

**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 15, 2013**

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**PROCEEDINGS**

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**BEFORE:**

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

**VOLUME 11**

## 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 15, 2013**

**(PROCEEDINGS RESUMED AT 7:56 A.M.)**

THE CHAIRPERSON: Please be seated.

Good morning, Mr. Fulton.

MR. FULTON: Good morning, Mr. Chairman. This morning, our schedule is for the cross-examination of Dr. Carpenter, and when we recessed yesterday afternoon, I said that I anticipated that that was the only business for today. This morning, I received a reconsideration application in from Mr. Bennett, and I'm not sure that any of my friends have seen that yet. I have asked the Hearing Officer to copy it, but I propose that we deal with that after we finish with Dr. Carpenter.

THE CHAIRPERSON: Thank you.

Good morning, Dr. Carpenter. I'm Len Kelsey, I'm the Chair of the Panel, and what we intend to do first thing this morning is just to introduce several of the key players here in the hearing, and let you have an opportunity to meet them and then we'll move into the cross-examination.

Firstly, welcome. This hearing is being held in Kelowna, British Columbia. And I am Len Kelsey. I am Chair of the Panel from the B.C.

1 Utilities Commission hearing this matter. On my left  
2 is Commissioner David Morton.

3 COMMISSIONER MORTON: Good morning.

4 THE CHAIRPERSON: And on my right, Commissioner Norman  
5 MacMurchy.

6 COMMISSIONER MacMURCHY: Good morning.

7 THE WITNESS: Good morning.

8 THE CHAIRPERSON: I'd also like to introduce Gordon  
9 Fulton, Q.C. He's the -- Gordon is the counsel for  
10 the Commission. And the other -- beside him is Mr.  
11 Aaron, who you presumably have met. And the other  
12 individuals who will be participating today will  
13 introduce themselves as they appear to cross-examine  
14 you.

15 Actually, that's -- that perhaps wasn't the  
16 best term to use. When they appear to cross-examine  
17 you -- when they appear and cross-examine you.

18 So with that, I'll ask Mr. Bemister, the  
19 Hearing Officer, to first swear you in and then I'll  
20 turn things to Mr. Aaron.

21 THE HEARING OFFICER: Could you state your full name for  
22 the record, please?

23 THE WITNESS: David Orville Carpenter.

24 **CITIZENS FOR SAFE TECHNOLOGY PANEL 5**

25 **DAVID ORVILLE CARPENTER, Affirmed:**

26 THE CHAIRPERSON: Mr. Aaron?

1 MR. AARON: Thank you, Mr. Chair.

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

3 MR. AARON: Q: Good morning.

4 DR. CARPENTER: A: Good morning.

5 MR. AARON: Q: Good morning, Dr. Carpenter. Dr.  
6 Carpenter, we are advised to be careful not to overlap  
7 and to try to speak in turn so as to preserve the  
8 clarity of communication.

9 **Proceeding Time 8:00 a.m. T2**

10 DR. CARPENTER: A: I understand.

11 MR. AARON: Q: Thanks very much. I'm going to take  
12 five minutes or so, five or ten minutes to canvass  
13 with you some of the highlights of your curriculum  
14 vitae so as to present a snapshot of the scope of your  
15 expertise. Thereafter I will turn the microphone over  
16 to lawyers for various other parties who will question  
17 you more extensively in the nature of cross-  
18 examination.

19 DR. CARPENTER: A: Yes, fine.

20 MR. AARON: Q: I'm going to start by referring to the  
21 curriculum vitae that you provided to me and that I  
22 filed in these proceedings. And I also refer to the  
23 first page of your expert report where you detail your  
24 credentials. So you have two degrees from Harvard?

25 DR. CARPENTER: A: That's correct.

26 MR. AARON: Q: Your medical degree from Harvard Medical

1 School, that was 1964. But prior to that you also got  
2 your B.A. from Harvard.

3 DR. CARPENTER: A: That's correct.

4 MR. AARON: Q: Your B.A. was in -- what was that in?

5 DR. CARPENTER: A: Oh, biomedical sciences.

6 MR. AARON: Q: All right. Oh, so was that still a  
7 B.A., not a B.Sc.?

8 DR. CARPENTER: A: It was a B.A., yes.

9 MR. AARON: Q: All right. So the B.A. was 1959. The  
10 M.D., medical degree, 1964. And you describe yourself  
11 as a public health physician.

12 DR. CARPENTER: A: That's correct. I practise public  
13 health. I have actually not practised medicine. I  
14 went directly from medical school into research and  
15 then migrated slowly to public health where I am now.

16 MR. AARON: Q: And can you -- I mean you say in your --  
17 on page 1 of your report that public health is a  
18 profession that's focused on determining the causes of  
19 human disease in the population rather than treating  
20 individuals with diseases as is the responsibility of  
21 practicing physicians. Is that a good description of  
22 the scope of public health?

23 DR. CARPENTER: A: Yes, I think it is a good  
24 description. It's the part of medicine that's  
25 concerned with prevention of disease rather than  
26 treatment of individual patients. So public health is

1 a population based endeavour, but it looks at causes  
2 of diseases and then what one can do about that to  
3 prevent.

4 MR. AARON: Q: And is that on a large scale with  
5 respect --

6 DR. CARPENTER: A: A large scale, yes.

7 MR. AARON: Q: All right. We're just going to pause  
8 for a technical moment. Thanks very much.

9 Continuing. You also describe yourself as  
10 professor.

11 DR. CARPENTER: A: Yes, I am a professor at the  
12 University at Albany.

13 MR. AARON: Q: As well as you're a director of the  
14 Institute for Health and Environment at that  
15 university?

16 DR. CARPENTER: A: That's correct. The Institute is an  
17 interdisciplinary component of the university that  
18 brings together faculty from various departments and  
19 colleges, and also has members that are from other  
20 academic and government institutions.

21 MR. AARON: Q: And at the University of Albany there is  
22 a School of Public Health.

23 **Proceeding Time 8:03 a.m. T03**

24 DR. CARPENTER: A: That's correct.

25 MR. AARON: Q: And within that, you're a professor of  
26 environmental health sciences.

1 DR. CARPENTER: A: That's correct. I was the founding  
2 Dean of the School of Public Health, and remained Dean  
3 for, what, 13 years. And then I stepped down from  
4 that position to become a professor in the Department  
5 of Environmental Health Sciences.

6 MR. AARON: Q: Can you just give us the dates in terms  
7 of when you were the founding Dean, when -- what --

8 DR. CARPENTER: A: The school was founded in 1985. And  
9 I remained the Dean until 1998. During that period of  
10 time I actually remained employed by the New York  
11 State Department of Health. A school is quite unusual  
12 in that it was founded as a partnership between the  
13 University at Albany and the New York State Department  
14 of Health. And it remains a partnership to this day.

15 MR. AARON: Q: And you say in your report that most  
16 recently your research is direct study of the diseases  
17 in humans that result from exposure to a variety of  
18 environmental agents. Correct?

19 DR. CARPENTER: A: That's correct.

20 MR. AARON: Q: And amongst those agents, you include  
21 non-ionizing radiation.

22 DR. CARPENTER: A: Well, my personal research has not  
23 been on non-ionizing radiation. I have done research  
24 on ionizing radiation. My major research interests  
25 have actually been the effects of persistent organic  
26 pollutants and metals on human health. But I've had

1 administrative responsibilities for non-ionizing  
2 radiation and as a result of those administrative  
3 responsibilities have gotten more and more involved in  
4 search articles, review of the literature, and that  
5 sort of thing.

6 MR. AARON: Q: Over the course of what time period?

7 DR. CARPENTER: A: Well, I came to New York in 1980.  
8 And two weeks before I arrived here, there was a  
9 settlement between the New York State Public Service  
10 Commission and the New York State Power Authority, a  
11 state-owned utility, over the question of whether  
12 there were health hazards from the electromagnetic  
13 fields coming from power lines. This was because of a  
14 high-voltage power line bringing Connecticut --  
15 bringing Canadian hydroelectric power into New York  
16 State. And because I had some knowledge of non-  
17 ionizing radiation by virtue of the fact that I  
18 previously had worked for the Armed Forces Radio  
19 Biology Research Institute in Bethesda, Maryland,  
20 which was again primarily ionizing radiation, but  
21 there was some non-ionizing research there that I was  
22 not personally involved in, but I was the new guy on  
23 the block, I had more knowledge than anybody else, so  
24 I was given the responsibility of administration of  
25 that program, which then went from 1980 to 1987.

26

**Proceeding Time 8:07 a.m. T10**

1                   After that program was completed I became  
2                   the spokesperson for non-ionizing radiation effects in  
3                   New York State for the period of time that I was  
4                   employed by the New York State Department of Health up  
5                   to 1998.

6 MR. AARON:    Q:    And you have over 350 major publications  
7                   in peer-reviewed scientific journals, correct?

8 DR. CARPENTER:  A:    That is correct.

9 MR. AARON:    Q:    And they are listed in your CV over  
10                  several pages, correct?

11 DR. CARPENTER:  A:    Correct.

12 MR. AARON:    Q:    And you've edited five books, correct?

13 DR. CARPENTER:  A:    Correct.

14 MR. AARON:    Q:    All right.

15 DR. CARPENTER:  A:    Actually I think it's six by now.  I  
16                  have a new one that's just coming out.

17 MR. AARON:    Q:    All right, well, I have a copy of your  
18                  CV that dates back to January so it's a little bit old  
19                  by now.  And you did some work on the health effects  
20                  of microwaves while -- oh no, sorry, you said you  
21                  became acquainted with the Department of Defence  
22                  studies on the health effects of microwaves.

23 DR. CARPENTER:  A:    That's correct.  I was working at  
24                  the Armed Forces Radio Biology Research Institute  
25                  which was adjacent to the Naval Medical Research  
26                  Institute, and during the period of the 1980s the

1           Defence Department of the U.S. was quite concerned  
2           about whether microwaves had adverse human health  
3           effect. While I wasn't personally involved in those  
4           studies, I attended a number of conferences and  
5           meetings with the individuals that were doing that  
6           research.

7 MR. AARON:   Q:   All right. And you were under the  
8           supervision of a nine panel -- nine panel selected on  
9           the subject of whether or not there were adverse  
10          effects from exposure to magnetic fields from power  
11          lines, and one of the reports -- well, we won't go  
12          into the content of the report now. But that's  
13          correct, you were under supervision of such a panel?

14 DR. CARPENTER:   A:   Well, I was responsible for  
15          appointing that panel, a process where we wanted to  
16          get individuals that had no conflicts of interest on  
17          either side whether or not there were adverse effects  
18          of power line fields, and to get individuals with a  
19          broad range of areas of expertise. So we had a  
20          epidemiologist, a statistician, several engineers, a  
21          neurobiologist and that sort of thing.

22                    The plan was to have the conduction of this  
23                    \$5 million research program administered by the New  
24                    York State Department of Health but not under their  
25                    control. And so, yes, I was responsible for working  
26                    with this committee but I also basically appointed the

1 committee, reviewed and accepted by both the State  
2 Power Authority and the State Public Service  
3 Commission as individuals with expertise who did not  
4 have conflicts of interest.

5 MR. AARON: Q: And you became a spokesperson on EMF  
6 issues for the State of New York during your time when  
7 you were employed by the Department of Health?

8 **Proceeding Time 8:10 a.m. T05**

9 DR. CARPENTER: A: That is correct.

10 MR. AARON: Q: And what work did that entail?

11 DR. CARPENTER: A: Well, it was a matter of speaking  
12 with the press, speaking with the public. Preparing  
13 question and answer sheets for the Department of  
14 Health in conjunction with our public affairs office.  
15 It was -- it involved some presentations to the state  
16 legislature, when questions arose about the safety of  
17 electromagnetic fields.

18 MR. AARON: Q: All right. Your role, you say, has been  
19 to provide an external and independent review of the  
20 state of science on the issue of human effects of  
21 electromagnetic fields. That's what you say. In what  
22 context have you exercised that role?

23 DR. CARPENTER: A: Well, it's always been by  
24 invitation, because I must say this is not something  
25 that has been my major research interest. But I've  
26 been invited to serve on numerous committees. I've

1 testified before the U.S. House of Representatives.  
2 I've testified to the President's cancer panel. I  
3 believe that was three years ago. I was asked to be a  
4 co-editor of a two-volume book on electromagnetic  
5 fields, invited by the publisher. And I was also  
6 invited to present to the President's cancer panel, as  
7 I mentioned a moment ago.

8 MR. AARON: Q: All right. Your testimony before the  
9 House of Representatives, that was on the health  
10 effects of electromagnetic fields, or radio frequency  
11 emissions?

12 DR. CARPENTER: A: Yes, it was. It was on health  
13 effects of electromagnetic fields in general.

14 MR. AARON: Q: All right.

15 DR. CARPENTER: A: That was both the power line and  
16 radio frequency fields.

17 MR. AARON: Q: Okay. You've edited a two-volume book  
18 called *Biologic Effects of Electro* -- sorry. *Biologic*  
19 *Effects of Electric and Magnetic Fields*. Is that  
20 correct?

21 DR. CARPENTER: A: That is correct.

22 MR. AARON: Q: And what's that book about?

23 DR. CARPENTER: A: Well, I was the editor. I  
24 contributed to two chapters, the introductory chapter  
25 on exposure and the concluding public health chapter.  
26 I invited experts in the field to talk about -- the

1 book had only two chapters, actually, on radio  
2 frequency fields. It was primarily on electric and  
3 magnetic fields from electricity. But it had chapters  
4 on effects on growth and development, on bone,  
5 certainly on the epidemiology of cancer in relation to  
6 these exposures. The chapters on radio frequency  
7 fields, one was on sources of exposure, the other was  
8 on health effects. The books, I think, were published  
9 in, what, 1994. So, some time ago.

10 MR. AARON: Q: All right. And you're a co-editor, and  
11 also a contributing author, of the Bioinitiative  
12 report, correct?

13 DR. CARPENTER: A: That is correct.

14 MR. AARON: Q: You were involved with the 2007  
15 publication?

16 DR. CARPENTER: A: Yes.

17 MR. AARON: Q: In that capacity?

18 DR. CARPENTER: A: Yes.

19 MR. AARON: Q: And also similarly were you involved in  
20 that capacity with the 2012 update?

21 DR. CARPENTER: A: That is correct.

22 MR. AARON: Q: All right.

23 *The Journal of Local and Global Health*  
24 *Sciences*, is that a scientific journal?

25 DR. CARPENTER: A: Yes, it is. It's a brand-new  
26 journal, the first issue has not yet appeared.

1 MR. AARON: Q: All right. And what's your role with  
2 that?

3 DR. CARPENTER: A: I am an editor in chief -- a co-  
4 editor in chief of that journal.

5 **Proceeding Time 8:15 a.m. T6**

6 MR. AARON: Q: Q: All right. And the *Cellular and*  
7 *Molecular Neurobiology*, is that another scientific  
8 journal?

9 DR. CARPENTER: A: That's another scientific journal.  
10 I was the founding editor of that journal, which  
11 began, I don't know, a long time ago. I resigned the  
12 position as editor in chief, again probably I think  
13 before I left Washington to come to Albany, and I now  
14 have the role as senior editorial adviser for that  
15 journal.

16 MR. AARON: Q: It was 1987 when it started, wasn't it?

17 DR. CARPENTER: A: That's right. That sounds right.

18 MR. AARON: Q: All right, and the *Journal of Public*  
19 *Health Management and Practice*, your involvement with  
20 that?

21 DR. CARPENTER: A: I was a member of the editorial  
22 board of that journal. I'm no longer on that  
23 editorial board, but that's a mainstream public health  
24 journal. It's not specific to environmental health.  
25 But I worked with that journal for some time.

26 MR. AARON: Q: And along the same lines as our

1 discussion with respect to those journals, I'll just  
2 list some others, if you can just confirm your  
3 involvement on the editorial boards of them. *Reviews*  
4 *in Environmental Health.*

5 DR. CARPENTER: A: Yes, I've just become the editor in  
6 chief of that journal.

7 MR. AARON: Q: *International Archives of Occupational*  
8 *and Environmental Health.*

9 DR. CARPENTER: A: I'm a member of the editorial board  
10 of that journal.

11 MR. AARON: Q: *Journal of Environmental and Public*  
12 *Health.*

13 DR. CARPENTER: A: I'm a member of the editorial board.  
14 MR. AARON: Q: And *Environmental Health Perspectives.*

15 DR. CARPENTER: A: A member of the editorial board.  
16 MR. AARON: Q: And *Global Health Perspective.*

17 DR. CARPENTER: A: That's the journal that I'm editor  
18 in chief of.

19 MR. AARON: Q: Okay. And as far back as 1985 you were  
20 on a committee. Is that an American national  
21 committee, number 79?

22 DR. CARPENTER: A: That's a committee of the NCRP,  
23 National Council on Radiation Protection. It was an  
24 unfortunate committee in the sense that it never  
25 issued a final report because the chair of the  
26 committee, who was Professor Ross Aidie from Loma

1 Linda, California died before he completed the report.  
2 But it was a committee designed to explore the health  
3 effects of non-ionizing radiation.

4 MR. AARON: Q: Is the full name of it National Council  
5 on Radiation Protection and Measurements?

6 DR. CARPENTER: A: That's correct.

7 MR. AARON: Q: All right. And that was as far back as  
8 1985 you were involved with that?

9 DR. CARPENTER: A: That's correct.

10 MR. AARON: Q: All right. You were also from 2003 to  
11 2008 a member of the U.S. Environmental Protection  
12 Agency Children's Health Protection Advisory  
13 Committee?

14 DR. CARPENTER: A: That is correct.

15 MR. AARON: Q: All right, and are you currently the  
16 chair of the advisory committee to the World Health  
17 Organization and National Institute of Environmental  
18 Health Sciences on Collaborative --

19 DR. CARPENTER: A: Yes, although that committee has  
20 been inactive in the last year. The National  
21 Institute of Environmental Health Sciences has  
22 provided funds to the World Health Organization for a  
23 number of years, and this advisory, it's an  
24 international advisory committee, had the  
25 responsibility of providing both the NIHS and the WHO  
26 advice on which were priority areas for funding.

1 MR. AARON: Q: All right. And from 1991 to 1992 you  
2 were a member of the Connecticut Academy of Sciences  
3 and Engineering's Committee on Electromagnetic Field  
4 Health Effects.

