH: Q: No. In the same paragraph, further
22 down, on page 7, is the sentence which reads, about
23 halfway through that paragraph, and it says:

24 "The exposure limits in Safety Code 6 are
25 based upon the lowest exposure level at
26 which scientifically established human

1 health hazards occur."

2 And so that would appear to be the rationale of Health
3 Canada, I suggest to you, when it was addressing
4 Safety Code 6.

5 DR. MAISCH: A: Okay, what I would say there, when
6 they're talking about scientifically established human
7 health hazards, it is referring to thermal effects.
8 You see that in IEEE, when they talked about
9 established research.

10 MR. MACINTOSH: Q: What you see -- what I suggest you
11 see, sir, is Health Canada saying that the science has
12 only taken them to the level of thermal effects as
13 causing any harm, and the science has not demonstrated
14 to them that there is any harm at any lower observable
15 levels.

16 DR. MAISCH: A: The science that they looked at, which
17 would be IEEE standard and also -- no.

18 MR. MACINTOSH: Q: Well, I suggest to you --

19 DR. MAISCH: A: And there's other reviews they've
20 looked at too, which is like, you know, the Swedish
21 one, which I haven't really looked into, so --

22 **Proceeding Time 4:30 p.m. T66**

23 MR. MACINTOSH: Q: Well, it's true that Safety Code 6
24 and IEEE and ICNIRP, as we said, are reflecting the
25 same thinking. But you don't know any better than I
26 what Health Canada means when it refers to a thorough

1 evaluation of the scientific literature related to the
2 thermal and possible non-thermal effects, do you?
3 DR. MAISCH: A: Well, I'm not privy to their meetings
4 as far as what they discuss and how they, you know,
5 accepted and rejected research.
6 MR. MACINTOSH: Q: And on the same topic on page 9, and
7 so in the hard copy you just turn the page, there's a
8 section called "Maximum Exposure Limits".
9 DR. MAISCH: A: Yeah, in "(b) Specify maximum allowable
10 RF. Purpose" Is that under "Purpose of the Code".
11 MR. MACINTOSH: Q: I have title Arabic 2 and it's
12 entitled "Maximum Exposure Limits", and I have it as
13 page 9 or else page 11 of 30.
14 DR. MAISCH: A: That's under -- what's the section
15 that's actually under? First of all, we went through
16 "Introduction", then we get "1.1 Purposes of the
17 Code".
18 MR. MACINTOSH: Q: And then it's the very next section.
19 DR. MAISCH: A: "Section 2 Maximum Exposure Limits",
20 sorry.
21 MR. MACINTOSH: Q: That's quite all right. And then in
22 there, if you go into the second paragraph.
23 DR. MAISCH: A: Okay.
24 MR. MACINTOSH: Q: And it begins, "Despite the advent
25 of thousands of additional research studies," and it
26 goes on and it says:

1 “The predominant adverse health effects
2 associated with RF energy still relate to
3 the occurrence of tissue heating and
4 excitable tissue stimulation from short-term
5 exposures.”

6 And then Health Canada goes on:

7 “At present there is no scientific basis for
8 the premise of chronic and/or cumulative
9 health risks from RF energy at levels below
10 the levels outlined in Safety Code 6.
11 Proposed effects from RF energy exposures in
12 the frequency range between 100 kilohertz
13 and 300 gigahertz...”

14 and that’s hours, isn’t it, sir, because we’re at 900
15 megahertz.

16 DR. MAISCH: A: Yeah.

17 MR. MACINTOSH: Q: So we’re in there.

18 “Proposed effects from RF energy exposures
19 in the frequency range between 100 kilohertz
20 and 300 gigahertz at levels below the
21 threshold to produce thermal effects have
22 been reviewed.”

23 Do you see that?

24 DR. MAISCH: A: Yes, I do.

25 MR. MACINTOSH: Q: Well, what that tells me is Health
26 Canada has reviewed some portion of the “thousands of

1 additional research studies" that it references at the
2 beginning of the paragraph before concluding to stay
3 with the levels in Safety Code 6 being only thermal
4 levels. Fair enough?