5 DR. CARPENTER: A: That's correct, primarily focused on  
6 power line fields.

7 MR. AARON: Q: All right. Back in 1964 you did a  
8 thesis for your medical degree at Harvard called  
9 "Electrophysiological Observations on the Importance  
10 of Neuron Size in Determining Responses to Excitation  
11 and Inhibition in Motor and Sensory Systems", correct?

12 DR. CARPENTER: A: Correct.

13 MR. AARON: Q: So from my late perspective, this looks  
14 like your interest or your study or research into  
15 biology and electricity and the relationship between  
16 the two dates back to 1964.

17 **Proceeding Time 8:20 a.m. T07**

18 DR. CARPENTER: A: Well, yes. I've -- actually it  
19 dates back before that, because when I was an  
20 undergraduate at Harvard College, I did an honours  
21 thesis that entailed studying electrical activity in  
22 the eyes of salamanders. So my early career was  
23 primarily electrophysiology. Studying the electricity  
24 of the brain in various animals, and I actually have  
25 continued that until just the last few years when I  
26 have closed my electrophysiology laboratory. That's

1           been progressively less and less of a percentage of  
2           the time I spend, but I still write and publish on  
3           electrical activity in the brain.

4 MR. AARON:   Q:   And you were awarded an award in 1999  
5           from the American Public Health Association for your  
6           studies in environmental health?

7 DR. CARPENTER:   A:   That is correct, yes.

8 MR. AARON:   Q:   As well as another award in 2010, in  
9           recognition of outstanding contribution to public  
10          health and the prevention of disease through lifelong  
11          research of environmental health hazards. And that  
12          was awarded by the Medical Society of the State of New  
13          York?

14 DR. CARPENTER:   A:   That is correct.

15 MR. AARON:   Q:   All right.

16 DR. CARPENTER:   A:   And I'm a member of that medical  
17          society, and on their preventive medicine committee  
18          for continuing education of physicians. Many of the  
19          physicians don't know very much about environmental  
20          health and so that is part of my responsibilities  
21          there.

22 MR. AARON:   Q:   And you're the recipient of a grant in  
23          excess of 2 million from the National Institute of  
24          Environmental Health Sciences, with respect to  
25          protecting the health of future generations and  
26          assessing and preventing exposures. Correct?

1 DR. CARPENTER: A: Correct.

2 MR. AARON: Q: Or is that -- that's actually  
3 \$2,354,000. That's U.S. dollars?

4 DR. CARPENTER: A: That's U.S. dollars. There are  
5 several of us in that grant. It's primarily a study  
6 of an Alaskan native population and effects on their  
7 health from environmental exposures.

8 MR. AARON: Q: All right. And several grants you've  
9 received. One for to investigate Gulf War Illness,  
10 \$636,000, correct?

11 DR. CARPENTER: A: That is correct. And that's of  
12 interest because the symptoms of Gulf War Illness are  
13 very similar to what's become known as electrical  
14 hypersensitivity.

15 MR. AARON: Q: And another -- I'm just selecting,  
16 cherry-picking here amongst the various grants you've  
17 received. \$850,000, and that -- in 2001 for an  
18 international training program in environmental and  
19 occupational health.

20 DR. CARPENTER: A: That's correct. That was primarily  
21 focused on training of people from former Soviet  
22 countries in environmental health.

23 MR. AARON: Q: And there was a big one back in 1990  
24 over -- almost 6 million for the National Institute of  
25 Environmental Health Sciences. That was a research  
26 program, multi-disciplinary studies of PCBs at waste

1 sites.

2 DR. CARPENTER: A: Yes. This was a study of the Mohawk  
3 nation at Akwesasne, the Ontario/Quebec/New York  
4 border along the St. Lawrence River. Those people,  
5 traditional fish-eating people, the fish were  
6 contaminated with PCBs from three aluminum foundry  
7 plants and I continue to this day to study the health  
8 effects of those exposures in those people.

9 MR. AARON: Q: Well, your CV is 27 pages and there is a  
10 lot more interesting stuff in there. Is there  
11 anything -- any glaring feature of expertise that I've  
12 left out, before I --

13 DR. CARPENTER: A: No, and I think you found some that  
14 I'd almost forgotten about.

15 MR. AARON: Q: All right. That makes me an expert on  
16 your expertise. So, let's see. You authored a report  
17 in these proceedings at my request dated January 24<sup>th</sup>,  
18 2013, correct?

19 **Proceeding Time 8:25 a.m. T8**

20 DR. CARPENTER: A: That is correct.

21 MR. AARON: Q: And with that report you included not  
22 only your CV but a paper that you authored with Cindy  
23 Sage, correct?

24 DR. CARPENTER: A: That is correct.

25 MR. AARON: Q: And would you be prepared to adopt as  
26 part of your evidence in these proceedings both that

1 report of January 24<sup>th</sup>, 2013, the contents of it, as  
2 well as the contents of the paper you authored with  
3 Cindy Sage?

4 DR. CARPENTER: A: Yes, I would.

5 MR. AARON: Q: And would you similarly be prepared to  
6 adopt as part of your testimony in evidence in these  
7 proceedings the various answers that you authored in  
8 response to information requests put to you by counsel  
9 for participating parties?

10 DR. CARPENTER: A: Yes, I would.

11 MR. AARON: Q: I should have said, "Did you author  
12 them?"

13 DR. CARPENTER: A: I did author them.

14 MR. AARON: Q: All right, and now you adopt them.

15 DR. CARPENTER: A: And now they can be accepted.

16 MR. AARON: Q: All right. Thank you, Dr. Carpenter.  
17 I'm finished asking you questions. I'll just briefly  
18 address the Panel.

19 I propose that Dr. Carpenter be qualified  
20 as an expert as a public health specialist with  
21 expertise in electrophysiology, low frequency  
22 electromagnetic field bioeffects, and radio frequency  
23 and microwave radiation bio-effects, to quote the  
24 language from my letter to him of December 16, 2012.

25 THE CHAIRPERSON: Thank you. Mr. Macintosh?

26 MR. MACINTOSH: Mr. Chair, I will be taking no position

1           asserting Dr. Carpenter to be unqualified. So let me  
2           restate that more clearly. I will be accepting Dr.  
3           Carpenter's credentials to be able to give the  
4           evidence he's giving.

5 THE CHAIRPERSON: Thank you. Any other comment at all?

6                       Hearing none the Panel then will accept Mr.  
7           Carpenter on the basis that you've described, Mr.  
8           Aaron.

9                       Mr. Fulton?

10 MR. FULTON: Thank you, Mr. Chairman. British Columbia  
11           Sustainable Energy Association and Sierra Club of  
12           British Columbia.

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

14 MR. ANDREWS: Q: Good morning, Dr. Carpenter. My name  
15           is Bill Andrews. I represent the B.C. Sustainable  
16           Energy Association and the Sierra Club of British  
17           Columbia. I'm going to be referring primarily to two  
18           documents that I'd like you to confirm that you have  
19           handy. One is what I'll refer to as your report,  
20           being the report that you prepared for Mr. Aaron, and  
21           for the records, it is Exhibit C9-8-2C. Do you have  
22           that handy?

23 DR. CARPENTER: A: I have that in front of me.

24 MR. ANDREWS: Q: Yes. And then your responses to  
25           information requests from BCSEA and the Sierra Club,  
26           which is Exhibit C9-12-3 in this proceeding.

1 DR. CARPENTER: A: I believe this is what I have. It's  
2 responses to the questions that were posed to me, is  
3 that correct?

4 MR. ANDREWS: Q: That's correct.

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

6 MR. ANDREWS: Q: Which we abbreviate information  
7 requests as IRs and these will often be referred to as  
8 BCSEA IR No. such and such.

9 DR. CARPENTER: A: Right, I have it.

10 MR. ANDREWS: Q: Now, I'm going to start at a very high  
11 level here. On page 2 of your report in the third  
12 paragraph you say:

13 "The study of the human health effects of  
14 electromagnetic fields has never been my  
15 personal research but rather my role has,  
16 and continues to be, to provide an external  
17 and independent review of the state of the  
18 science on this issue. The fact that it is  
19 not my personal research, in my judgment,  
20 increases my credibility in that I do not  
21 have a personal axe to grind but can  
22 approach the issue from the public health  
23 point of view but as one experienced in  
24 research in toxicology and epidemiology."

25 And I would suggest that -- and we've heard  
26 evidence from Dr. Blank, who I presume you're quite

1 familiar with, is that correct?

2

3

**Proceeding Time 8:30 a.m. T09**

4 DR. CARPENTER: A: Yes.

5 MR. ANDREWS: Q: One of the points he emphasized was  
6 that he believed that the greatest weight should be  
7 given to the opinions of the scientists who do the  
8 primary research in a particular field. Does that  
9 accord with your sense of Dr. Blank's perspective?

10 DR. CARPENTER: A: Well, I have the highest regard for  
11 Dr. Blank. I think my perspective is broader than  
12 his, simply because he primarily is a biophysicist. I  
13 have some experience in biophysics. He's not really  
14 the public health professional that I am. I don't  
15 really mean to say that my lack of having some  
16 personal research makes me more qualified. I think it  
17 gives me a somewhat different perspective in the sense  
18 that I'm not defending my own laboratory studies. But  
19 I think Dr. Blank has a very broad approach to the  
20 issue as well.

21 MR. ANDREWS: Q: Thank you. And to -- in a sense, I  
22 guess, I would ask you to comment on whether in the  
23 end these are, at this level, matters of professional  
24 judgment to which each individual brings his or her  
25 own strengths and potentially weaknesses.

26 DR. CARPENTER: A: Oh, absolutely. I think that's

1 always the case in every question like this.

2 MR. ANDREWS: Q: Now, first I'd like to just address  
3 what I believe is probably a typographical error in  
4 your report. This is on page 4, and I did notify  
5 counsel for CSTS of this point. The pages aren't  
6 numbered, but it's what would be paragraph 4, the  
7 second from the bottom paragraph. Those who are  
8 looking for it, it's the paragraph that begins a  
9 discussion of a study by Myung, M-Y-U-N-G.

10 DR. CARPENTER: A: Yes. Yes, that is a typographical  
11 error. That should be 1.18.

12 MR. ANDREWS: Q: So just for those -- just to confirm  
13 for the record where it says "Risk of developing brain  
14 cancer was OR equals", it should say "OR equals 1.18  
15 (1.4-1.34)". Just for the record, you'll have to say  
16 yes.

17 DR. CARPENTER: A: Yes.

18 MR. ANDREWS: Q: The nod doesn't come through. Thank  
19 you. All right.

20 Turning now to your responses to the BCSEA  
21 IRs, IR 8.1 -- and I'm just going to, for the sake of  
22 simplicity, repeat it in your -- and your answer and  
23 ask for your confirmation or explanation. The  
24 question that you were put in by Mr. Aaron is,  
25 "What is the state of specific research as  
26 to whether advanced meters transmitting by

1 radio frequencies as proposed by Fortis may  
2 constitute a risk of serious or irreversible  
3 damage to health."

4 Thank you, Mr. Aaron. I mis-spoke, that --  
5 "What is the state of scientific research as  
6 to whether advanced meters transmitting by  
7 radio frequencies (as proposed by Fortis)  
8 may constitute a risk of serious or  
9 irreversible damage to health."

10 And then IR 8.1 is,

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

16 And your answer is, "This is correct."

17 DR. CARPENTER: A: That is correct, yes.

18 MR. ANDREWS: Q: Yes. And then the next IR, 8.2,  
19 expands, saying

20 "Please confirm that Dr. Carpenter then  
21 addresses information regarding potential  
22 health effects of exposure to 'other but  
23 similar sources of radio frequency  
24 radiation', such as cell phone usage, and  
25 base stations."

26 And the answer is, "This is correct."

1 DR. CARPENTER: A: Yes, I affirm that.

2 **Proceeding Time 8:35 a.m. T10**

3 MR. ANDREWS: Q: And then 8.3 -- I'm not I'm not going  
4 to do this for all of these questions, believe me, but  
5 just because this is probably the fastest way to get  
6 this preamble.

7 "8.3 Please confirm that in his response to  
8 question 1, Dr. Carpenter makes no mention  
9 of smart meter RF emission levels or  
10 associated exposure levels, either generally  
11 or concerning the FBC AMI project.

12 Answer: This is correct."

13 DR. CARPENTER: A: I affirm that.

14 MR. ANDREWS: Q: Now, turning to IR 10.1, here there is  
15 some confusion that may be due to page layout  
16 problems. The IR itself begins by quoting the  
17 question that Mr. Aaron put to you, which is:

18 "2. Does the state of scientific research..."

19 And this is the sentence that I -- well, sorry, it's  
20 not the same sentence,

21 "Does the state of scientific research  
22 sufficiently establish that meters  
23 transmitting by radio frequencies such as  
24 the AMI meters proposed by Fortis,  
25 constitute a risk of serious as well as  
26 irreversible damage to health through

1 biological effects other than those  
2 resulting from heat?"

3 And the way the copy that we have reads,  
4 the next words are: "Answer: Yes." But I'm  
5 suggesting that a possible explanation may be that  
6 that's actually words out of place and that what it  
7 should be is that following that quote of the question  
8 that was put to you, there is an IR 10.1 from BCSEA  
9 that says:

10 "Please confirm that Dr. Carpenter's  
11 response to this question..."

12 that is, the one put to you by Mr. Aaron,  
13 "...does not address the level of RF emissions  
14 or the amount of EMF exposure associated  
15 with the AMI meters."

16 And I guess I'll put that question to you  
17 now. Is the answer to that "Yes"?

18 DR. CARPENTER: A: I'm sorry, I'm a little confused  
19 about exactly what you're asking me.

20 MR. ANDREWS: Q: There's a kind of a floating phrase  
21 there: "Answer: Yes." And the BCSEA IR 10.1 asks  
22 you to confirm that your response in your report to  
23 Mr. Aaron's question about the state of research  
24 constituting a risk, et cetera. The BCSEA IR was:

25 "Confirm that your response in your report  
26 to Mr. Aaron's question does not address the

1 level of RF emissions or the amount of EMF  
2 exposure associated with the FortisBC AMI  
3 meters."

4 DR. CARPENTER: A: Yes, my answer of "Yes" was meant to  
5 indicate that radio frequency exposure does cause  
6 significant adverse health effects that are not  
7 mediated by heat. But it was not meant to address the  
8 specific level of exposure from the AMI meters.

9 MR. ANDREWS: Q: Thank you, I think that perfectly  
10 clarifies that point.

11 And then in BCSEA IR 10.5 the IR states:

12 "Dr. Carpenter then..."

13 that is, in his report,

14 "...discusses biological effects of cell phone  
15 usage. Please confirm that this discussion  
16 does not mention smart..."

17 and it should say "meter",

18 "...RF exposure or compare the emissions and  
19 exposure levels of cell phones with those of  
20 smart meters."

21 And the answer provided is:

22 "This is correct, but the cell phone health  
23 effects are directly relevant."

24 Do you confirm that?

25 DR. CARPENTER: A: Yes, I do.

26 MR. ANDREWS: Q: And in your report itself at page 12--

1 DR. CARPENTER: A: I'm going to have some trouble  
2 following because I printed this report out on regular  
3 size paper and not legal paper, so you'll have to give  
4 me sort of --

5 MR. ANDREWS: Q: Well, I haven't used legal size paper  
6 since the very early days of my career and that was  
7 before photocopiers, I think. The question begins, if  
8 there were page numbers, it would be --

9 **Proceeding Time 8:40 a.m. T11**

10 DR. CARPENTER: A: There are question numbers.

11 MR. ANDREWS: Q: And question number 2, "Does the state  
12 of scientific research fully establish" --

13 DR. CARPENTER: A: Yes.

14 MR. ANDREWS: Q: And then answer that begins, "Everyone  
15 agrees ...".

16 DR. CARPENTER: A: I've found that.

17 MR. ANDREWS: Q: Yeah, and then the next paragraph  
18 begins "The following studies ...".

19 DR. CARPENTER: A: Yes.

20 MR. ANDREWS: Q: And there is a list of studies with  
21 various descriptions, starting with A, Augner, B,  
22 Havas, and --

23 DR. CARPENTER: A: Yes, I have it.

24 MR. ANDREWS: Q: -- and so on. So, my question is,  
25 whether you can confirm that all of these studies are  
26 based on looking for a dose response relationship.

1           They're expecting either to find or to confirm that  
2           they are unable to find a dose response relationship  
3           between RF exposure at the non-thermal level and  
4           whatever particular end point it is that is the  
5           subject of the study.

6 DR. CARPENTER:   A:   No, I don't think I could say that  
7           all of them are looking for a dose response curve.  
8           They may have wanted to find one, but I believe only  
9           the first one specifically says that they find a dose  
10          response curve.

11                       Most of them are simply looking to see  
12          effect/no effect. So there is a limitation in dose  
13          response curves in some of these studies.

14 MR. ANDREWS:    Q:   Just to confirm, because of the audio,  
15          you're saying dose response curve, C-U-R-V-E?

16 DR. CARPENTER:   A:   Well, a dose response relationship  
17          would be a better way of saying it, yes.

18 MR. ANDREWS:    Q:   And so if we can broaden the concept,  
19          would you agree that all of these studies are  
20          investigating either the concept that there is a dose  
21          response relationship or there is a dose and either  
22          effect or no effect relationship.

23 DR. CARPENTER:   A:   Yes. Either/or.

24 MR. ANDREWS:    Q:   Yes. And so at these levels of radio  
25          frequency exposures, it's assumed or sort of part of  
26          the understanding that less exposure is expected to be

1           -- result in less health related end points, then more  
2           exposure. I don't want to say better or worse, but  
3           because that's judgmental, but less exposure is in a  
4           sense better than more exposure.

5 DR. CARPENTER:   A:   Well, yes. And for example, the --  
6           under number E, the Esklander, this is looking at  
7           mobile phone users versus people that don't use mobile  
8           phones. So, you don't get intensity of exposure  
9           information, you only get a yes or no monitor of  
10          exposure.