5 DR. MAISCH: A: Well, I can understand that viewpoint,
6 but I can -- I disagree, yeah, would disagree with it.

7 MR. MACINTOSH: Q: And it goes on:

8 "At present these effects have not been
9 scientifically established, nor are there
10 implications for human health sufficiently
11 well understood. Additionally, a lack of
12 evidence of causality, biological
13 plausibility, and reproducibility greatly
14 weaken the support for the hypothesis for
15 such effects. Thus these proposed outcomes
16 do not provide a credible foundation for
17 making science-based recommendations for
18 limiting human exposures."

19 So I'm suggesting that Health Canada is
20 telling us that the science doesn't take them below
21 the thermal test in Safety Code 6 because it doesn't
22 have science to show harms below there. Isn't that
23 what Health Canada is telling us? You may dis- --

24 DR. MAISCH: A: That is --

25 MR. MACINTOSH: Q: Let me -- I apologize because I'm
26 interrupting. You may not like to have it the same

1 way as Health Canada is stating it. All I'm
2 suggesting is that Health Canada is telling us that it
3 has considered the lower levels and said that the
4 science is not there to set standards prohibiting the
5 lower levels. And do you accept that that's what
6 Health Canada is telling us?

7 DR. MAISCH: A: I accept that's what they're saying,
8 yes, but I would disagree with their evaluation of the
9 science for possible low-level effects. So we've got
10 a fundamental difference in philosophy here, I'd say.

11 MR. MACINTOSH: Q: So as between your -- it's between
12 your evaluation of the science and Health Canada's
13 then, in that sense.

14 **Proceeding Time 4:35 p.m. T67**

15 DR. MAISCH: A: Well, I'm not putting myself up against
16 Health Canada, but I think my basis looks at the
17 situation there as far as possible non-thermal effects
18 being taken into account in standard setting.

19 MR. MACINTOSH: Q: Now, you said in your report, and we
20 looked at it at page 2, and, Mr. Chair, I'm guessing
21 that I'll be concluded in about ten or fifteen
22 minutes, if that's convenient to the Commission.

23 THE CHAIRPERSON: Yes, that's fine. We intend to
24 continue today until we've completed the cross-
25 examination and any final matters that Mr. Aaron wants
26 to deal with in connection with this witness, so

1 please continue.

2 MR. MACINTOSH: Thank you.

3 MR. MACINTOSH: Q: We saw, Dr. Maisch, in your report
4 the passage at page 2 where you carefully stated that
5 there is no established research of sufficient
6 strength to say with scientific certainty that RF
7 emissions, such as those given off by AMI meters,
8 constitute a serious and irreversible risk. And I
9 think you said you stood by that.

10 DR. MAISCH: A: Yes.

11 MR. MACINTOSH: Q: And then you referred to the fact,
12 and we covered this earlier, you referred to the fact
13 that the smart meters are a relatively new technology.
14 And you have seen the document that Health Canada
15 published in December, 2011. That's the document --

16 DR. MAISCH: A: That's right.

17 MR. MACINTOSH: Q: -- "*It's Your Health*". And you've
18 seen there that Health Canada examined the smart
19 meters in particular, and it said based on this
20 information, which is summarized up above, this is in
21 the front page on the lower right,

22 "Based on this information, Health Canada
23 has concluded that exposure to RF energy
24 from smart meters does not pose a public
25 health risk."

26 So, although clearly health -- smart meters

1 are a new element in the RF analysis, it would appear,
2 and you'll accept that at least Health Canada has been
3 mindful of the presence of smart meters in its
4 publications.

5 DR. MAISCH: A: Well, they've considered it here, for
6 sure. But if I may just make -- say one thing. I
7 have problems with the issue where they say survey
8 results have shown that smart meters transmit data in
9 short bursts, and when not transmitting data the smart
10 meter does not emit RF energy. That would sort of
11 read that it's only occasionally sending out in very
12 short bursts, so there shouldn't be any sort of an
13 issue. But from my understanding, as I've said
14 before, the short bursts that they're putting out is
15 -- can be many thousands of times a day, very brief
16 transmissions.