11 MR. ANDREWS:    Q:   Thank you. Now, in terms of the  
12          actual AMI meters that Fortis is proposing to install,  
13          we heard evidence from Dr. Shkolnikov regarding the  
14          exposure levels. You haven't addressed them in your  
15          paper. Do you have any scientific basis for  
16          contesting Dr. Shkolnikov's evidence that exposure  
17          levels from the Itron meters in question would meet  
18          not only the Safety Code 6 standard, and the similar  
19          IEEE or ICNIRP standards, but also standards that are  
20          an order of magnitude more stringent in Russia and  
21          China, and even the Bioinitiative report, 2007,  
22          proposed standard. Do you have any basis to disagree  
23          with that, in terms of the exposure levels.

24 DR. CARPENTER:   A:   Well -- well, obviously my expertise  
25          is not in the area of exposure levels, so I'm -- I  
26          depend on others' reports on that. The information I



1 Columbia, Mr. Weafer.

2 MR. WEAVER: Thank you, Mr. Fulton.

3 **CROSS-EXAMINATION BY MR. WEAVER:**

4 MR. WEAVER: Q: Good morning, Dr. Carpenter. My name  
5 is Chris Weafer and I'm counsel to two of the  
6 interveners in this proceeding, the British Columbia  
7 Municipal Electrical Utilities, which are five  
8 municipal electric utilities operating within the  
9 Fortis service territory and take service from Fortis,  
10 and I represent the Commercial Energy Consumers  
11 Association of British Columbia which has  
12 traditionally represented commercial customer  
13 interests before the British Columbia Utilities  
14 Commission.

15 DR. CARPENTER: A: Good morning.

16 MR. WEAVER: Q: Good morning. I have a few fairly  
17 targeted questions which, if you've been following the  
18 proceedings, you'll likely know what they'll be, and  
19 I'm looking for a fairly direct answer to them, sir,  
20 just to make sure the record is clear. And the  
21 appendix I'm going to refer you to at the start is  
22 Exhibit B-1, Appendix B-6, and that's Health Canada  
23 Safety Code 6 (2009).

24 DR. CARPENTER: A: That is this document you're talking  
25 about?

26 MR. WEAVER: Q: Yes, the document is Exhibit B-1,

1 Appendix B-6.

2 DR. CARPENTER: A: Yes, I have it.

3 MR. WEAVER: Q: Thank you, sir, and are you aware of  
4 Health Canada Safety Code 6 limits of human exposure  
5 to radio frequency electromagnetic energy in the  
6 frequency range from 3 kilohertz to 300 gigahertz?

7 DR. CARPENTER: A: Yes, I am.

8 MR. WEAVER: Q: And are you aware that Safety Code 6 is  
9 prepared by the Consumer and Clinical Radiation  
10 Protection Bureau of Health Canada?

11 DR. CARPENTER: A: Yes, I am.

12 MR. WEAVER: Q: And to your knowledge does Safety Code  
13 6 specify the requirements for the safe use of or  
14 exposure to radiation emitting devices in a frequency  
15 range from 3 kilohertz to 300 gigahertz?

16 DR. CARPENTER: A: Yes, as advised by Health Canada.

17 MR. WEAVER: Q: And does your report say anything --  
18 sorry, does your report say anywhere that the advanced  
19 meters and related equipment FortisBC is proposing to  
20 install and operate will not comply with Health Canada  
21 Safety Code 6 exposure limits?

22 DR. CARPENTER: A: No, it does not.

23 MR. WEAVER: Q: Thank you, sir. And would you agree  
24 with me that Health Canada's mandate is, and I quote:  
25 "To help Canadians maintain and improve their health,"  
26 and that's set out at page 4 of 30 of the document

1 I've referred you to?

2 DR. CARPENTER: A: Yes, I agree with that.

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

4 If I could turn you firstly to your  
5 response to the IRs that the Commercial Energy  
6 Consumers put to you, and that's Exhibit C9-14-1.

7 DR. CARPENTER: A: I'm sorry.

8 MR. WEAVER: Q: I will try speaking slower. I'm sorry,  
9 C9-14-1 and these are your --

10 DR. CARPENTER: A: I have it, yes.

11 MR. WEAVER: Q: Thank you, sir. And at question 1 we  
12 were querying on text in your report, and you make  
13 reference -- if you have question 1, and if I can just  
14 quote from the middle of the text we've exhibited,  
15 this report was first published in 2007 and it's just  
16 now been updated in 2012:

17 "The Bioinitiative report documents  
18 bioeffects, adverse health effects, and  
19 public health conclusions about impacts of  
20 electromagnetic radiation."

21 And to focus on this public health conclusions  
22 question, we followed up to try and understand that,  
23 because we may have been reading more into it than you  
24 were trying to say.

25 **Proceeding Time 8:50 a.m. T13**

26 And so we asked you a question at 1.5.2:

1            "If not, please clarify the statement in  
2            terms of whose public health conclusions are  
3            documented."

4            And the answer was:

5            "The conclusions represent those of the  
6            authors of the Bioinitiative report, who  
7            constitute the major researchers in the  
8            area."

9            And that's what I'd like to explore with you for a  
10           moment. And being from New York a baseball analogy,  
11           when you say the majors, are you saying these are the  
12           major leaguers or these are the top of the areas  
13           across all scientists? Everybody else is a minor  
14           leaguer and they're the major leaguers? Is that what  
15           --

16 DR. CARPENTER:    A:    I did not mean to imply that. The  
17           authors of the Bioinitiative report, of the individual  
18           chapters, are active researchers in this area. They  
19           certainly do not include every individual that has  
20           made contributions to the study of radio frequency  
21           radiation. They were identified as experts in writing  
22           the chapters. What I meant to say there is that the  
23           published health conclusions reflect -- now, since I  
24           wrote the public health chapters, reflects my and Ms.  
25           Sage's understanding of the aggregate completeness of  
26           the various chapters of the Bioinitiative report.

1 MR. WEAVER: Q: So they are researchers who've worked  
2 in the area but they're not necessarily the best of  
3 the best. You weren't trying to qualify them against  
4 all other researchers or all other scientists. Is  
5 that fair?

6 DR. CARPENTER: A: I was not making a value judgment  
7 there.

8 MR. WEAVER: Q: Thank you.

9 DR. CARPENTER: A: I think they're all good  
10 researchers, but that doesn't mean there aren't other  
11 good researchers.

12 MR. WEAVER: Q: Thank you, fair enough. And you've  
13 mentioned Ms. Sage, Cindy Sage, and we asked you as --  
14 and as you understand your duty in participating in  
15 this is to try and get the evidence before the  
16 Commission that helps them make a decision.

17 DR. CARPENTER: A: Right.

18 MR. WEAVER: Q: And we did ask you -- and Cindy Sage is  
19 your co-editor of the Bioinitiative report, is that  
20 correct?

21 DR. CARPENTER: A: That is correct.

22 MR. WEAVER: Q: And we did ask you at 1.7 to provide  
23 academic credentials for Cindy Sage, and your answer  
24 was:  
25 "Cindy Sage is the co-editor and an author.  
26 You may obtain her credentials from her."

1                                    Sir, do you know her academic credentials?  
2 DR. CARPENTER:    A:    I know that she has only a master's  
3                                    degree in addition to a bachelor's degree. I don't  
4                                    think I've ever seen a CV from her. She has been a  
5                                    very active person in this whole general area of  
6                                    electromagnetic fields for many years. I've  
7                                    interacted with her at scientific conferences. I've  
8                                    perhaps only met her four or five times. But I don't  
9                                    have access to a curriculum vitae for her.  
10 MR. WEAVER:    Q:    Okay, so when you talk about the major  
11                                    researchers and she's the co-editor of this report,  
12                                    her academic credentials, her top academic credentials  
13                                    is her master of arts, is that correct?  
14 DR. CARPENTER:    A:    She is not really a researcher in  
15                                    the sense of -- she certainly hasn't done human  
16                                    studies, she hasn't done animal studies, she hasn't  
17                                    done cellular studies. She has researched things like  
18                                    what are standards, what are other things. She was a  
19                                    major moving force behind the development of the  
20                                    Bioinitiative report. She did a lot of the editing of  
21                                    it. But I would not identify her as a researcher and  
22                                    did not mean to imply that she was a researcher. She  
23                                    -- I am a researcher but not in the general area of  
24                                    electromagnetic fields. So she and I had similar  
25                                    roles there, being somewhat distant from the actual  
26                                    research studies, and our role was the interpretation

1 of their results.

2 MR. WEAFFER: Q: Does she have a chapter in the  
3 Bioinitiative report on breast cancer?

4 DR. CARPENTER: A: I think she does. I don't remember  
5 exactly who the author of that chapter was.

6 **Proceeding Time 8:55 p.m. T14**

7 MR. WEAFFER: Q: Sir, could you turn your -- I'm going  
8 to move from my exhibit of our questions and move you  
9 to Exhibit C17-24, which is a document that Mr. Aaron  
10 should have forwarded to you. And to advise the  
11 Commission, I did -- Dr. Sears had some issues  
12 accessing the footnotes to this report, and for the  
13 record, to access the footnotes to this report, it is  
14 necessary to go to the Texas Public Utilities  
15 Commission web page to the live document, and that  
16 would have been the challenge Dr. Sears had. So I e-  
17 mailed Dr. Aaron yesterday so that Dr. Carpenter would  
18 be aware --

19 DR. CARPENTER: A: If this is the Texas report, I do  
20 have it.

21 MR. WEAFFER: Q: And you're aware that we could -- if  
22 you needed to hyperlink to any of the footnotes in  
23 this document, that can be accessed through the Texas  
24 Public Utilities Commission website. Are you aware of  
25 that?

26 DR. CARPENTER: A: Yes, I've been informed of that.

1 MR. WEAVER: Q: Thank you. Sir, can I turn you to page  
2 38 of that report?

3 DR. CARPENTER: A: Page 13?

4 MR. WEAVER: Q: Thirty-eight, sir, please.

5 DR. CARPENTER: A: Thirty-eight.

6 MR. WEAVER: Q: And we're still dealing with your co-  
7 editor of your Bioinitiative report.

8 DR. CARPENTER: A: Yeah.

9 MR. WEAVER: Q: And here, this report -- you're  
10 familiar with -- in one of the responses to one of our  
11 IRs, we asked if you were aware of any research being  
12 done on AMI health issues. And you understood that  
13 some were in process. Was this one of the reports you  
14 were thinking of that was in process in terms of  
15 health issues that was due to be published? Did you  
16 have this report in mind when you were considering  
17 what was -- sorry?

18 DR. CARPENTER: A: It was that report. You're talking  
19 about the Texas report?

20 MR. WEAVER: Q: Yes. When you answered the IR,  
21 indicating that you understood there were some reports  
22 being done contemporaneously to the IR --

23 DR. CARPENTER: A: Yeah.

24 MR. WEAVER: Q: -- was this one you had in mind that  
25 there was some work being done?

26 DR. CARPENTER: A: This is one of them, yes.

1 MR. WEAVER: Q: Okay, thank you. I just want to direct  
2 you to the EPRI comments on the Sage report. Did you  
3 take the opportunity to read that -- those two  
4 paragraphs?

5 DR. CARPENTER: A: Yes. That is where -- I recall now  
6 I had seen someone suggest that smart meters might  
7 actually exceed the FCC limits. I have no personal  
8 knowledge of that.

9 MR. WEAVER: Q: No, but you do recognize that the EPRI  
10 discredits the reports.

11 DR. CARPENTER: A: Yes.

12 MR. WEAVER: Q: And can you tell this Commission who  
13 the EPRI is, please?

14 DR. CARPENTER: A: It's Electric Power Research  
15 Institute. It's a utility-funded institute based in  
16 California. You know, it does discredit the Sage  
17 report, but it also is an organization that has some  
18 fairly obvious conflict of interest. So, that needs  
19 to be considered in terms of understanding their  
20 comments.

21 MR. WEAVER: Q: Thank you, sir. Actually, the EPRI is  
22 defined on page 30 of that report just for the record.  
23 And described.

24 Sir, I'm going to move along then. If we  
25 could now turn to -- and I may have a couple of, I  
26 think, very simple undertakings flowing from this line

1 of cross-examination. And I'll highlight for the  
2 record, if I give you those undertakings. But where  
3 I'm turning to now, sir, is your evidence, which is  
4 Exhibit C9-8-2C. Sir, do you have convenient to you  
5 the abstracts of the articles that you reference in  
6 this report? Are they easily accessible to you? Do  
7 you have --

8 DR. CARPENTER: A: Well, I have most of them on my  
9 table here.

10 MR. WEAVER: Q: Okay, well, that's helpful.

11 DR. CARPENTER: A: Take a while to find them, but I  
12 piled them all up.

13 MR. WEAVER: Q: Well, you may not need to find them.  
14 What I'll do, and this is part of the challenge of  
15 video cross-examination, and we've tried to  
16 accommodate your travel needs, and -- but we do want  
17 to make sure we get the record in but we get it done  
18 fairly. So, if I could take you to your reference on  
19 -- and your report is not paginated, so I have it as  
20 page 12.

21 DR. CARPENTER: A: Under which number?

22 **Proceeding Time 8:59 a.m. T15**

23 MR. WEAVER: Q: That is 2. And you have references  
24 attached. Do you have handy to you the abstract for  
25 the Volkow report?

26 DR. CARPENTER: A: I'm sorry?

1 MR. WEAVER: Q: The Volkow, Tomasi, Wange, Vaska?

2 DR. CARPENTER: A: Volkow, I have that.

3 MR. WEAVER: Q: And do you have the abstract in  
4 particular? Do you have the report and the abstract  
5 on the top of it?

6 DR. CARPENTER: A: Just happen to have that one right  
7 on top.

8 MR. WEAVER: Q: That's perfect, thank you. In your  
9 report, to quote Volkow, Tomasi, Wange, Vaska, Fowler,  
10 Teland:

11 "Effects of cell phone radio frequency  
12 signal exposures on brain glucose  
13 metabolism..."

14 And the summary you provide of that report is:

15 "In healthy participants and compared with  
16 no exposure, 50 minute cell phone exposure  
17 was associated with increased brain glucose  
18 metabolism in the region closest to the  
19 antenna."

20 And I want to stop there. Do you have the abstract in  
21 front of you?

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

23 MR. WEAVER: Q: Can you tell me if that sentence is  
24 pulled directly out of the abstract?

25 DR. CARPENTER: A: I don't think that is directly from  
26 the abstract. When I quote from the abstract I always

1           put the quotes in parentheses.

2 MR. WEAVER:   Q:   Well, sir, I do have the abstracts. I  
3           haven't circulated them because I thought you might.  
4           So my version of the abstract says that precisely. So  
5           should I circulate that document or do you want to  
6           take another minute and look at the abstract.

7 DR. CARPENTER:   A:   If it says that precisely I should  
8           have put it in parentheses. Yes, it does. That's the  
9           conclusion statement, yes.

10 MR. WEAVER:   Q:   Could you read the next sentence in the  
11           abstract?

12 DR. CARPENTER:   A:   It says:  
13                    "This finding is of unknown clinical  
14                    significance."

15 MR. WEAVER:   Q:   Can you read what you put in your  
16           summary of --

17 DR. CARPENTER:   A:   "This shows direct effects  
18                    of RF radiation on the brain with cell phone  
19                    use."

20 MR. WEAVER:   Q:   Would you agree with me that that's an  
21           inaccurate statement based on what the report  
22           summarizes in the abstract?

23 DR. CARPENTER:   A:   No, I don't. I think my statement  
24           is absolutely accurate.

25 MR. WEAVER:   Q:   Did you do the clinical research?

26 DR. CARPENTER:   A:   I'm sorry?

1 MR. WEAVER: Q: Did you do the clinical research for  
2 this study?

3 DR. CARPENTER: A: No, I certainly did not.

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

5 DR. CARPENTER: A: But the report and the figures in  
6 this paper show clearly that exposure to radio  
7 frequency radiation increases the uptake of close  
8 radioactive glucose isotope which is indicative of  
9 cerebral metabolism. I've done similar studies in  
10 animal model systems and I know what this uptake of  
11 that radioactive glucose implication is, what the  
12 effect is.

13 MR. WEAVER: Q: You'll agree with me, sir, that the  
14 researcher who did the study and filed the report  
15 determined the conclusion: "This finding is of  
16 unknown clinical significance."

17 DR. CARPENTER: A: That's correct.

18 MR. WEAVER: Q: Thank you, sir. If I could move you to  
19 page 3 of your report and looking at the Park  
20 reference.

21 DR. CARPENTER: A: I believe I have it.

22 MR. WEAVER: Q: And here, and again too, you're using  
23 these references to give the Commission support for  
24 what you state in your argument, correct?

25 DR. CARPENTER: A: Correct.

26 **Proceeding Time 9:04 a.m. T16**

1 MR. WEAVER: Q: And you summarize this report,  
2 "Ecological study on residents in the vicinity of AM  
3 radio broadcasting towers and cancer death,  
4 preliminary observations in Korea, international ARCH  
5 occupational environmental health". And your  
6 reference is,

7 "This study found higher mortality areas for  
8 all cancers and leukemias in some age groups  
9 in the area near the AM towers."

10 That's your statement, sir?

11 DR. CARPENTER: A: That's correct.

12 MR. WEAVER: Q: Does the abstract also include a  
13 statement,

14 "Although these findings do not prove a  
15 causal link between cancer and RF exposure  
16 from AM radio broadcasting towers, it does  
17 suggest that further analytical studies on  
18 this topic are needed in Korea."

19 Can you confirm that that's a statement in the  
20 abstract of that report?

21 DR. CARPENTER: A: Yes, it is.

22 MR. WEAVER: Q: Thank you, sir. If I could go to page  
23 4 and 5 of your report -- yeah, we're looking at the  
24 Ahlbom, Feychting, Green, Kheifet study.

25 DR. CARPENTER: A: Yes, I have it.

26 MR. WEAVER: Q: And your summary there is,

1 "Epidemiologic evidence on mobile phones in tumour ..."  
2 Sorry. I apologize. That's -- your comment is the  
3 comment that

4 "...most studies of glioma show small  
5 increased or decreased risk among users,  
6 although a subset of studies show  
7 appreciably elevated risks. They then argue  
8 that there are methodological reasons for  
9 these positive studies."

10 That's your statement?

11 DR. CARPENTER: A: That's correct.

12 MR. WEAVER: Q: And would you agree with me that the  
13 abstract also reads as follows, after the statement  
14 you use.

15 "We considered methodologic features that  
16 might explain the deviant results, but found  
17 no clear explanation. Overall, the studies  
18 published to date do not demonstrate an  
19 increased risk within approximately ten  
20 years of use for any tumour of the brain or  
21 any other head tumour. Despite the  
22 methodologic shortcomings and the limited  
23 data on long latency and long-term use, the  
24 available data do not suggest a causal  
25 association between mobile phone use and  
26 fast-growing tumours such as malignant

1 glioma in adults (at least for tumours with  
2 short induction periods). For slow-growing  
3 tumours such as meningioma and acoustic  
4 neuroma, as well as for glioma among long-  
5 term users, the absence of association  
6 reported thus far is less conclusive because  
7 the observation period has been too short."

8 Do you agree that's what the balance of that abstract  
9 says?

10 DR. CARPENTER: A: That's -- yes, that says --

11 MR. WEAVER: Q: Thank you, sir. The last one I'm going  
12 to refer you to is referenced at page 3 of your  
13 report, and it's the Michelozzi study.

14 DR. CARPENTER: A: Michelozzi?

15 MR. WEAVER: Q: Yes.

16 DR. CARPENTER: A: Yes.

17 MR. WEAVER: Q: And you have the abstract as well as  
18 the report?

19 DR. CARPENTER: A: I do.

20 MR. WEAVER: Q: And can you agree with me that your  
21 description of the study is as follows:

22 "The authors show that there is a  
23 significant elevation of childhood leukemia  
24 among residents living near to Vatican  
25 radio. Standardized mortality rate equals  
26 2.2, 95 percent, CI equals 1.0 - 4.1, and

1           that the risk declines with distance away  
2           from the transmitter."

3           Is that your description of the report?

4 DR. CARPENTER:   A:   That's correct.

5 MR. WEAVER:    Q:    And would you agree with me that the  
6           abstract of this study also includes the following:

7           "The risk of childhood leukemia was higher  
8           than expected for the distance up to six  
9           kilometres from the radio station,  
10          standardized incident Re equals 2.2, 95  
11          percent confidence interval 1.0, 4.1 (and  
12          there was a significant decline in the risk  
13          with increasing distance both for male  
14          mortality and for childhood leukemia). The  
15          study has limitations because of the small  
16          number of cases and lack of exposure data,  
17          although the study adds evidence of an  
18          excessive leukemia in populations living  
19          near a high-power radio transmitter. No  
20          causal implication can be drawn. There is  
21          still insufficient scientific knowledge and  
22          new epidemiologic studies are needed to  
23          clarify a possible leukogenic effect of  
24          residential exposure to radio frequency  
25          radiation."

26          You'd agree with that balance of the abstract.

1 DR. CARPENTER: A: I do agree.

2 MR. WEAVER: Q: Okay, thank you, sir.

3 MR. AARON: The last question was -- does he agree with  
4 that, that's what it says, or does he agree with the  
5 contents of it?

6 MR. WEAVER: Q: The line has been, do you agree with  
7 the contents of the abstract, to be clear.

8 DR. CARPENTER: A: Yeah.

9 MR. WEAVER: Q: Sir, I would ask you to undertake to  
10 file those four studies with those abstracts that are  
11 on the record in this proceeding. Can you do that?

12 **Proceeding Time 9:10 a.m. T17**

13 DR. CARPENTER: A: You want me to provide you --

14 MR. WEAVER: Q: Yes.

15 DR. CARPENTER: A: -- with the abstracts --

16 MR. WEAVER: Q: Yes, I do.

17 DR. CARPENTER: A: Let me be sure I know which ones so  
18 -- there was Ahlbom, Volkow.

19 MR. WEAVER: Q: Park.

20 DR. CARPENTER: A: Park.

21 MR. WEAVER: Q: Ahlbom and Michelozzi.

22 THE CHAIRPERSON: I'm just going to interrupt.

23 DR. CARPENTER: A: Ahlbom, Michelozzi, Park and the  
24 fourth one was what?

25 MR. WEAVER: Q: Sorry, you'll have to repeat which ones  
26 you have?

1 DR. CARPENTER: A: Ahlbom, Michelozzi, Park and?  
2 MR. WEAVER: Q: Volkow. Volkow?  
3 DR. CARPENTER: A: Volkow, I see, Volkow.  
4 THE CHAIRPERSON: I'm just going to interrupt for a  
5 moment. Did you ask for the -- and I may just have  
6 missed this. Did you ask for the abstract or the  
7 study in total?  
8 MR. WEAVER: In fairness we'll take the abstract and the  
9 study.  
10 THE CHAIRPERSON: The abstract?  
11 MR. WEAVER: So we have the full study as well, Mr.  
12 Chairman. I'm happy to receive both.  
13 THE CHAIRPERSON: The abstract and the study?  
14 MR. WEAVER: Yes.  
15 THE CHAIRPERSON: Okay, thank you, so the abstract and  
16 the study.  
17 MR. WEAVER: Yes.  
18 THE CHAIRPERSON: Thank you.  
19 DR. CARPENTER: A: It's easiest to send it all because  
20 they're all on (inaudible).  
21 MR. WEAVER: Q: Sorry, I didn't hear that. Sorry, I  
22 just want to confirm you will, through Mr. Aaron,  
23 ensure that those are responded to as an undertaking  
24 in this proceeding.  
25 DR. CARPENTER: A: Yes, I will.

26

**Information Request**

1 MR. WEAVER: Q: Thank you. Sir --

2 DR. CARPENTER: A: You can remind me if he doesn't get  
3 it shortly.

4 MR. WEAVER: Q: And sooner will be better than later.  
5 We are on a fairly short timeline to complete this.

6 THE CHAIRPERSON: And I'd just like to clarify one other  
7 matter, just again to make sure I'm clear. You were  
8 asking Dr. Carpenter to agree that the passage that  
9 you read was contained in the abstract?

10 MR. WEAVER: Yes.

11 THE CHAIRPERSON: Yes, thank you.

12 MR. WEAVER: And for the record, the reason for it, to  
13 have the complete abstract in front of us to confirm  
14 that as well.

15 THE CHAIRPERSON: Thank you.

16 MR. WEAVER: Q: Doctor, as an editor of the  
17 Bioinitiative, you'd agree with me that editing is  
18 very critical in terms of how you convey information  
19 to the public or to a regulatory tribunal?

20 DR. CARPENTER: A: I do agree.

21 MR. WEAVER: Q: Thank you, sir.  
22 Mr. Chairman, those are my questions.  
23 Thank you, Dr. Carpenter.

24 DR. CARPENTER: A: Thank you.

25 MR. FULTON: FortisBC Inc., Mr. Macintosh.

26 THE CHAIRPERSON: Thank you, and as Mr. Macintosh readies

1           himself, we do plan to take a break at 10:00 a.m., Mr.  
2           Macintosh. I'm not sure exactly how long you intend  
3           to take, but we should try to manage around that time.  
4           So I'll leave that to you to -- presumably your cross-  
5           examination will continue through that period. If not  
6           I'll take responsibility for that, but if it does, if  
7           you could manage your questions around that time I'd  
8           appreciate it.

9   MR. MACINTOSH:    Yes, thank you, Mr. Chair.

10   **CROSS-EXAMINATION BY MR. MACINTOSH:**

11   MR. MACINTOSH:    Q:    Dr. Carpenter, my name is Macintosh  
12                      and I'm a lawyer for the utility which is applying to  
13                      be able to have the smart meters installed.

14   DR. CARPENTER:    A:    Yes.

15   MR. MACINTOSH:    Q:    Now, I'm going to reference your  
16                      report from time to time, and I would prefer not to  
17                      pause for numbering when I do so. And so I have hand-  
18                      numbered your report and I've done it on the odd-  
19                      numbered pages. Page 1 is number 1 and then I just  
20                      quickly numbered 1, 3, 5, 7, et cetera. Can you do  
21                      that please? Just take a --

22   DR. CARPENTER:    A:    Unfortunately I have mine printed  
23                      out on 9X12 inch paper, not legal paper.

24   MR. MACINTOSH:    Q:    Well, mine -- I'm sorry.

25   DR. CARPENTER:    A:    So if yours is legal size the  
26                      numbers will not correspond exactly.

1 MR. MACINTOSH: Q: Mine is not legal sized either. I'm  
2 even older than Mr. Andrews.

3 DR. CARPENTER: A: Okay, then that's fine.

4 **Proceeding Time 9:15 a.m. T18**

5 MR. MACINTOSH: Q: I've left that behind. So, page 1  
6 ends with the words "by the New".

7 DR. CARPENTER: A: My page 1 ends with "New York  
8 State".

9 MR. MACINTOSH: Q: Yes. And so my last line on the  
10 page 1 in the version I received, the last line on  
11 page 1 reads, "would be assessed a total of five  
12 million dollars..." Is that what you have?

13 DR. CARPENTER: A: No. On page 1, my last paragraph is  
14 number 4.

15 MR. MACINTOSH: Q: That's what I have. Your last  
16 paragraph on page 1 begins with the words, "With  
17 regard to my background".

18 DR. CARPENTER: A: That's correct. That's right.

19 MR. MACINTOSH: Q: And the last line on that page  
20 begins with the words, "would be assessed a total".  
21 The last -- the last --

22 DR. CARPENTER: A: No, my last line -- "Director of the  
23 Wadsworth Centre for Laboratories and Research". So,  
24 there are about eight -- seven or eight lines  
25 difference.

26 MR. MACINTOSH: Q: I'll persist only for a page or two

1 more, just to see whether I abandon the effort to have  
2 common numbering. My page 3, at the top. The first  
3 words are, "Health, volume 23".

4 DR. CARPENTER: A: Unfortunately my page 3 starts with  
5 question 1, "What is the state of scientific  
6 research".

7 MR. MACINTOSH: Q: Yes, I see. All right. Well, then,  
8 what we'll have to do, sir, and this will work, not as  
9 well, but it will work, we will just make sure that  
10 you and I get to literally the same place.

11 DR. CARPENTER: A: The same place.

12 MR. MACINTOSH: Q: Mm-hmm. My version of your report  
13 -- my page 2 references the Bioinitiative report. And  
14 it's in the middle of page 2, beginning with a  
15 paragraph "Study of the human health effects".

16 DR. CARPENTER: A: I have that.

17 MR. MACINTOSH: Q: And partway down in that paragraph,  
18 roughly halfway down, you referenced that you're a co-  
19 editor and contributing author of the Bioinitiative  
20 report.

21 DR. CARPENTER: A: Yes.

22 MR. MACINTOSH: Q: And you give a little bit of the  
23 provenance of the -- a little bit of the history of  
24 that report. And that paragraph ends by you saying,  
25 "It is a comprehensive and up-to-date review  
26 of the scientific information on the subject



1 changed their radio frequency standards in response to  
2 the Bioinitiative work?

3 DR. CARPENTER: A: Yes, I believe that's true, although  
4 there's discussion in several countries that have  
5 referenced the Bioinitiative reports and where  
6 standards are being reviewed.

7 MR. MACINTOSH: Q: Mr. Andrews was one of the earlier  
8 lawyers who questioned you, and he in turn referenced  
9 something that a Dr. Shkolnikov said here, and that  
10 was that the AMI meters, which are the subject of the  
11 application, would even comply with the Bioinitiative  
12 2007 standards. And I think you acknowledged, you do  
13 not have the expertise to agree or disagree with that  
14 statement.

15 DR. CARPENTER: A: That is correct. And I know what  
16 the standards were in the 2007 Bioinitiative report,  
17 but I'm not really qualified to comment on the  
18 exposure levels from the meter.

19 MR. MACINTOSH: Q: Very well. And in your report you  
20 cite many studies, some of which Mr. Weafer  
21 referenced. He questioned you a moment ago. You  
22 referenced many studies and none of them is a study of  
23 smart meters, is it?

24 DR. CARPENTER: A: That is correct.

25 MR. MACINTOSH: Q: The Texas report we spoke of a  
26 moment ago referenced at page 17 and 18 your

1           experience testifying in reliance on the Bioinitiative  
2           report when you appeared in the province of Quebec in  
3           an application concerning Hydro Quebec. Two  
4           introductory questions. First of all, I take it you  
5           recall that commentary in the Texas report at page 17  
6           and 18?

7 DR. CARPENTER:    A:    Yes, I do.

8 MR. MACINTOSH:    Q:    And obviously you recall appearing  
9           in the proceedings in Quebec?

10 DR. CARPENTER:    A:    I do indeed.

11 MR. MACINTOSH:    Q:    And is it correctly stated in the  
12           Texas report that when you testified in Quebec and  
13           relied on the thinking in the Bioinitiative report,  
14           you were not accepted as an expert witness?

15 DR. CARPENTER:    A:    My report was accepted but I wasn't  
16           given the qualifications of expert for the absolutely  
17           ludicrous reason that I wasn't licensed to practise  
18           medicine, which has absolutely nothing to do with my  
19           expertise. So they acknowledged that I was an expert,  
20           or at least they said expert or not, but disqualified  
21           me because I wasn't licensed to practise medicine. A  
22           licence to practise medicine has nothing whatsoever to  
23           do with the issue of understanding health effects from  
24           radio frequency radiation.

25 MR. MACINTOSH:    Q:    But the Quebec commission had a  
26           second concern with your evidence, did it not?

1 DR. CARPENTER: A: It accepted my evidence but did not  
2 grant me the status of being a formal expert, while  
3 acknowledging basically that I was an expert.

4 MR. MACINTOSH: Q: At page 18 of the Texas report there  
5 is a quote from what was written by the Quebec  
6 commission:

7 "Clearly, the witness Carpenter, expert or  
8 not, does not meet the criteria of  
9 objectivity which the board is entitled to  
10 expect."

11 That's a correct quotation, isn't it?

12 DR. CARPENTER: A: That is correct.

13 MR. MACINTOSH: Q: And it reflects the finding of the  
14 Quebec board.

15 DR. CARPENTER: A: That is correct.

16 **Proceeding Time 9:24 a.m. T20**

17 MR. MACINTOSH: Q: Now, you gave responses of various  
18 questions that were asked of you by Fortis, and by  
19 other entities in this proceeding. And those are  
20 referred to as Information Requests or IRs, as you  
21 were told earlier.

22 And when Mr. Aaron introduced you to  
23 testify, you confirmed that you authored the IRs  
24 attributed to you, and that you adopted the answers in  
25 them. Do you recall that?

26 DR. CARPENTER: A: Yes, I do.

1 MR. MACINTOSH: Q: And I want to refer you to the IRs  
2 that you gave to my client, Fortis, and this is IR  
3 2.2, it's called, and bear with me, Dr. Carpenter, for  
4 the record, I want to give the exhibit number. It's  
5 C9-13-1. So, can you dig up the Information Responses  
6 you gave to the request from Fortis, please?

7 DR. CARPENTER: A: Yes, I have it.

8 MR. MACINTOSH: Q: And when I look at those, I turn to  
9 2.2, IR 2.2. It's at page number 7 in what I have.  
10 And the question 2.2 -- do you have that?

11 DR. CARPENTER: A: I have that, yes.

12 MR. MACINTOSH: Q: The question is,  
13 "Has Dr. Carpenter ever been disqualified  
14 from acting as an expert witness before  
15 courts or regulatory tribunals in Canada or  
16 the United States? If so, please submit a  
17 list of the date of disqualification, the  
18 matter docket under which the evidence was  
19 submitted, and the name of the court or  
20 regulatory tribunal."

21 And the response was,

22 "He has been disqualified in a PCB case  
23 because he was not licensed to practice  
24 medicine in Indiana, and had developed a  
25 medical monitoring protocol."

26 Now, I was concerned that that omitted

1 reference to Quebec, but is it your evidence that --  
2 well, let me ask you in fairness to you. Why would  
3 you say the Quebec experience was not part of that  
4 response?

5 DR. CARPENTER: A: Well, I was allowed to testify  
6 there. Now, I must say I don't understand -- I didn't  
7 understand at the time I was disqualified, I should  
8 not have been allowed to testify. But they made a  
9 ruling that I didn't qualify as an expert, but that  
10 they would accept my testimony. And that ruling was  
11 made before my testimony was given. So I did not -- I  
12 do not believe that that falls under this same -- it  
13 would not have been an appropriate answer to this  
14 question.

15 MR. AARON: Excuse me, Mr. Chairman.

16 THE CHAIRPERSON: Yes, Mr. Aaron.

17 MR. AARON: I don't think we have a copy of the Quebec  
18 Energy Board decision. Do we? Is it in the evidence?

19 Okay, yeah. I don't think we have one in  
20 the evidence. My concern, and the reason I rise, is  
21 because the questions put to the witness go to an  
22 interpretation of an evidentiary ruling, or a  
23 consideration or determination by the Quebec Energy  
24 Board. It's a question of law. And my concern is  
25 that within the question there is an expectation or an  
26 investigation as to whether the witness has an

1 understanding of that board's evidentiary ruling. And  
2 the witness participated in those proceedings, but  
3 given the scope of his expertise, ought not to be  
4 questioned on questions of law and interpretation and  
5 characterization of that board's handling of his  
6 evidence. It's on issues of admissibility and weight.

7 THE CHAIRPERSON: Mr. Macintosh?

8 **Proceeding Time 9:29 a.m. T21**

9 MR. MACINTOSH: Mr. Chair, the Quebec decision is part of  
10 Exhibit B-28. And also, I mean better safe than  
11 sorry, we sent an additional copy to Mr. Aaron  
12 yesterday. And as Mr. Fulton advised the Commission a  
13 few days ago, cross-examination is not to be lightly  
14 intruded upon, and I asked Dr. Carpenter a fair  
15 question and he gave his answer. And I said, "Why  
16 didn't you put the Quebec experience in your  
17 response?" and he gave his explanation of why. He  
18 said that he was allowed to testify, the report was  
19 accepted, and therefore he did not believe that he had  
20 to add that to the IR response. That's fine. That's  
21 his view. That's where my questioning was going to  
22 end. He's acknowledged that the Quebec tribunal found  
23 that he lacked the requisite objectivity, but that  
24 finding was obviously made after they had heard from  
25 him, and that's where I'm leaving it.

26 THE CHAIRPERSON: Thank you.

1 MR. MACINTOSH: Q: Now, Dr. Carpenter, if you can turn  
2 to your report, and it's in the neighbourhood of page  
3 13, and the topic is the discussion which comes under  
4 the number 3.