17 MR. MACINTOSH: Q: Yes.

18 DR. MAISCH: A: And that may -- may be the issue that
19 needs to be looked at.

20 MR. MACINTOSH: Q: And to be frank about that, sir, you
21 don't know the science behind that, do you?

22 DR. MAISCH: A: The science behind the possible effects
23 of very brief transmissions.

24 MR. MACINTOSH: Q: Focusing on the peak and on the
25 average and on the modulation and on the frequency, I
26 respectfully am suggesting to you that that is beyond

1 your scientific knowledge.

2 DR. MAISCH: A: Yes, it would be. That's not my area
3 of expertise.

4 MR. MACINTOSH: Q: Fair enough.

5 DR. MAISCH: A: But that doesn't mean that I can't
6 recommend this is the sort of research we need to do
7 in order to get some questions.

8 MR. MACINTOSH: Q: Fair enough.

9 DR. MAISCH: A: If nothing else, to sort of calm the
10 public, you know, the concerned public. Let's do the
11 research.

12 MR. MACINTOSH: Q: And if the public comes and listens
13 -- I mean, even a hearing like this might play a part
14 in that regard, you would accept that?

15 DR. MAISCH: A: Yes.

16 MR. MACINTOSH: Q: Now, my second-last point, Dr.
17 Maisch, and here I do respectfully want to take a
18 little bit of issue with you. In your report, at page
19 6, you put a passage in there which caused Mr. Aaron
20 to cross-examine Dr. Bailey for quite a lengthy time
21 last week.

22 **Proceeding Time 4:40 p.m. T68**

23 And at page 6, you referred to two reports
24 which Dr. Bailey had cited in his work, and one had
25 the author name Ahlbom, A-H-L-B-O-M, on it and the
26 other had the name Swerdlow on it. And you wrote in

1 rather critical terms, you said, well Ahlbom's the co-
2 founder of this company, a Brussels' based lobby firm,
3 et cetera, and then you said Swerdlow is -- holds
4 shares in the telecom companies, et cetera. Do you
5 see that?

6 DR. MAISCH: A: Yes.

7 MR. MACINTOSH: Q: And Mr. Aaron made that the subject
8 of quite a relatively lengthy cross-examination of Dr.
9 Bailey. And you shared with us, for your saying that,
10 with regard to Mr. Ahlbom -- I don't know if it's
11 Doctor and I don't know if I'm pronouncing it right,
12 but you shared with us the basis for your criticism,
13 and it was Appendix L in your report, and Appendix L -
14 - I'm sorry, Appendix H. Appendix H in your report.
15 Let me know when you have that.

16 DR. MAISCH: A: Yes, I have that.

17 MR. MACINTOSH: Q: And that's a so-called official
18 press release from one Mona Nilsson or *Nillsson*, and
19 you'll see she quotes herself throughout the press
20 release, and attacks Professor Ahlbom by the fact that
21 he was in a lobbying company and she alleges that
22 wasn't declared in some work he was doing with the
23 WHO. Do you see that?

24 DR. MAISCH: A: That's right, yeah.

25 MR. MACINTOSH: Q: And --

26 DR. MAISCH: A: Well, that's -- yeah, that's not --

1 MR. MACINTOSH: Q: I beg your pardon?

2 DR. MAISCH: A: That's just not her saying that. I
3 mean, that -- that information certainly is credible.

4 MR. MACINTOSH: Q: Well, it says that Professor Ahlbom
5 created the lobby firm in 2010. I see that as the
6 first paragraph of ordinary print in Appendix H. Do
7 you see that?

8 DR. MAISCH: A: Yes, mm-hmm.

9 MR. MACINTOSH: Q: And Dr. Bailey's reference to Ahlbom
10 was for work he did before that. Before he had this
11 alleged conflict. It was work that Ahlbom had done in
12 2009, correct?

13 DR. MAISCH: A: Yes, that would be.

14 MR. MACINTOSH: Q: And you knew that. I'm sorry, I
15 interrupted you.

16 DR. MAISCH: A: Yes. Yes, it was printed in 2010.

17 MR. MACINTOSH: Q: Yeah, and the lobby firm was formed
18 in 2010. The article that Ahlbom was cited by Bailey
19 was written in 2009 when Ahlbom apparently, by your
20 own evidence, wasn't in a conflict. Fair enough?

21 DR. MAISCH: A: Well, I really don't know what his
22 situation would have been with the industry at that
23 point in time.

24 MR. MACINTOSH: Q: Well, you've made a serious
25 allegation, and you don't know anything beyond what
26 you've told us in your report, is that correct?

1 DR. MAISCH: A: Also if you look at -- I might not have
2 it here. It is information, *Microwave News* has also
3 covered that issue, but I don't have the details of
4 that here.

5 MR. MACINTOSH: Q: All right. Now, you also took issue
6 with Dr. Bailey referencing Dr. Swerdlow, and you said
7 "Well, Dr. Swerdlow had shares in a phone company and
8 his wife had shares in a phone company." And the only
9 point I make there is when I look at your data to
10 support that statement, that was a -- that was self-
11 reporting by Dr. Swerdlow, because if we look at your
12 Appendix I --

13 DR. MAISCH: A: That's right, in that report, yeah.

14 MR. MACINTOSH: Q: And Dr. Swerdlow is one of five
15 authors of that report, right?

16 DR. MAISCH: A: Yes.

17 MR. MACINTOSH: Q: And I'm advised that they are all --

18 DR. MAISCH: A: Chairman.

19 MR. MACINTOSH: Q: I'm sorry?

20 DR. MAISCH: A: Chairman of that committee, I believe.

21 MR. MACINTOSH: Q: I don't see that, but maybe so. But
22 he's one of five. He's the first named. He's one of
23 five. I'm advised they're all leading
24 epidemiologists. Do you have knowledge of their
25 credentials, apart from Dr. Swerdlow?

26 DR. MAISCH: A: Yes, I do.

1 MR. MACINTOSH: Q: And in any event, we -- as I say,
2 this was self-reporting by Dr. Swerdlow, which one is
3 suppose to do when one writes an article, correct? We
4 see down at the bottom the disclosures for the five
5 authors, the different interests and positions that
6 they had.

7 DR. MAISCH: A: But just declaring it, you've got to --
8 a conflict of interest, doesn't mean that you've
9 resolved it. It's just admitting that it's there.

10 **Proceeding Time 4:45.m. T69**

11 MR. MACINTOSH: Q: You haven't resolved it, you've
12 declared it. That's the point. You've declared it,
13 and so the reader can take that into account, correct?

14 DR. MAISCH: A: They can take it into account, but then
15 you have to take into account, as I say the thing
16 about the International Committee of Medical Journal
17 Editors, the uniform requirements. That top spot,
18 financial conflict of interest, being one of the major
19 problems.

20 MR. MACINTOSH: Q: And that's really what --

21 DR. MAISCH: A: -- on 6, and so this is what I'm
22 referring back to. Whether they have declared it or
23 not, in one case they didn't declare it, the second
24 case they did declare it. It still is an issue when
25 you look at the conflict of interest requirements.

26 MR. MACINTOSH: Q: And just like journalists and

1 newspapers, they're duty bound when they write a story
2 to disclose in the story, in most newspapers ethical
3 guidelines, to disclose the conflict. It's not as if
4 they're not allowed to write the article.

5 DR. MAISCH: A: Well, this is the International
6 Committee of Medical Journal Editors. It's not just
7 newspapers.

8 MR. MACINTOSH: Q: Now, my final point --

9 DR. MAISCH: A: And I just might clarify too, in my
10 thesis this is a topic which keeps coming back.

11 MR. MACINTOSH: Q: That is your thesis.

12 DR. MAISCH: A: Financial conflict of interest -- yeah,
13 that is in my thesis too, besides my statement here.
14 Financial conflict of interest is a fundamental
15 problem in this whole story, this whole standard
16 setting since the 1950s really.

17 MR. MACINTOSH: Q: Now, my final point, Dr. Maisch, is
18 with regard to *in vitro* studies, and you spoke of them
19 today. And I take it you would accept that animal and
20 human studies are more relevant than *in vitro* studies
21 for studying the health effects of smart meters?