5 DR. CARPENTER: A: I have it, yes.

6 MR. MACINTOSH: Q: And number 3 begins: "Regulations  
7 for telecommunications, such as Safety Code 6" et  
8 cetera." Do you see that?

9 DR. CARPENTER: A: Yes, I do.

10 MR. MACINTOSH: Q: And then you give an answer of some  
11 length, and I want to focus on the second paragraph of  
12 your answer. I'm going to come back to other parts of  
13 it a little later. But you're addressing Health  
14 Canada Safety Code 6 and with respect, you criticize  
15 it, and I want to focus for now on the second  
16 paragraph and that's the paragraph that begins: "This  
17 document states..." Do you have that?

18 DR. CARPENTER: A: I do indeed.

19 MR. MACINTOSH: Q: And then you say:  
20 "This document states "Health Canada  
21 scientists consider all peer-reviewed  
22 scientific studies on an ongoing basis and  
23 employ a weight of evidence approach when  
24 evaluating the possible health risks of RF  
25 energy. This approach takes into account  
26 both the quantity of studies on a particular

1           end point (whether adverse or no effect),  
2           but more importantly, the quality of the  
3           studies".

4                       And you're quoting directly from the  
5           wording that's found within Safety Code 6.

6 DR. CARPENTER:    A:    That is correct.

7 MR. MACINTOSH:    Q:    And you go on and this is where you  
8           start, if I can put it that way. You say:

9                       "It is clear that Health Canada scientists  
10           completely ignored any study that found  
11           evidence of non-thermal health effects based  
12           solely on the fallacious assumption that  
13           non-thermal effects cannot exist. This  
14           approach completely ignores all of the  
15           evidence listed above. This is unscientific  
16           and unreasonable, verging on being  
17           unethical, particularly coming from a  
18           government agency that has responsibility  
19           for protection of health to the public. In  
20           my judgment, the evidence presently above  
21           present..."

22           I think it should be "presented above",

23                       "...documents there are clear biologic  
24           effects..."

25           and I pause, I'll come back to biologic effects later,  
26           and you go on,

1            "...some very harmful to human health, that  
2            occur at intensities of exposure to RF  
3            radiation...not sufficient to cause measurable  
4            tissue heating."

5            Now, I want to confront you on that  
6            characterization that you've given us regarding Safety  
7            Code 6.

8            **Proceeding Time 9:33 a.m. T22**

9            Your thesis, if I can call it that in  
10           there, is that Health Canada has not clearly  
11           considered all the science and in fact even perhaps  
12           conducted its own RF research. You're saying that  
13           Health Canada has just ignored the non-thermal-level  
14           science. Isn't that your thesis?

15 DR. CARPENTER:    A:    That's correct.

16 MR. MACINTOSH:    Q:    And so the part you quoted from  
17           Health Canada Safety Code 6, I mean to be basic about  
18           it, you quoted it and you said, "That's ridiculous,"  
19           the passage I just read you. Fair enough?

20 DR. CARPENTER:    A:    That's fair enough.

21 MR. MACINTOSH:    Q:    Now, where do you get to dispute  
22           Health Canada making the assertion it made with  
23           respect to what it did?

24 DR. CARPENTER:    A:    Well, Health Canada recently  
25           admitted publicly that all of their safety codes are  
26           based on the assumption that there are not such things

1 as non-thermal effects. If you make that assumption,  
2 and you'll probably talk about this a lot today  
3 because that's an assumption made by most of these  
4 national and international reports, then it's easy to  
5 totally discount all of the scientific publications I  
6 quote and identify in my report.

7 I think that that is irresponsible and  
8 unethical. It is not looking at the weight of the  
9 evidence. It is a position that's akin to people that  
10 swear that it's flat because you can't see the edge.  
11 And by ignoring the strength of the evidence, they are  
12 failing to protect the people of Canada.

13 MR. MACINTOSH: Q: We're going to approach this in  
14 three steps, and the first step is going to be to look  
15 at what Health Canada told us within Safety Code 6.  
16 We've already seen part of it. So if you can get  
17 Safety Code 6 available to you, sir.

18 DR. CARPENTER: A: I have it.

19 MR. MACINTOSH: Q: And at page 7 of Safety Code 6 or  
20 page 9 of 30, do you have that?

21 DR. CARPENTER: A: I have it, yes.

22 MR. MACINTOSH: Q: I first just want your agreement  
23 with me that this is the position expressed by Health  
24 Canada. And on page 7, in the second half of the page  
25 there's a paragraph that begins: "The exposure  
26 limits..." Do you see that?

1 DR. CARPENTER: A: Yes, I do.

2 MR. MACINTOSH: Q: And it says:

3 "The exposure limits specified in Safety  
4 Code 6 have been established based on a  
5 thorough evaluation of the scientific  
6 literature related to thermal and possible  
7 non-thermal effects of RF energy on  
8 biological systems. Health Canada  
9 scientists consider all peer-reviewed  
10 scientific studies on an ongoing basis and  
11 employ a weight of evidence approach..."

12 et cetera. That is a portion of what you quoted and  
13 then debunked, fair enough?

14 DR. CARPENTER: A: Yes, fair enough.

15 MR. MACINTOSH: Q: And it goes on to say further down  
16 on that page that:

17 "Safety factors have been incorporated into  
18 these limits to add an additional level of  
19 protection."

20 And then it says:

21 "The scientific approach is used and it's  
22 comparable to the approach employed by other  
23 national standards bodies."

24 And at the bottom:

25 "It's distinguished from some municipal  
26 and/or national guidelines based on socio-



1           they could read the publications that I quote in my  
2           report and determine that there is no scientific basis  
3           for the premise of chronic and/or cumulative health  
4           risks from RF energy before the -- below the limits  
5           outlined in Safety Code 6 is just outrageous.

6 MR. MACINTOSH:   Q:   Yes.  You think it's outrageous that  
7           Health Canada looked at the same studies you did and  
8           came to different conclusions.  Right?

9 DR. CARPENTER:   A:   Yes.

10 MR. MACINTOSH:   Q:   Now, you said a moment ago, in one  
11           of your earlier answers to me, that one of the reasons  
12           you were debunking what Health Canada said is because  
13           a Health Canada person has acknowledged that all that  
14           they've ever looked at or addressed is the thermal  
15           level.  Do you recall saying that?

16 DR. CARPENTER:   A:   Yes.

17 MR. MACINTOSH:   Q:   And what do you base that on?

18 DR. CARPENTER:   A:   It was a statement made in  
19           testimony, of which I think I have a copy some place,  
20           if you really want me to find it.

21 MR. MACINTOSH:   Q:   It's Exhibit B-46 in this  
22           proceeding, and it's a transcript from proceedings  
23           where a senior Health Canada representative testified.  
24           Do you have the transcript?

25 DR. CARPENTER:   A:   I don't have the transcript.  I have  
26           a report from it.  But I don't need to even have that

1           documentation to know on the basis of this statement  
2           that these people have rejected all of the information  
3           showing adverse health effects at exposure levels  
4           below those that cause measurable tissue heating.

5 MR. MACINTOSH:   Q:    I want to analyze this with you, one  
6           step at a time. Part of your earlier evidence was  
7           that a Health Canada person acknowledged that they had  
8           only dealt with the matter at the thermal level, and  
9           only considered the thermal level, in essence. And  
10          then you said "yes, I've got that somewhere." And I  
11          referenced a transcript, and you said, "I don't need  
12          to look at the transcript."

13                            Now, do you have the transcript?

14 DR. CARPENTER:   A:    The transcript, I had an e-mail  
15          attachment from someone that referenced it .

16 MR. MACINTOSH:   Q:    Yes. And someone from whom you  
17          obviously received an e-mail gave you his or her  
18          version of what the Health Canada person said. Right?

19 DR. CARPENTER:   A:    I should -- let me try to find that  
20          document.

21 MR. MACINTOSH:   Q:    All right.

22 DR. CARPENTER:   A:    Because I don't recall in great  
23          detail.

24 MR. MACINTOSH:   Q:    Okay.

25 DR. CARPENTER:   A:    I have it. It was an e-mail. It is  
26          actually a quote from Magda Havas, which is headed,

1 "Health Canada admits Safety Code 6 microwave  
2 radiation guidelines is based only on heating  
3 effects".

4 MR. MACINTOSH: Q: Yes. And you are an editor of many  
5 journals. Did you try to get to the bottom of that  
6 statement in that e-mail?

7 DR. CARPENTER: A: No, I didn't, and I actually didn't  
8 feel it was necessary, because --

9 MR. MACINTOSH: Q: Really?

10 DR. CARPENTER: A: -- just reading health -- the Safety  
11 Code 6, it's apparent that -- and there is statements  
12 throughout -- let me just find some of them. Because  
13 I have marked them. That indicates that Health Canada  
14 does not consider that there are any adverse health  
15 effects that are not mediated by tissue heating.

16 MR. MACINTOSH: Q: Yes. And not only does Health  
17 Canada say what it says within Safety Code 6, but we  
18 have a transcript from the proceedings where the  
19 Health Canada person testified. It's Exhibit B-46.  
20 And he gave his evidence backing up what's written in  
21 Safety Code 6, which is that Health Canada looks at,  
22 considers, takes into account the existing science at  
23 both thermal and non-thermal levels, and you just  
24 refuse to accept that, right?

25 **Proceeding Time 9:42 a.m. T24**

26 DR. CARPENTER: A: Do I refuse to accept that they look

1 at it? No, I don't refuse to accept that. But they  
2 apparently refuse to accept the evidence from those  
3 studies that are at non-thermal effects, and I find  
4 that unacceptable.

5 MR. MACINTOSH: Q: I see. So I think we covered this  
6 before, but Health Canada and ICNIRP -- you know that  
7 acronym?

8 DR. CARPENTER: A: Yes.

9 MR. MACINTOSH: Q: And it provides data which the  
10 European Union utilizes in recommending RF limits,  
11 correct?

12 DR. CARPENTER: A: Correct.

13 MR. MACINTOSH: Q: And the FCC and Health Canada and  
14 other international agencies, they all have a  
15 different view from you, don't they, on what to draw--

16 DR. CARPENTER: A: That's correct, and many of those  
17 views are based on the ICNIRP recommendations. And I  
18 would point out that ICNIRP is very much like the  
19 Bioinitiative group. It's not a recognized -- it's  
20 not appointed by any government or government agency.  
21 It self-appoints its members, just as the  
22 Bioinitiative group did. It's not -- there's no  
23 transparency in how individuals are chosen, and I  
24 would suggest that individuals are chosen because of  
25 their points of view, one of which major one is that  
26 there are no such things as non-thermal adverse

1 effects of radio frequency radiation.

2 MR. MACINTOSH: Q: Now, the Health Canada official who  
3 testified and whose evidence I've referred to, his  
4 name was McNamee. And on Wednesday in this proceeding  
5 a Dr. Sears testified from Ontario by the same medium  
6 that you are employing here, and she said, "Well,  
7 Health Canada data is normally quite available but  
8 somehow with RF material it seems to be less  
9 available." Have you tried to find Health Canada's  
10 publication information on radio frequencies?

11 DR. CARPENTER: A: Yes, I have a copy of several of  
12 their publications.

13 MR. MACINTOSH: Q: And I sent you one which I located  
14 yesterday and it's entitled "Environmental and  
15 Workplace Health" which I found online, "Research on  
16 Radio Frequency Energy and Health". Did you get that?

17 DR. CARPENTER: A: Is that the document that had  
18 McNamee's testimony on it?

19 MR. MACINTOSH: Q: No, but it does have his name on it  
20 in quite a few places.

21 DR. CARPENTER: A: Well, if I received that I  
22 apparently did not print it out.

23 MR. MACINTOSH: Q: This is a three-page document which  
24 is available online, I can attest, from Health Canada.

25 DR. CARPENTER: A: Oh yes, yes, it's this three-page  
26 document that references the studies. I do have that

1 printed.

2 MR. MACINTOSH: Q: Very well. And when I went to page  
3 3, the last page, I saw that it's updated as of  
4 February 1<sup>st</sup> of 2013. Do you see that?

5 DR. CARPENTER: A: Yes.

6 MR. MACINTOSH: Q: And of course I looked at it when I  
7 got it and it says: "Radio -- research on RF energy  
8 and health" and it says this at the beginning:

9 "For more than two decades, Health Canada  
10 has conducted its own research on the  
11 biological effects of RF energy. This  
12 research has increased the scientific  
13 knowledge the intensity of RF energy in our  
14 environment and has helped to establish the  
15 human exposure threshold where potentially  
16 adverse health effects can occur. This  
17 important information, along with other  
18 Canadian and international studies, form the  
19 bases for establishing safety standards for  
20 RF energy that protects the health of  
21 Canadians."

22 **Proceeding Time 9:47 a.m. T25**

23 You have no possible basis for -- well, let  
24 me ask you. Are you disputing that statement that I  
25 just read you, as being a true statement?

26 DR. CARPENTER: A: Well, I'm not disputing that that

1           mentality is the basis of the Safety Code 6, if that's  
2           what you mean. Am I disputing that this protects  
3           safety of Canadians? Yes, I am disputing that.

4 MR. MACINTOSH: Q: I know that. And then the second  
5           paragraph,

6                        "All Health Canada research on RF energy is  
7                        funded by the government of Canada. The  
8                        following is a list of Health Canada  
9                        studies."

10           You accept that Health Canada is funded by the  
11           government of Canada?

12 DR. CARPENTER: A: Yes.

13 MR. MACINTOSH: Q: And you accept that the studies that  
14           are listed on that page, and going over to the next  
15           page, are Health Canada's own studies? On RF  
16           frequency.

17 DR. CARPENTER: A: Yes, I understand it that they're  
18           health studies funded by Health Canada. I note that  
19           there are -- I believe I'm correct, that there are no  
20           human health studies listed.

21 MR. MACINTOSH: Q: Well --

22 DR. CARPENTER: A: I know McNamee's work quite well. I  
23           have a number of his publication in my reprint file.  
24           The things he does are cellular studies. I think that  
25           the cellular studies are not the basis for my opinion,  
26           or for the real concern for human health.

1 MR. MACINTOSH: Q: Well, that's -- let me interrupt  
2 you, then, because Dr. Blank testified here earlier  
3 this week, and his thesis, if I can safely summarize  
4 it, was that it's very important to look at *in vitro*  
5 cell studies, very important. And that any study or  
6 any review which purports to not take into account  
7 cellular studies is "totally misleading".

8 So, at the very least, we can say that you  
9 and Dr. Blank have a professional difference of  
10 opinion.

11 DR. CARPENTER: A: I don't think it's a major  
12 difference of opinion. But I would say when we're  
13 asking the question, are humans adversely affected by  
14 radio frequency fields, studies of humans are more  
15 important in answering that question than studies of  
16 isolated cells.

17 MR. MACINTOSH: Q: Yes, sir.

18 DR. CARPENTER: A: And I totally understand and agree  
19 that cellular molecular studies are valuable when you  
20 go after mechanisms. But whether or not there are  
21 diseases in humans can only be studied by looking at  
22 humans in relation to their exposure.

23 MR. MACINTOSH: Q: Well, Dr. Bailey agrees with you one  
24 hundred percent. What I'm putting in front of you  
25 here is evidence that not only has Health Canada had  
26 reference to, as it says, thousands of studies --

1 MR. AARON: Sorry, Mr. Macintosh, excuse me. That  
2 statement is misleading the witness with respect to  
3 the record. "Dr. Bailey agrees with you one hundred  
4 percent." Because what the witness said was that he  
5 agrees that cellular molecular studies are more  
6 important when you go after mechanisms. And I don't  
7 think we have any evidence from Dr. Bailey that would  
8 be in agreement with that. In fact, Dr. Bailey's  
9 E<sup>x</sup>Ponent Report made a point that there was a lack of  
10 evidence on mechanisms. And for that reason there  
11 wasn't established science.

12 So I don't think it's fair to mislead the  
13 witness and then go on and ask him further questions.

14 THE CHAIRPERSON: Mr. Macintosh?

15 **Proceeding Time 9:52 a.m. T26**

16 MR. MACINTOSH: Mr. Chair, it's certainly never fair to  
17 mislead a witness. Just as it is not fair to  
18 improperly interrupt a cross-examination.

19 Dr. Carpenter has just stated his strong  
20 preference for animal and human study approach, which  
21 is Dr. Bailey's thesis as well. And we've been  
22 through all that this week. And all I was saying to  
23 Dr. Carpenter was that he and Dr. Bailey are on the  
24 same side in emphasizing human and animal approach  
25 instead of cellular. That's all.

26 THE CHAIRPERSON: Thank you. Mr. Aaron, I think we've

1 had -- you've had an opportunity to comment on this.

2 MR. AARON: And my reply is that the witness did not  
3 express his preference for human studies in terms of a  
4 zero sum game of one or the other. He qualified it by  
5 saying he thinks that's important to look at *in vitro*  
6 studies when you're going after mechanisms, which is  
7 evidence beyond what we got from Dr. Bailey. So it is  
8 not fair to tell the witness that Dr. Bailey agrees  
9 with him 100 percent.

10 THE CHAIRPERSON: I apologize. You were entitled to make  
11 your reply.

12 Mr. Macintosh, are you prepared to move on?

13 MR. MACINTOSH: Absolutely. The transcript speaks  
14 perfectly well for itself, and I'm --

15 THE CHAIRPERSON: I think we can rely on the record to  
16 compare. And you can deal with that in argument, Mr.  
17 Aaron.

18 MR. AARON: It's just that the witness doesn't have the  
19 benefit of the transcript. So my concern isn't to  
20 resolve this issue as a matter of record. My concern  
21 is with the apprehension that is being presented to  
22 the witness in advance of further questioning.

23 MR. MACINTOSH: Mr. Chair, this matter, in my submission,  
24 is, although it's a relatively small matter, it's also  
25 concluded. As I was hearing Dr. Carpenter, and I'll  
26 certainly be more than happy if the Commission wishes,

1 more than happy to have Dr. Carpenter speak further.  
2 I believe the record takes care of the matter  
3 completely right now. I believe Dr. Carpenter  
4 expressed his preference for human and animal studies  
5 over cellular studies for looking at human health  
6 effects from RF, from radio frequency exposure. And  
7 all I was pointing out, correctly, is that in that  
8 regard he and Dr. Bailey are completely in agreement.  
9 That's it. That's the total point.