22 DR. MAISCH: A: In my opinion I think that's the way to
23 go. Human studies.

24 MR. MACINTOSH: Q: Fair enough. And so I think you
25 give me a yes on that. You would say yes, you accept
26 that animal and human studies are more relevant than

1 *in vitro* studies for --

2 DR. MAISCH: A: Yes.

3 MR. MACINTOSH: Q: -- for studying the health effects
4 of smart meters.

5 DR. MAISCH: A: Yes, I would say that.

6 MR. MACINTOSH: Q: Yes, thank you very much, sir.

7 Thank you, Mr. Chair.

8 THE CHAIRPERSON: Thank you, Mr. Macintosh. Mr. Aaron --
9 oh, I'm sorry, Mr. Fulton.

10 MR. FULTON: Commission staff have no questions, Mr.
11 Chairman. So then it's over to the Commission Panel
12 for its questions, followed by any re-examination that
13 Mr. Aaron has.

14 THE CHAIRPERSON: Yes, thank you. The Commission Panel
15 doesn't have additional questions, so we'll turn to
16 Mr. Aaron.

17 MR. AARON: Mr. Chair, I might have one or two questions.
18 My suggestion is that we take a two minute break, so
19 that I can consider my questions. Perhaps rule some
20 out, and also I need that for my comfort.

21 THE CHAIRPERSON: Yes, we can certainly do that. Why
22 don't we take a five minute break, Mr. Aaron.

23 MR. AARON: Thank you.

24 THE CHAIRPERSON: And so let's return at five to five.

25 **(PROCEEDINGS ADJOURNED AT 4:48 P.M.)**

26 **(PROCEEDINGS RESUMED AT 4:54 P.M.)**

T70/71

1 THE CHAIRPERSON: Please be seated.

2 Mr. Aaron?

3 **RE-EXAMINATION BY MR. AARON:**

4 MR. AARON: Q: Are you with us, Dr. Maisch?

5 DR. MAISCH: A: Yes, right here.

6 MR. AARON: Q: I'd like to pick up where you left off
7 with Mr. Macintosh. And there was a suggestion made
8 to you with respect to *in vitro* studies. And you
9 answered in colloquial terms. You said you think
10 that's the way to go. Do you recall that statement?

11 DR. MAISCH: A: Not *in vitro* studies. In relation to
12 human exposure studies.

13 MR. AARON: Q: Oh, sorry. I've got it backwards. You
14 said you think human exposure studies are the way to
15 go.

16 DR. MAISCH: A: In relation to verifying whether there
17 are health effects from smart meters.

18 MR. AARON: Q: And my -- what I want to explore to you
19 is -- with you is what you meant by that statement.
20 Were you talking about in terms of that being the way
21 to go, that being the way to go for future studies?
22 Is that what you were talking about?

23 DR. MAISCH: A: I think there is an urgent need to do
24 studies now. Because of the roll-out of smart meters.
25 And the public concern. That it's not just sort of
26 future studies, but this is a matter of urgency.

1 These sort of sleep studies as I referred to in my,
2 you know, statement. This is the sort -- these are
3 the sort of studies that may be done now to verify
4 whether there is a health hazard from smart meters.

5 MR. AARON: Q: And with -- standing from the point of
6 view that we are now, and looking back on the studies
7 that we have to date, the question -- one of the
8 questions we are struggling with in these proceeding
9 is whether only to look at live studies or to look at
10 *in vitro* studies as well. And so what -- where does
11 your opinion lie on that? Because in your report you
12 expressed a view as to the higher relevance of the
13 live studies in relation to the *in vitro*. And what I
14 want to get from you is whether you think *in vitro*
15 studies are a field of scientific research that are of
16 no relevance, or of some relevance.

17 DR. MAISCH: A: Well, I think one of the problems with
18 *in vitro* studies has been, you know, controlling
19 various things, like -- now, this sort of really isn't
20 in my statement, because it's only just come out now,
21 if I may refer to it, since we're talking about *in*
22 *vitro* studies.

23 Now, this is from *Microwave News*, just hot
24 off the press. In the first systematic measurement of
25 the survey of its kind, Lucas Portelli has shown that
26 the ambient static in time-varying magnetic fields in

1 laboratory incubators are large and variable. He
2 found that they can differ by a factor of a hundred or
3 even a thousand within the same incubators.

4 So, that's one of the issues which is
5 coming up. It's first --

6 MR. AARON: Q: I don't have -- I'm going to stop you,
7 as I'm not really at liberty to -- yes, I'm going to
8 stop him. Yes, but go ahead.

9 **Proceeding Time 4:58 p.m. T72**

10 MR. MACINTOSH: No, if my friend's brought it to an end I
11 have nothing to say.

12 MR. AARON: Q: Yeah. We don't have the opportunity,
13 you and I, to canvass further evidence and we're very
14 limited by --

15 DR. MAISCH: A: No, I apologize if I said that.

16 MR. AARON: Q: And we're very limited by the rules and
17 we're limited to discussing things that arose from
18 your previous discussion with Mr. Macintosh.

19 DR. MAISCH: A: No, I --

20 MR. AARON: Q: So this isn't an opportunity to speak to
21 matters that aren't in your report. What I want to go
22 to is your view of the relevance of *in vitro* studies,
23 given that your evidence was that the live studies are
24 the way to go. Does that mean that the *in vitros* are
25 to be ignored on a retrospective basis?

26 DR. MAISCH: A: I'm not saying that's --

1 MR. MACINTOSH: Excuse me.

2 MR. AARON: Please just hold on.

3 MR. MACINTOSH: In my respectful submission, Mr. Chair,
4 this is not re-examination. This is my friend having
5 received, as it were, an answer he doesn't like, which
6 is the stated preference of this witness for human and
7 animal work over *in vitro* work. And the only --
8 you'll see tomorrow the only reason I consider it
9 terribly relevant. And my friend is trying to change
10 the evidence. He wants to go at it and go at it and
11 go at it and get the witness to change his evidence,
12 and that's not re-examination, in my submission.

13 MR. AARON: In response, the evidence was that the
14 opinion of the witness is that the live studies are
15 the way to go. And what I seek to clarify is whether
16 -- is whether he meant that as -- on a prospective
17 basis or on a retrospective basis. That's really what
18 I seek clarification on.

19 THE CHAIRPERSON: Mr. Fulton?

20 MR. AARON: My friend did leave it at that. It's the way
21 to go and my friend left it at that that. He had the
22 opportunity to say, "Well, what do you mean by that?"

23 MR. FULTON: The additional concern that I would raise
24 during the course of the re-examination, answers are
25 being suggested to the witness. So that if the
26 question is "What did you mean by that?" I don't have

1 just one or two more questions.

2 THE CHAIRPERSON: That's fine.

3 MR. AARON: Q: Perhaps I don't need to take you there,
4 Dr. Maisch. But you looked at a graph in Dr. Maret's
5 report that spoke to power density, at page 8. And
6 another graph at page 13 of that report.

7 DR. MAISCH: A: Sure.

8 MR. AARON: Q: Which dealt with power density limits.
9 Is power density the sole determiner of health impact?
10 In your view?

11 DR. MAISCH: A: Hold on. I've just got a slight
12 problem here. Okay, I just got rid of that.

13 As I was saying, that it's not just power
14 density, it's also frequency of transmission. I mean,
15 I've gone back to this several times. It's the amount
16 of transmissions that are happening from a smart meter
17 over a 24 hours period of time. Over, you know, is it
18 8,000? Is it 9,000? Or is it 190,000 very brief
19 transmissions? So power density, it's only one matrix
20 to look at. There are other things. And to be
21 honest, I'm not quite sure with the meters in question
22 how often they transmit per day.

23 MR. AARON: Q: Yeah. That is in evidence, but we won't
24 go there now.

25 DR. MAISCH: A: So power density -- power density is
26 only one issue.

1 MR. AARON: Q: All right. And finally I'll ask you to
2 refer to Safety Code 6. Where my friend had you
3 considered the graphs on page 15?

4 **Proceeding Time 5:05 p.m. T74**

5 DR. MAISCH: A: Is it Table 6?

6 MR. AARON: Q: Yes. And my question to you is: Those
7 columns, one frequency, two electric field, three
8 magnetic field, four power density, and five averaging
9 time, is it your view that those are exhaustive of the
10 considerations that go to the potential for adverse
11 bioeffects from these --

12 DR. MAISCH: A: No, they are not exhaustive.

13 MR. AARON: Q: Sorry, can you repeat that?

14 DR. MAISCH: A: I said no, they are not exhaustive.

15 MR. AARON: Q: All right, and my final question would
16 be why?

17 DR. MAISCH: A: I have stated before that there's also
18 the nature of the very brief transmissions that are
19 constantly coming out from a smart meter. Do you
20 understand that?