10 And I repeat, to echo Mr. Fulton the other  
11 day, this is not proper objection. But I -- and it's  
12 not Dr. Carpenter who needs to be primarily concerned  
13 about the transcript. It's Mr. Aaron, the lawyer, and  
14 Mr. Aaron can deal with it properly as he chooses.

15 I'm prepared to proceed.

16 THE CHAIRPERSON: Yes, please, please move on.

17 MR. MACINTOSH: Q: Now, Dr. Carpenter, the material I  
18 just showed you, which is the Health Canada printout,  
19 as you rightly observed, what it's focusing on in its  
20 own research appears to be largely, if not  
21 exclusively, the cellular research, right?

22 DR. CARPENTER: A: Correct.

23 MR. MACINTOSH: Q: And your colleague Dr. Blank --  
24 excuse me for one second, Dr. Carpenter.

25 Should I carry on?

26 THE CHAIRPERSON: Yes, please.

1 MR. MACINTOSH: Q: And as you acknowledged earlier,  
2 sir, Dr. Blank is someone for whom you have respect  
3 and you accept that Dr. Blank's focus is to pursue and  
4 stress the importance of the cellular studies,  
5 correct?

6 DR. CARPENTER: A: Correct.

7 MR. MACINTOSH: Q: And the point in putting this  
8 document to you, sir, is that not only does Health  
9 Canada say within Safety Code 6 that it has had access  
10 to and has considered extensive research. The point  
11 here is to say it's also done its own research. And  
12 whether you like cellular research or not, you accept  
13 that Health Canada doesn't just read many, many, many,  
14 many reports from all over the world; Health Canada  
15 does some of its own work as well, correct?

16 TRACK 27

17 **Proceeding Time 9:56 a.m. T27**

18 DR. CARPENTER: A: I accept that, yes.

19 MR. MACINTOSH: Q: Thank you.

20 I'd like to get that marked, if I could,  
21 Mr. Chair.

22 THE CHAIRPERSON: Yes, thank you.

23 MR. FULTON: B-48.

24 THE HEARING OFFICER: Marked B-48.

25 MR. MACINTOSH: Thank you.

26 **(PRINTOUT FROM HEALTH CANADA ENTITLED "ENVIRONMENTAL**

1           **AND WORKPLACE HEALTH" MARKED EXHIBIT B-48)**

2   MR. MACINTOSH:    Now, I can break whenever it's convenient  
3                   for the Commission, Mr. Chair. I note it's ten-ish,  
4                   and I'm going to a new topic. My guesstimate is that  
5                   Dr. Carpenter and I will be another half an hour at  
6                   the most.

7   THE CHAIRPERSON:   Okay, thank you, Mr. Macintosh. We'll  
8                   break now for roughly 15 minutes and return at 10:15.

9           **(PROCEEDINGS ADJOURNED AT 9:57 A.M.)**

10          **(PROCEEDINGS RESUMED AT 10:14 A.M.)**                   **T28/29**

11   THE CHAIRPERSON:    Please be seated.

12                                    Please continue, Mr. Macintosh.

13   MR. MACINTOSH:    Thank you, Mr. Chair.

14   MR. MACINTOSH:    Q:    Dr. Carpenter, I referenced a  
15                   document which has been marked as Exhibit B-46, and it  
16                   was the transcript of Mr. McNamee's testimony in  
17                   proceedings in Quebec. And I apologize because I  
18                   can't remember whether you said that you have this  
19                   transcript or not.

20   DR. CARPENTER:    A:    No, I do not.

21   MR. MACINTOSH:    Q:    That's right. I recall that now.  
22                   I'm going to read you two extracts from it, and see  
23                   whether you can agree with what is said there, or with  
24                   my questions, which arise from these extracts.

25                                    At page 72 of the transcript, Mr. McNamee  
26                   is still being questioned and the questioner says at

1 line 15, question 164:

2 "Am I correct saying that the Royal Society  
3 in their conclusions is saying that we  
4 should not shut our eyes - I'm sorry about  
5 that - About this non-thermerical..."

6 It says. I'll say "non-thermal effect". "And we  
7 should have fun," the questioner says, "...we should  
8 have fun in research." I think it means "funds", but  
9 I'm only guessing, Mr. Chair. It's a translation.

10 DR. CARPENTER: A: Fun sounds more fun.

11 MR. MACINTOSH: Q: Right. Right.

12 "... in research to lead us to see if there is  
13 something out there."

14 Here is the answer, and this is what I want to focus  
15 on from Mr. McNamee.

16 "A. Absolutely, and Health Canada would  
17 agree with that. In fact, probably 95% of  
18 all the research that has been done since  
19 the 1990s has been trying to look at these  
20 non-thermal effects."

21 And, first, would you accept Mr. McNamee's statement  
22 that the bulk of the research -- the great bulk of the  
23 research since the 1990s has indeed put its focus on  
24 the non-thermal levels?

25 DR. CARPENTER: A: Absolutely. I totally agree with  
26 that.

1 MR. MACINTOSH: Q: And then the questioner goes on:

2 "Q.165 The research, not Health Canada  
3 outside in the world?"

4 Answer -- this is from Mr. McNamee:

5 "Everywhere. Everywhere. The research  
6 that's being done and the thousand of  
7 studies that are being done are not on the  
8 thermal aspects, it's on the non-thermal  
9 work aspects. And despite those thousands  
10 of studies, we're still no closer to finding  
11 a mechanism or an adverse effect related to  
12 those."

13 Now, that's his answer. And my suggestion  
14 is, you will agree with part of it. And I will never  
15 have you agree with another part of it, but let's just  
16 get it clarified. So he is repeating that the focus  
17 of the study is on non-thermal and you and he are on  
18 common ground.

19 DR. CARPENTER: A: I agree with that, yes.

20 MR. MACINTOSH: Q: And where you part company with him  
21 and his agency, and other agencies, is the inference  
22 you draw from these thousands of studies. Right?

23 DR. CARPENTER: A: That's correct.

24 MR. MACINTOSH: Q: Thank you. Now, I want to move to a  
25 topic of EHS. The acronym stands for what?

26 DR. CARPENTER: A: Electrical Hypersensitivity.

1 MR. MACINTOSH: Q: Yes. And I first -- in that part of  
2 my questioning, I first want to reference one of your  
3 information responses. And these are responses you  
4 gave to the B.C. Sustainable Energy Association and  
5 the Sierra Club, and that's Exhibit C9-12-3. Let me  
6 know if you've got that available.

7 DR. CARPENTER: A: Yes, I have it.

8 **Proceeding Time 10:19 a.m. T30**

9 MR. MACINTOSH: Q: And at question 9.1 you were asked:  
10 "Please confirm that Dr. Carpenter's  
11 definition of EHS is that symptoms are  
12 reported to be associated with EMF exposure,  
13 not that symptoms are caused by EMF  
14 exposure.

15 Answer: That's correct."

16 This is correct, I'm sorry?

17 DR. CARPENTER: A: I confirm that, yes.

18 MR. MACINTOSH: Q: Thank you. And indeed if I heard  
19 your evidence earlier today in part, you said that  
20 even soldiers sometimes returning from the Gulf War  
21 exhibit similar symptoms.

22 DR. CARPENTER: A: That is correct, yes.

23 MR. MACINTOSH: Q: And then within your report at page  
24 -- my page 7, so it's in the neighbourhood of 7 and  
25 I'll get you the more particular --

26 DR. CARPENTER: A: I have the section on electrical

1 hypersensitivity.

2 MR. MACINTOSH: Q: Thank you. And in my version that  
3 begins in the last line of page 7. It begins:  
4 "Electrical hypersensitivity (EHS) is a syndrome..." Do  
5 you have that?

6 DR. CARPENTER: A: I have that, yes.

7 MR. MACINTOSH: Q: And what you wrote there seems to  
8 corroborate your information response, but let me read  
9 it and see if you can adopt it again, or adopt it  
10 here.

11 "...(EHS) is a syndrome of relatively non-  
12 specific complaints that are reported to be  
13 associated with exposure to electromagnetic  
14 fields. The major symptoms are..."  
15 such and such.

16 "Whether or not EHS exists has been widely  
17 debated."

18 And you would stand by all of that.

19 DR. CARPENTER: A: Yes, I do.

20 MR. MACINTOSH: Q: And I do not wish to mislead by  
21 omitting anything that follows immediately after that,  
22 but I am just going down to the next sentence, the  
23 concluding sentence of that paragraph and you say:

24 "However, there is increasing evidence that  
25 EHS does exist and can be a disabling  
26 condition for some particularly sensitive

1           persons, although evidence to date is  
2           certainly incomplete."

3           And you would agree with that.

4 DR. CARPENTER:   A:   Yes, I do.

5 MR. MACINTOSH:   Q:   And then in the second paragraph  
6           down, it's a paragraph that begins: "There are a  
7           number of other reports..." Do you see that?

8 DR. CARPENTER:   A:   Yes, I do.

9 MR. MACINTOSH:   Q:   And you say in your second sentence:  
10           "In sum, these studies are suggestive of an  
11           association, but fall short of proof."

12           And you would stand by that.

13 DR. CARPENTER:   A:   Yes, I would.

14 MR. MACINTOSH:   Q:   All right. And then if we can  
15           return to the Texas report which is for the record  
16           Exhibit C17-24, do you have that, sir?

17 DR. CARPENTER:   A:   Yes, I do.

18 MR. MACINTOSH:   Q:   And they are at page 19.

19 DR. CARPENTER:   A:   I have that.

20 MR. MACINTOSH:   Q:   At the bottom they make certain  
21           observations and I'll ask you to comment on some of  
22           those observations. At the bottom of page 19 they  
23           say:

24           "In medicine, one result of misinterpreting  
25           scientific debate can be a mistaken belief  
26           in a medical diagnosis that the scientific

1 community does not recognize as valid..."

2 then it says:

3 "..., such as EHS."

4 And I want to ignore that because I don't want to  
5 debate that at this moment. I want to just take the  
6 first part:

7 "In medicine, one result of misinterpreting  
8 scientific debate can be a mistaken belief  
9 in a medical diagnosis..."

10 **Proceeding Time 10:24 a.m. T31**

11 And that's a fair statement that you would be able to  
12 confirm from your experience, your particular  
13 experience.

14 DR. CARPENTER: A: Oh, I -- it's not very clear to me  
15 what that sentence means.

16 MR. MACINTOSH: Q: All right.

17 DR. CARPENTER: A: What I would take it to mean is that  
18 there is sometimes in the medical community a denial  
19 that a disease exists that in fact later may be proven  
20 to be a disease. Is that your interpretation of what  
21 that says?

22 MR. MACINTOSH: Q: No, I think -- well, I was reading  
23 it to say, you've got to be careful about really  
24 implementing your cure till you know what you're  
25 curing. It says,

26 "In medicine one result of misinterpreting

1           scientific debate can be a mistaken belief  
2           in a medical diagnosis..."

3           And in fairness to you, I shouldn't try to debate with  
4           you and parse the sentence. Let me see if I can press  
5           on, because I've heard your evidence. The Commission  
6           has heard your evidence on EHS, and I respectfully  
7           accept it. What we covered earlier.

8                         But the point I want to focus on, it may be  
9           adequately expressed in the balance of that paragraph,  
10          where it says

11                         "If the true cause of an affliction is not  
12           diagnosed, it can lead to negative  
13           consequences for an individual."

14          That's a truism, I would --

15 DR. CARPENTER:    A:    That's true, yes.

16 MR. MACINTOSH:    Q:    It goes on,

17                         "Medical professionals and others may offer  
18           treatments that are not efficacious or have  
19           not been properly vetted for safety. The  
20           pursuit of these treatments can delay  
21           receiving effective medical care."

22          And I take it you would just accept those as truisms.

23 DR. CARPENTER:    A:    I totally agree with that, yes.

24 MR. MACINTOSH:    Q:    Okay. Now, in your report, in the  
25           neighbourhood of page 12 -- let me tell you what the  
26           topic is. On my page 12, there is a sentence --

1 DR. CARPENTER: A: Give me a number. Is it --  
2 MR. MACINTOSH: Q: Yes. Yes. What I'm looking at is a  
3 long paragraph that begins as an answer. And it is --  
4 no, it's just after question 2 is asked of you.  
5 DR. CARPENTER: A: Yes, I have it.  
6 MR. MACINTOSH: Q: And there is a sentence I want to  
7 question you on, that is of -- of some concern, at  
8 least to me. In that long answer, this is the answer  
9 that begins, "Everyone agrees ...".  
10 DR. CARPENTER: A: Yes.  
11 MR. MACINTOSH: Q: And toward the bottom of that  
12 answer, at least toward the bottom of that paragraph,  
13 counting up from the bottom, one, two, three, four,  
14 five lines, there is a sentence that says, "The  
15 assumption that there are no biological effects ...".  
16 Do you see that?  
17 DR. CARPENTER: A: Yes, I do.  
18 MR. MACINTOSH: Q: And I just want to get on common  
19 ground on definitions, if I can. The sentence in  
20 issue says,  
21 "The assumption that there are no biological  
22 effects of RF field exposure at intensities  
23 that do not cause measurable heating is  
24 false."  
25 And what you're saying, obviously, there, is that at  
26 sub-thermal, there can be biological effects.

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

2 MR. MACINTOSH: Q: And so I just want to get common on  
3 the concept of -- common ground, if I can, on the  
4 concept of biological effects. Because a biological  
5 effect is the body's response to something, in  
6 simplistic terms.

7 DR. CARPENTER: A: Yes, and it can be effects of cells  
8 or it can be effects of biological molecules.  
9 Obviously I'm most interested in effects in people.

10 MR. MACINTOSH: Q: Yes.

11 DR. CARPENTER: A: But it can be that whole range of  
12 effects on biological systems.

13 MR. MACINTOSH: Q: Fair enough. And one example, I  
14 believe is correct is that if you're in a fairly dark  
15 room and someone turns on a bright light, immediately  
16 your irises expand to make your pupils smaller.

17 DR. CARPENTER: A: Correct.

18 MR. MACINTOSH: Q: And that's a biological effect?

19 DR. CARPENTER: A: That's correct.

20 MR. MACINTOSH: Q: And if you're sitting in a room and  
21 someone comes in behind you and slams the door, I  
22 expect that Dr. Blank's lab can register 85 things  
23 that happened in my body. Those are all biological  
24 effects, right?

25 DR. CARPENTER: A: Those are biological effects.

26 **Proceeding Time 10:28 a.m. T32**

1 MR. MACINTOSH: Q: Very well. Now, in your report, at  
2 my page 14. It's under your response to question 4  
3 where you're asked to comment on the E<sup>x</sup>ponent Report,  
4 and there's a couple of places there I want to take  
5 issue with you on it. That wasn't my best sentence of  
6 the day, but if we go down to the bottom of that page  
7 in my copy, you've got in your answer the third  
8 paragraph and the last sentence of that paragraph and  
9 it begins: "The E<sup>x</sup>ponent Report dismisses..."

10 DR. CARPENTER: A: Yes.

11 MR. MACINTOSH: Q: And you write:

12 "The E<sup>x</sup>ponent Report dismisses the results of  
13 Hardell *et al.* and many others listed above,  
14 which document elevations in risk. This is  
15 both inappropriate and unjustified and is  
16 questionably ethical."

17 And I want to just take you to what Dr.  
18 Bailey actually said, and do you have the E<sup>x</sup>ponent  
19 Report there?

20 DR. CARPENTER: A: Yes, I do.

21 MR. MACINTOSH: Q: And if you can go to page 27 of --  
22 it's a double numbering system. It's page 27 of 47.

23 DR. CARPENTER: A: Oh.

24 MR. MACINTOSH: Q: So it's also page 23.

25 DR. CARPENTER: A: Oh yes. I have it.

26 MR. MACINTOSH: Q: And it's toward the bottom of that

1 page that he makes comment on Hardell in that last  
2 paragraph that begins: "Most other epidemiological  
3 studies..." and then he references Hardell a couple of  
4 times. And then he makes comment on them, and that  
5 goes over to the next page at the top of his page 24  
6 and he says:

7 "The limitation of the author's analyses in  
8 these studies are the unclear definition and  
9 the..."

10 he goes on,

11 "...the selection of results from multiple  
12 overlapping studies. These decisions result  
13 in data that is not always sufficiently  
14 clear."

15 And that's where I read him as dealing with  
16 -- as dealing with Hardell. And is that what you were  
17 referencing when you said that it's inappropriate and  
18 questionably ethical how he's done that?

19 DR. CARPENTER: A: Yes, that certainly is. I think the  
20 statement that is most telling is -- it's in the last  
21 few words on the previous page: "However, limitations  
22 in the analysis have been raised..." and that's a  
23 dismissive statement which is not justified. The  
24 limits that have been raised have been raised by  
25 individuals that deny that there can be non-thermal  
26 effects. The Hardell papers in addition to the

1 Interphone are the basis for the IARC identification  
2 of radio frequency radiation as being possibly  
3 carcinogenic to humans. And the RF panel gave equal  
4 weight to Hardell as it did to Interphone in making  
5 that judgment.

6 So this dismissiveness of the Hardell  
7 study, who are in my judgment some of the best done  
8 studies on the issue, they certainly were better done  
9 than the Interphone study, which was full of all kinds  
10 of problems, but in fact the Hardell studies and the  
11 Interphone studies lead to the same conclusion. That  
12 being that of long latency, extensive use of cell  
13 phone increases risk of glioma on the side of the head  
14 the cell phone is regularly used.

15 MR. MACINTOSH: Q: Is it Dr. Hardell or Mr. Hardell.

16 DR. CARPENTER: A: Dr. Hardell.

17 MR. MACINTOSH: Q: And is he affiliated in some manner  
18 with Bioinitiative?

19 **Proceeding Time 10:33 a.m. T33**

20 DR. CARPENTER: A: Well, he was an author of one  
21 chapter in the Bioinitiative report, yes.

22 MR. MACINTOSH: Q: All right. In your report, by the  
23 way, I saw back at -- it's my page 4 of your report,  
24 in your response to question 1, one of the papers you  
25 appear to have cited in support under letter (d) in  
26 question 1, you have a number of answers. And about

1 two pages into your question 1, you've got, "There is  
2 consistent evidence of harm." Do you see that?

3 DR. CARPENTER: A: Yes.

4 MR. MACINTOSH: Q: And down at (d), you appear to rely  
5 on a paper authored by, among others, Ahlbom and  
6 Swerdlow -- Swedlow.

7 DR. CARPENTER: A: Yes.

8 MR. MACINTOSH: Q: And you saw nothing wrong with  
9 relying on those authors.

10 DR. CARPENTER: A: Well, I don't select papers just  
11 because they happen to agree with my position.

12 MR. MACINTOSH: Q: No.

13 DR. CARPENTER: A: This paper minimizes there being  
14 effects, and, you know, you can almost look at the  
15 authors and know what they're going to say,  
16 unfortunately. Ahlbom, Feychting, Savitz, and Swedlow  
17 are individuals that have consistently in multiple  
18 publications denied that there was an association  
19 between cell phone use and brain cancer. However,  
20 what I did in this section was summarize recent  
21 reviews that deal with the subject. And so I included  
22 the Ahlbom paper, even though I take issue with the  
23 conclusions of that paper.

24 MR. MACINTOSH: Q: Yes. And Mr. Weafer took issue with  
25 how you treated that paper. Do you recall that?

26 DR. CARPENTER: A: I'm sorry?

1 MR. MACINTOSH: Q: Mr. Weafer -- I'm sorry, because in  
2 fairness to you, you wouldn't have all the names here.  
3 But one of the lawyers who questioned you earlier was  
4 taking issue with you as to how you utilized that  
5 paper.

6 DR. CARPENTER: A: Yes, and wanted to have the whole  
7 actual paper.

8 MR. MACINTOSH: Q: That's correct.

9 DR. CARPENTER: A: -- provides.

10 MR. MACINTOSH: Q: All right. Now, also --

11 DR. CARPENTER: A: I have -- let me just say, though, I  
12 think my brief summary is accurate on this and the  
13 other issues he questioned me about. Certainly the  
14 abstracts are more complete. For the sake of brevity  
15 I didn't include all abstracts of all of these papers.  
16 But I believe my characterization under (d) is in fact  
17 accurate. An accurate reflection of that publication.

18 MR. MACINTOSH: Q: Well, I'm leaving that in the  
19 capable hands of Mr. Weafer.

20 Now, also, in your report where we were,  
21 where you were commenting on Dr. Bailey and what he  
22 had done, and you made your observation, further up on  
23 that same page, at the beginning of your answer to  
24 question 4 -- let me know if you're there.

25 DR. CARPENTER: A: Yes.

26 MR. MACINTOSH: Q: And your -- this is where you begin

1           your criticism of E<sup>x</sup>Ponent. Do you see that?

2 DR. CARPENTER:   A:    Yes.

3 MR. MACINTOSH:   Q:    And you begin by saying,

4           "The E<sup>x</sup>Ponent report accepts the fallacious  
5           assumption that there are no adverse health  
6           effects not mediated by tissue heating.

7           This is such a fundamental flaw as to  
8           invalidate the whole report..."

9           And so on.

10                       And let me suggest to you, sir, that what  
11           Dr. Bailey says in that report, and what he said  
12           repeatedly here, is his opinion that the recent  
13           science does not provide a scientific basis to  
14           conclude that there are adverse health effects. And  
15           you may disagree with that or you may not, but that's  
16           different from what you've characterized, isn't it?  
17           I'll repeat it. Do you want me to?

18 DR. CARPENTER:   A:    Oh, I don't think you need to repeat  
19           it. I recognize that he makes statements like that.  
20           But he gives no credit at all to the studies that I  
21           reference here, showing these elevations in various  
22           diseases, of which I am most concerned about cancer.  
23           Not so much EHS, which is -- at least doesn't kill  
24           people.

25                       But I do see that the recent literature,  
26           including the reviews in the original articles, show

1 consistent elevations in risk of brain cancer and  
2 leukemia in individuals exposed to radio frequency  
3 fields.

4 **Proceeding Time 10:38 a.m. T34**

5 Now, this leads to the whole question of  
6 smart meters because -- you haven't gotten there yet  
7 but let me just say now, I certainly understand that  
8 the exposure from most smart meters is less than you  
9 would get from holding a cell phone to your ear. But  
10 the issue is aggregate exposure, exposure from all  
11 sources.

12 MR. MACINTOSH: Q: Excuse me, sir, I'm interrupting  
13 because this is not responding to my question. This  
14 is a speech.

15 MR. AARON: Well, I think it is responsive.

16 MR. MACINTOSH: What I'm going to do, Mr. Chair, if I  
17 may, rather than object, I'm going to allow, if the  
18 Commission wishes it or is permitting it, to let Dr.  
19 Carpenter keep going and then I'll question him on  
20 things he says.

21 THE CHAIRPERSON: Yes, that's fine.

22 MR. MACINTOSH: Q: So just to back up to where we were  
23 --

24 MR. AARON: I thought he was going to let him keep going.

25 MR. MACINTOSH: Well, if you can remember --

26 MR. AARON: Not back up.

1 MR. MACINTOSH: Please.

2 THE CHAIRPERSON: Mr. Aaron, just let Mr. Macintosh  
3 continue, please.

4 MR. MACINTOSH: Q: I was going to try and assist you,  
5 Dr. Carpenter, by bringing us back to where we were,  
6 but if you want to just keep going you go ahead.

7 DR. CARPENTER: A: Well, I think I basically said  
8 everything I needed to say.

9 MR. MACINTOSH: Q: All right.

10 DR. CARPENTER: A: The E<sup>x</sup>ponent Report does not  
11 acknowledge the consistency of the elevated risk of  
12 leukemia and brain cancer as a result of exposure to  
13 radio frequency radiation.

14 MR. MACINTOSH: Q: All right. So let's get three  
15 points established and reconfirmed. You're not a  
16 researcher in radio frequency, correct?

17 DR. CARPENTER: A: Correct.

18 MR. MACINTOSH: Q: Secondly, none of the studies in  
19 your report are based on AMI, on smart meters,  
20 correct?

21 DR. CARPENTER: A: Correct.

22 MR. MACINTOSH: Q: You've said earlier, thirdly, you  
23 don't have the scientific expertise to measure the  
24 radio frequency from these meters as compared even to  
25 the standards of the Bioinitiative 2007, correct?

26 DR. CARPENTER: A: Correct.

1 MR. MACINTOSH: Q: Okay. Now, that's fine. So let me  
2 come back to what I was doing with your earlier before  
3 we had that discussion. What I was suggesting to you  
4 is this, is that what Dr. Bailey said in his report  
5 and repeatedly here was that the recent science, all  
6 of the science that he's seen, in his opinion does not  
7 provide the scientific basis to conclude that there  
8 are adverse health effects. Do you agree that that is  
9 the position he has expressed?

10 DR. CARPENTER: A: That is the position he expresses,  
11 yes. I don't agree with it but --

12 MR. MACINTOSH: Q: I know you --

13 DR. CARPENTER: A: -- it's what he expresses.

14 MR. MACINTOSH: Q: I know you don't and I understand  
15 that, and I think you've agreed, but let me confirm,  
16 that the expression he -- the position he expresses is  
17 in accord with Health Canada Safety Code 6, among  
18 other national and international regulators, correct?

19 DR. CARPENTER: A: Correct.

20 MR. MACINTOSH: Q: Thank you, sir. Those are my  
21 questions. Thank you, Mr. Chair.

22 THE CHAIRPERSON: Thank you. Mr. Fulton, do you have  
23 cross-examination.

24 MR. FULTON: No, Mr. Chair, thank you.

25 THE CHAIRPERSON: Okay. I have one question and it has  
26 to do with a term that was used in your cross-

1 examination. It was used several times and it was  
2 either "edit" or "editor", and I'd just like to  
3 understand this, and perhaps this is perhaps only for  
4 my own benefit, but just bear with me.

5 When Mr. Aaron was discussing with you your  
6 qualifications, you indicated or I think he indicated  
7 that you had edited a number of books, and you  
8 corrected him because he had the number wrong because  
9 there was another book that you had just recently  
10 edited. And the term "edited" was used there.

11 **Proceeding Time 10:43 a.m. T35**

12 I wasn't clear at the time whether you had  
13 written the books, or whether you were the editor of  
14 these books. And if you're -- if there is a  
15 distinction between the two terms. Could you -- and  
16 let me use the term "author" rather than "written".  
17 Could you discuss that and just clarify for me what  
18 was meant there?

19 DR. CARPENTER: A: Well, I'm glad you asked the  
20 question, because how I use the term "editor" may not  
21 be how everyone else uses the term.

22 When I am an editor of a book, I solicit  
23 chapters from other people. I do not edit their  
24 chapters. I don't go correcting their grammar. If  
25 that needs to be done, I'll hire a commercial editor  
26 to do that.

1                   So, when I edited the two books on  
2                   electromagnetic fields, I wrote an introductory  
3                   chapter, a concluding chapter, and I solicited  
4                   individuals who I considered to be experts in the  
5                   field to contribute chapters. I didn't -- I mean, I  
6                   read all of them, but only for my own interest. I  
7                   didn't make changes in those chapters.

8                   There was one comment, a criticism of the  
9                   Bioinitiative report, that the editing wasn't  
10                  consistent. Well, that's because we invited people to  
11                  write the chapters. They didn't all use the same  
12                  style for giving references and other things. We  
13                  didn't review their chapters to change the meaning or  
14                  anything. It was as they were submitted by the  
15                  authors.

16                  I hope that explains what I mean when I use  
17                  the term "I edited the book".

18 THE CHAIRPERSON:    So in this -- in the case of these  
19                        books, then, this wasn't -- I'll use the term  
20                        "original work" on your part. This was, as you say,  
21                        soliciting inputs and gathering them together, and as  
22                        you said, you authoring the introduction and authoring  
23                        the concluding section.

24 DR. CARPENTER:     A:    That is correct.

25 THE CHAIRPERSON:    Okay. So then in the case of the  
26                        reference to Cindy Sage, she -- and she was credited

1 with being an editor, or she edited the Bioinitiative  
2 report. That would be the same role that she played  
3 there?

4 DR. CARPENTER: A: Well, she perhaps played a little  
5 bit greater role than I did, because we together  
6 authored the introduction, and the Section 24, which  
7 was the public health chapter. But she did author a  
8 different chapter on standards. So, in those  
9 situations where we were the author, we wrote the  
10 chapter. Nobody else edited it or -- in that regard.

11 **Proceeding Time 10:46 a.m. T36**

12 But my role was to work with Cindy to  
13 identify individuals to write the different chapters,  
14 to correspond with them to get their concurrence that  
15 they would do that, and then simply to assemble the  
16 multiple products in one volume.

17 THE CHAIRPERSON: Thank you. We'll turn things over,  
18 then, to Mr. Aaron for re-examination.

19 **RE-EXAMINATION BY MR. AARON:**

20 MR. AARON: Q: Dr. Carpenter, I'd like to start with  
21 the four abstracts that counsel for CEC asked you to  
22 bring to your attention.

23 DR. CARPENTER: A: Let me just grab those.

24 MR. AARON: Q: Thank you.

25 DR. CARPENTER: A: I have three of them, but I seem to  
26 have misplaced the Volkow abstract. Probably in front

1 of me somewhere.

2 I'm sorry, I'm not finding that right away.

3 Let's proceed and if I need to I'll look some more.

4 MR. AARON: Q: The Volkow one was on top of your pile,  
5 I recall.

6 DR. CARPENTER: A: It was, but it isn't any longer.  
7 It's buried some place.

8 MR. AARON: Q: Well, let's see. Can you refer to the  
9 portion of your expert report in these proceedings  
10 where you reference the Volkow report? I believe it's  
11 at page 12.

12 DR. CARPENTER: A: Yes.

13 MR. AARON: Q: And your own -- where you reference  
14 Volkow under (c), on your list, on that page, Mr.  
15 Weafer pointed out your own commentary, and I quote  
16 you. "This shows direct effects of RF radiation on  
17 the brain with cell phone use."

18 DR. CARPENTER: A: Correct.

19 MR. AARON: Q: And then Mr. Weafer pointed you to a  
20 statement and asked you to confirm that the abstract  
21 says something to the effect that this finding is of  
22 unknown clinical significance.

23 DR. CARPENTER: A: Yes, and I agree with that  
24 statement. Just because brain cells have greater  
25 metabolism doesn't mean that that's carcinogenic.

26 MR. AARON: Q: My question --

1 DR. CARPENTER: A: I think --

2 MR. AARON: Q: My question --

3 DR. CARPENTER: A: (inaudible).

4 MR. AARON: Q: My question for you is whether your  
5 concluding comment in your report is consistent or  
6 inconsistent with the statement referred to in the  
7 abstract.

8 DR. CARPENTER: A: I think it's totally consistent with  
9 that statement. It shows a biological effect. It's  
10 not clear -- that that's \*\*evidence --

11 THE CHAIRPERSON: Mr. Aaron?

12 MR. AARON: Hold on, I think there is an objection, so  
13 we'll just pause.

14 MR. WEAVER: The question was a factual question,  
15 confirming what the abstract said was what Dr.  
16 Carpenter said. We have confirmed that. The document  
17 is coming in. I'm allowing the report to come in as  
18 well. The issue is not to now have him restate his  
19 opinion. His opinion is -- he put words in the  
20 document inconsistent with what those who did the work  
21 said. That's not proper re-direct, to now allow him  
22 to go and revisit his views.

23 **Proceeding Time 10:50 a.m. T37**

24 MR. AARON: I disagree. The cross-examination was  
25 something like this. " Look at your report, Doctor.  
26 This is what it says with respect to the Volkow study.

1           Can you confirm that that's in your report?" The  
2           witness would affirm that. He said, "I affirm that."  
3           "Now look at the abstract. Affirm that this is what's  
4           written in the abstract", and the witness would affirm  
5           that. End of story. There was no further questioning  
6           to the witness on are those two statements consistent.

7                           The question "Are those two statements  
8           consistent" arises from the cross-examination. It's  
9           not a revision of the witness's evidence. The  
10          evidence never -- the witness gave evidence on the  
11          consistency. There was certainly a suggestion through  
12          the manner of cross-examination that there was some  
13          kind of inconsistency. That it wasn't a suggestion  
14          that was put to the witness for his opportunity to  
15          comment on it, and I'm simply doing that by way of  
16          redirect.

17   THE CHAIRPERSON:    Mr. Weafer?

18   MR. WEAFER:        Mr. Chairman, the cross-examination pointed  
19          out that Dr. Carpenter utilized part of the abstract  
20          to support his description of the study, and then he  
21          put his own views as to what the study said,  
22          inconsistent with what the abstract specifically said.  
23          That's the issue. It is not now to go and review the  
24          study and find out if he can draw other conclusions  
25          from the study. I can let the record speak for itself  
26          on that.

1 THE CHAIRPERSON: I'd appreciate an opportunity to just  
2 hear from Mr. Fulton just to review with us, for  
3 everybody's benefit, the general rules and protocols  
4 that we follow on the re-examination.

5 Mr. Fulton?

6 MR. FULTON: The general rule, in my view, is that re-  
7 examination is the -- the point of re-examination is  
8 to allow clarification of the evidence where  
9 clarification is needed. It's not to allow a party to  
10 cross-examine, and we've had that issue dealt with  
11 earlier, in terms of suggesting answers to the party.

12 So in this case it may be that if Dr. --  
13 you may decide to allow Dr. Carpenter to answer the  
14 question, but then there will be argument as to  
15 whether or not his opinion has changed from what it  
16 was in his report, and what weight you should put on  
17 his evidence if there is a change.

18 THE CHAIRPERSON: Thank you.

19 Mr. Aaron, we're going to allow your  
20 question, but we may, depending on how far the answer  
21 goes and how expansive this becomes, we may have to  
22 jump in and stop things. So please go ahead.

23 **Proceeding Time 10:54 a.m. T38**

24 MR. AARON: Yeah. I really want to keep it limited to --  
25 in the case of each abstract, there was -- the witness  
26 was asked to confirm what was said in his report and

1           what was said in the abstract, and wasn't invited to  
2           comment on the consistency.

3                       The argument that I anticipate my friend  
4           making is there's an inconsistency, and I just want to  
5           give the witness a chance to speak to whether the two  
6           statements are consistent or inconsistent in each  
7           case.

8 MR. AARON:    Q:    So we will start, Dr. Carpenter, with  
9           asking you to comment on whether the statements are  
10          consistent or inconsistent as between the portion of  
11          the abstract of the Volkow report that was put to you,  
12          and the portion of your own report commenting on the  
13          Volkow report.

14 DR. CARPENTER:  A:    No, I don't think they're  
15          inconsistent at all.  I did make an error here, in  
16          that I should have put quotations around the first  
17          sentence, which was lifted directed from the abstract,  
18          and not around the last sentence, which was my attempt  
19          to be succinct in summarizing what the whole study  
20          reported.  I did in some cases, and apparently I  
21          neglected to put quotes around areas where I lifted  
22          sentences directly from the abstract.

23                       But these abstracts are long, and I was  
24          trying to make brief statements --

25 THE CHAIRPERSON:  Mr. Aaron, I think that's --

26 DR. CARPENTER:  A:    -- in each of the references that I



1 DR. CARPENTER: A: It's a brief summary. t summarizes  
2 in one sentence the conclusions of the abstract, and  
3 then makes the statement, that they argue that there  
4 are methodological reasons for these positive studies.  
5 The paper in general does not support strongly there  
6 being real risks, and they explain away the positive  
7 findings as being methodologic flaws in the study.

8 MR. AARON: Q: All right, thank you. And then on to  
9 the third one. Do you recall what the third one was?  
10 Was it the --

11 DR. CARPENTER: A: That's Park.

12 MR. AARON: Q: Ah, yes. Say that again, please?

13 DR. CARPENTER: A: Is it Park?

14 MR. AARON: Q: Okay, yes. And that's on page 3, I  
15 believe, of your report. Where you concluded this  
16 study found higher mortality areas for all cancers and  
17 leukemia in some age groups in the area near AM  
18 towers. And how is that statement consistent or  
19 inconsistent with the part of the abstract that was  
20 put to you? And why?

21 DR. CARPENTER: A: Well, that statement is a succinct  
22 summary of a much longer abstract. It's totally  
23 consistent.