21 MR. AARON: Q: All right.

22 DR. MAISCH: A: That can be many thousands of times
23 happening a day.

24 MR. AARON: Q: All right. And finally my friend Mr.
25 Macintosh in questioning you took you through a list
26 of factors including proximity, duration, emission,

1 frequency, frequency of the emissions, i.e. megahertz,
2 and power density. When he used the term "duration",
3 I'm not sure his understanding and my understanding
4 and your understanding of that term was the same. He
5 used the word -- the phrase at one point "duration of
6 signal", and then he also used the word "duration" and
7 described that as how much time the signal is emitted.

8 What was your understanding of the term
9 "duration"?

10 DR. MAISCH: A: Well, the duration of exposure -- from
11 my understanding, the duration of exposure will be
12 amount of the time the signal was actually being
13 emitted.

14 MR. AARON: Q: And is that distinct from exposure
15 pattern in terms of cumulative exposure, if it's one
16 day or five day or ten day or are they two different
17 concepts?

18 **Proceeding Time 5:08 p.m. T75**

19 DR. MAISCH: A: Well, yes. And that's different than
20 the exposure to the -- you know, different than --
21 sorry, just lost my train of thought there. It's a
22 different factor than duration of human exposure.
23 Like for instance if someone is quite close to a smart
24 meter for an amount of time, that's a different sort
25 of duration. Human duration. Whereas you've got
26 duration of the actual signal being emitted.

1 MR. AARON: Q: All right. So, I just want to -- I
2 think that's an important clarification of the
3 evidence. So you're saying there is two different
4 things. One is the duration of the signal and the
5 other is how long one is exposed to the emissions.
6 DR. MAISCH: A: Yes, yes. Cumulative exposure.
7 MR. AARON: Q: All right. And my friend did not list
8 the latter factor, did he, in going over those factors
9 of measuring risk, did he?
10 DR. MAISCH: A: I don't believe that was mentioned.
11 MR. AARON: Q: No, he overlooked that, didn't he?
12 That will be it, thank you. There may be
13 further questions arising, so just hang tight, Dr.
14 Maisch. And thank you.
15 DR. MAISCH: A: Okay, thank you.
16 THE CHAIRPERSON: No, I don't believe there are further
17 questions.
18 MR. AARON: Q: All right, well, then, I bid you
19 farewell and thank you very much for joining us. And
20 enjoy your breakfast.
21 THE CHAIRPERSON: I'd like to thank you as well, Dr.
22 Maisch, for your participation today. This is an
23 important hearing for the customers of Fortis in the
24 service area, and we do appreciate you participating.
25 Thank you very much, and enjoy the day.
26 THE WITNESS: Okay, thank you.

1 (WITNESS ASIDE)

2 THE CHAIRPERSON: So that draws this period of cross-
3 examination to a close. And I think with the
4 exception of a couple of brief housekeeping items,
5 we'll draw the day to a close. Mr. Fulton?

6 MR. FULTON: Yes. I have circulated an order of cross-
7 examination for Dr. Blank for tomorrow morning. And
8 I'll provide the Commission Panel with copies of that
9 order of cross-examination now, so we can save some
10 time in the morning, bearing the early hour that we
11 are starting.

12 THE CHAIRPERSON: Thank you.

13 MR. FULTON: And that is all that I have at this point,
14 Mr. Chairman.

15 THE CHAIRPERSON: Thank you. In terms of the early hour
16 that we're starting at tomorrow, we talked about
17 beginning at eight o'clock. It's taken us just over
18 four hours to deal with this cross-examination, and so
19 I think a four-hour window is a reasonable estimate
20 for tomorrow. And so I think it's important we start
21 promptly at eight o'clock, and so I would ask that we
22 convene at five minutes to eight. And perhaps, Mr.
23 Aaron, we can synchronize our watches.

24 MR. AARON: Well, I have 5:11 right now.

25 THE CHAIRPERSON: Okay, I have 5:12, sir, so we've very
26 close. And so we will reconvene at five minutes to

1 eight tomorrow morning, and continue from there.

2 Thank you very much.

3 **(PROCEEDINGS ADJOURNED AT 5:11 P.M.)**

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