24 MR. AARON: Q: All right, we'll leave it at that. And  
25 then the Michelozzi.

26 DR. CARPENTER: A: Again, it's the same issue. My

1 statements are brief summaries that are consistent  
2 with things that I said with many more words in the  
3 abstract, and I don't think that there is any  
4 identified inconsistencies between the summary that I  
5 gave, although it's much deeper, than what's in the  
6 abstract of the paper.

7 MR. AARON: Q: All right. Counsel for Fortis asked you  
8 to tell us if you were aware of the criticism of the  
9 Bioinitiative report.

10 DR. CARPENTER: A: Correct.

11 MR. AARON: Q: And you said you were aware of it.

12 DR. CARPENTER: A: Yes.

13 MR. AARON: Q: What do you make of that criticism?

14 THE CHAIRPERSON: I don't --

15 DR. CARPENTER: A: Well, I think most of them are  
16 unfounded.

17 MR. AARON: Hold on. There's just a comment here.

18 THE CHAIRPERSON: Well, I'm not so sure that this is an  
19 appropriate question. This allows the witness to  
20 expand in this area and I think -- I just don't think  
21 it's a reasonable question, Mr. Aaron.

22 MR. AARON: I respectfully disagree, Mr. Chair, and this  
23 is why. There is no -- there hasn't been direct  
24 examination of this witness. His direct evidence  
25 takes the form of his expert report.

26 **Proceeding Time 11:00 a.m. T40**

1                   So the first question is, was this matter  
2                   canvassed in his expert report. That is the criticism  
3                   within the scientific community of the Bioinitiative  
4                   report. And the answer to that question is no, his  
5                   report did not address the criticism within the  
6                   scientific community of the Bioinitiative report.  
7                   That matter was raised in cross-examination by Mr.  
8                   Macintosh. It was raised in a very limited way in  
9                   terms of whether he was aware of that criticism, and  
10                  I'm -- arising from that is his view on that  
11                  criticism. He wasn't asked to respond to that  
12                  criticism. He wasn't given an opportunity to rebut  
13                  that criticism.

14                  That's what redirect is for. It's when  
15                  something arises from something not raised In Chief,  
16                  and it's a fair question. What do you have to say  
17                  about that criticism?

18 THE CHAIRPERSON: Mr. Macintosh, would you care to  
19                  comment?

20 MR. MACINTOSH: Yes, thank you, Mr. Chair. First of all,  
21                  I was wanting to make a very clear record of the fact  
22                  that the Bioinitiative has not received the backing of  
23                  authorities that regulate RF frequencies around the  
24                  world. And I wanted the record clear that that  
25                  criticism exists, and the way to do that in part was  
26                  to have Dr. Carpenter acknowledge that.



1 substantive issues, and this isn't about defending the  
2 Bioinitiative report, but you're out there, you're a  
3 public health professor, and director. And there is  
4 criticism in the community of your review. Without  
5 defending your review, what's your take on that  
6 criticism? Completely fair matter arising.

7 THE CHAIRPERSON: Mr. Fulton?

8 MR. FULTON: Well, I do believe we're getting close to  
9 the line here, Mr. Chairman, as you have identified  
10 and Mr. Macintosh has spoken to.

11 It seems to me, however, that if the  
12 response is going to be a very limited response, which  
13 I took that Mr. Aaron was asking for, and not a full-  
14 blown defense of the Bioinitiative report, then in my  
15 view it would be appropriate to hear that.

16 THE CHAIRPERSON: Thank you.

17 Okay, I'm going to allow that question, but  
18 let me just comment. My concern really arises from  
19 the fact that during the course of cross-examination  
20 the Commission has been, I think, in the interests of  
21 trying to get as much useful information on the record  
22 as possible, we've been very tolerant in terms of  
23 allowing witnesses to expand very fully on the  
24 question that's been asked and at times take the  
25 question in a variety of -- in terms of their answer,  
26 take the question in a variety of directions.



1 DR. CARPENTER: A: Let me respond by identifying the  
2 five criticisms on page 17 in the Texas report,  
3 because I think they're listed and it's before the  
4 court already. I would agree with one of them.  
5 That's at the bottom.

6 THE CHAIRPERSON: Could you take us to a page number in  
7 that report, Dr. Carpenter? And I apologize for  
8 jumping in on you.

9 MR. AARON: Q: Did you hear that?

10 DR. CARPENTER: A: No.

11 MR. AARON: Q: We're looking for a page number in the  
12 Texas report.

13 DR. CARPENTER: A: Page 17.

14 THE CHAIRPERSON: Thank you.

15 MR. AARON: Do you mind turning up the volume? Thank  
16 you.

17 DR. CARPENTER: A: The last criticism was that it  
18 suffered from uneven editing quality, and this goes  
19 back to my conversation with the Chairman earlier. We  
20 did not forcefully require each contributor to use  
21 exactly the same style. It would have been preferable  
22 if it had the same standard of referencing and so  
23 forth throughout.

24 The other four criticisms I do not agree  
25 with.

26 "Provided views that are not consistent

1 with the consensus of science." Everything there is  
2 dependent on what one views as the consensus of  
3 science. I see the science differently than Dr.  
4 Bailey does. The views that were expressed in the  
5 Bioinitiative were the consensus of the individuals  
6 that contributed to the Bioinitiative report.

7 "Recommended safety limits that are not  
8 supported by the weight of scientific evidence." That  
9 is simply not true. The safety limits we proposed  
10 were based on the scientific evidence from human  
11 studies of biological effects of radio frequency  
12 radiation.

13 "Included selection bias in several  
14 research areas." That's nonsense. And I don't know  
15 where that came from. The issues of selection bias  
16 had been dealt with very forcefully in the Interphone  
17 study, where it was shown that selection bias did not  
18 explain away the positive results.

19 **Proceeding Time 11:09 a.m. T43**

20 "Lacked objectivity and balance." It  
21 certainly did not lack objectivity. Perhaps balance  
22 in the sense that we were presenting a response that  
23 was in objection to the ICNIRP conclusions that had  
24 been accepted by most federal and international  
25 agencies. I think that we had objectivity, perhaps we  
26 -- it could be said we did not have balance in the

1           sense we didn't have opposing views. But that was  
2           because we felt that our position was the correct one,  
3           on the basis of the weight of the evidence.

4 MR. AARON:    Q:   Thank you very much. On to another  
5           topic. You recall the testimony of McNamee was put to  
6           you.

7 DR. CARPENTER:   A:   I'm sorry?

8 MR. AARON:    Q:   Do you recall that the testimony of a  
9           Health Canada representative named McNamee was put to  
10          you?

11 DR. CARPENTER:   A:   Yes.

12 MR. AARON:    Q:   And your evidence was that you received  
13          some anecdotal report of the fact that he'd given  
14          testimony.

15 DR. CARPENTER:   A:   Yes.

16 MR. AARON:    Q:   Also, you were presented with Safety  
17          Code 6 and statements in there that the Health Canada  
18          had reviewed all the scientific material and concluded  
19          that there are no adverse health effects at non-  
20          thermal levels.

21 DR. CARPENTER:   A:   Correct.

22 MR. AARON:    Q:   And your evidence was that -- it was  
23          your view that this was outrageous.

24 DR. CARPENTER:   A:   That's correct.

25 MR. AARON:    Q:   My question for you is, your view in  
26          that regard, that it's outrageous, is that a view



1 studies, and just to paraphrase your evidence, you  
2 said something about human studies and how valuable  
3 they are for determining human health effects. And  
4 you said something about cell studies and your  
5 language was you want to look at those when you're  
6 going after a mechanism.

7 My question is, on one hand you have  
8 determining human health effects. On the other hand  
9 you have going after a mechanism. And is there a  
10 distinction between those two lines of investigation?

11 DR. CARPENTER: A: I think there's a major distinction.  
12 Remember I'm a public health physician. That means  
13 I'm trying to protect human health. And if I find  
14 that something causes disease but I have no idea how  
15 it does so, I'm not going to wait until I know the  
16 mechanism before I try to reduce the risk of  
17 developing that disease.

18 Now, it should be obvious that most of my  
19 personal research has been actually in animal and  
20 cellular systems.

21 THE CHAIRPERSON: I think, Mr. Aaron --

22 DR. CARPENTER: A: Some is human, but I value that  
23 research.

24 MR. AARON: Q: We'll just stop you there. I think you  
25 answered the question with respect to the distinction  
26 between the two, and this can't be an opportunity for

1 me to elicit a broader restatement of your evidence.

2 There was much -- so this -- how does this  
3 distinction, or how do each of these lines of  
4 investigation inform the question of whether there's  
5 an established scientific basis for a human health  
6 effect, or for a risk?

7 THE CHAIRPERSON: I think you're again going beyond  
8 reason here, Mr. Aaron.

9 MR. AARON: Okay, I'll withdraw that.

10 THE CHAIRPERSON: I'd really as you to be diligent here  
11 in terms of respecting what's allowed in re-  
12 examination.

13 MR. AARON: Q: All right. Going to page 73 of the  
14 McNamee transcript.

15 DR. CARPENTER: A: I don't have the transcript of the  
16 McNamee.

17 **Proceeding Time 11:16 a.m. T45**

18 MR. AARON: Q: Okay, well, on page 73 of that  
19 transcript, a passage of McNamee's testimony was read  
20 to you, at page 73, line 3, where he said

21 "Everywhere. Everywhere. The research  
22 that's being done and the thousand of  
23 studies that are being done are not on  
24 thermal aspects, it's on the non-thermal  
25 work aspects. And despite those thousands  
26 of studies, we're still no closer to finding

1           a mechanism or an adverse effect related to  
2           those."

3           And my friend put it to you that he takes it that you  
4           disagree with that statement.

5 DR. CARPENTER:   A:   Yes, I do disagree with that  
6           statement. I think we have several mechanisms, all of  
7           which lead to cancer, where we have demonstrated that  
8           radio frequency fields, cause biological effects that  
9           indirectly lead to cancer.

10 MR. AARON:   Q:   Can you turn to page 53 of the McNamee  
11           report, please?

12 DR. CARPENTER:   A:   I'm sorry, I didn't understand.

13 MR. AARON:   Q:   Oh, sorry, you don't have the McNamee  
14           report. So I'm going to read to you from it, at page  
15           53. At the top of page 53, there is a reference to --

16 THE CHAIRPERSON:   I'm not so sure, Mr. Aaron, that this  
17           is reasonable, in terms of referring the witness to  
18           what I understand to be new information. Is that --  
19           my memory may not be serving me correctly, but I'm not  
20           so sure that this reference has been used.

21 MR. AARON:   Well, the document was not commented on by  
22           the witness In Chief, so to speak, in his written  
23           report. In fact, I don't think it was available. The  
24           document was raised and put to him in cross-  
25           examination, and so arising out of that is an  
26           opportunity to ask him for a comment on any passage



1                   Does that reference bring you to an  
2                   awareness of a particular study?  
3 DR. CARPENTER:   A:    That was not a study.  That was a  
4                   review article.  
5 MR. AARON:       Q:    Okay.  And are you aware of that review  
6                   article?  
7 DR. CARPENTER:   A:    Yes, I am.  
8 MR. AARON:       Q:    And what's your opinion on the veracity  
9                   of it?  This is because I have a follow-up question on  
10                  the material I'm --  
11 THE CHAIRPERSON:  Yes, but I don't think that's a  
12                  reasonable question, Mr. Aaron.  
13 MR. AARON:       A:    All right, we'll leave this.  
14 MR. AARON:       Q:    Your evidence was that you cited  
15                  Swerdlow in your report but that you didn't agree with  
16                  his conclusions.  Correct?  
17 DR. CARPENTER:   A:    Yes.  
18 MR. AARON:       Q:    And so how is it that -- please, I  
19                  invite you to give us an explanation as to the  
20                  inclusion in your report of an article that -- in  
21                  relation to which you don't agree with its  
22                  conclusions.  
23 MR. MACINTOSH:   Mr. Chair, that was answered, and Dr.  
24                  Carpenter said because he wants to be even-handed and  
25                  he wants to look at both sides and be all-inclusive  
26                  and be fair-minded and so on and so on and so on,



1           so I'm going to ask our technical people to contact  
2           you following this session today, if it's not undue  
3           work for you, just to help them understand the type of  
4           equipment you're using, so that we can perhaps inform  
5           some guidelines we're going to develop for this  
6           technology in the future. So you might expect to hear  
7           from them. So again, thank you.

8                               Mr. Aaron?

9   MR. AARON:   Given on that note, and given that this  
10           concludes cross-examination of CST witnesses, I just  
11           wanted to make a statement of gratitude and  
12           appreciation to the other parties, participants, for  
13           their accommodation, consenting to our request to have  
14           our witnesses appear by video conference, and also to  
15           the panel for accommodating that request. And but  
16           very much also to the Hearing Officer and the court  
17           reporters for going above and beyond the call of duty  
18           in facilitating that. And so our gratitude for that.

19   THE CHAIRPERSON:   Thank you.

20   THE WITNESS:   And I very much appreciate the possibility  
21           of doing this by video conference rather than having  
22           to travel so far and carry along a whole pile of  
23           papers. Thank you so much.

24   THE CHAIRPERSON:   Well, you've missed out on a chance to  
25           come to beautiful Kelowna. So perhaps on another  
26           occasion you can have a visit under less trying



1           *Commission*, which addresses the issues of  
2           reconsideration applications and the matters to be  
3           considered.

4                         So I will provide the Panel now with a copy  
5           of the extracts from the *Participants Guide*, plus a  
6           copy of Mr. Bennett's application.

7                         First of all, in terms of the application,  
8           and I'll touch on these matters now so Mr. Bennett can  
9           deal with it when he comes forward, and that the  
10          others will know what my position is on this document.

11 THE CHAIRPERSON:    Mr. Fulton, I'm just wondering if it  
12                         would be -- I hope Mr. Bennett can hear clearly. If  
13                         he wants to, he may want to move closer to the front.  
14                         I just want to make sure that everything that is  
15                         covered here is clearly heard and understood by Mr.  
16                         Bennett.

17                         Please take a seat.

18 MR. FULTON:         So, just to put this matter into context,  
19                         Mr. Chairman, the issue of the admissibility of  
20                         Exhibit C17-24 was dealt with in transcript Volume 8,  
21                         at pages 1489 to 14 -- or 1476 to 1492. So transcript  
22                         Volume 8, 1476 to 1492. The Commission's ruling is at  
23                         transcript Volume 8, pages 1489 to 1491.

24                         Mr. Bennett, in his request for  
25                         reconsideration, acknowledges that he took no position  
26                         on the application, and that acknowledgement is found

1 at transcript Volume 8, page 1483.

2 **Proceeding Time 11:29 a.m. T49**

3 At transcript Volume 8, page 1491, in  
4 making its ruling the Panel did note that both Mr.  
5 Bennett and Mr. Shadrack took no position on the  
6 application.

7 It is, in my experience, highly unusual  
8 that a party who takes no position on an application  
9 should later apply to reconsider the ruling of the  
10 Panel on a decision that was before it and -- during  
11 which the party was present. Now, some latitude needs  
12 to be given because Mr. Bennett is not experienced in  
13 matters before the Commission. He has had  
14 considerable involvement in this application, but on  
15 the procedural aspects I don't expect him to be as  
16 familiar as others.

17 He may or may not be aware of the  
18 *Participants Guide* and the factors that the Commission  
19 takes into account in reconsideration applications.  
20 He wasn't here this morning when I distributed the  
21 extract. The extract, I will give him a copy now, and  
22 I'll just move away from the mike for one moment.

23 Yesterday, Mr. Chairman, in determining the  
24 request by Mr. Aaron on behalf of CSTS, you did refer  
25 to the tests for a reconsideration that are found on  
26 pages -- that are found at page 35 of the *Participants*



1 going to have on that evidence. In addition on the  
2 evidence that we heard this morning, because Dr.  
3 Carpenter was cross-examined on C17-24.

4 The last item that I had in terms of the  
5 letter that Mr. Bennett sent, and I'm happy to see  
6 that he's here this morning, because in my view the  
7 portion of his letter that begins with "Here is my e-  
8 mail on February 13, 2013 to the Chair of Texans  
9 Against Smart Meters", is not something that should be  
10 placed on the record at this point, because it  
11 introduces new evidence which the time has past for  
12 that happening.

13 Again, I can understand that Mr. Bennett is  
14 not experienced in matters before the Commission, he's  
15 not a lawyer, so he would not normally expect -- or he  
16 wouldn't normally know that that was the case. But,  
17 to the extent that his request, his written request  
18 forms part of the record, in my view it should stop at  
19 the second paragraph on page 2. So that that  
20 paragraph could be included, but in my view the rest  
21 of the document should not appear on the record.

22 Now, I have spoken, probably out of turn,  
23 but it was to assist the Commission in terms of  
24 guiding you as to where this matter was discussed on  
25 the record and what the practice before the Commission  
26 is in terms of reconsideration, and hopefully that

1 will enable Mr. Bennett to focus his submissions in  
2 terms of why the Commission Panel should reconsider  
3 the application.

4 In terms of process, I suggest that Mr.  
5 Bennett make his submissions and we follow the process  
6 that we followed previously, that those that support  
7 speak, those that oppose speak and then Mr. Bennett  
8 have an opportunity to reply.

9 THE CHAIRPERSON: Thank you, Mr. Fulton.

10 Mr. Bennett, just to echo a comment that  
11 Mr. Fulton made. The Panel appreciates that this is  
12 not something that you're practiced in, in terms of  
13 dealing with the Commission processes. So if you do  
14 have additional questions as we go along, please feel  
15 free to ask Mr. Fulton for process related advice  
16 here.

17 So, I'd appreciate it then, if you would  
18 comment in terms of your application, but specifically  
19 in the context of the reconsideration guidelines that  
20 the Commission follows.

21 **SUBMISSIONS BY MR. BENNETT:**

22 MR. BENNETT: Yes. Well, I want to try to do this  
23 carefully as possible, but of course, you'll keep me  
24 in line on this. But when this application was  
25 brought forward for C17-24 to be an exhibit,  
26 specifically my dialogue in Volume 6, you know, line



1 going to get me if I'm out of line with this. I truly  
2 wouldn't be here today if that information wasn't so  
3 relevant to this precedent setting proceeding.

4 THE CHAIRPERSON: We understand the position you hold on  
5 that, sir.

6 MR. BENNETT: But I would just ask that -- you know, my  
7 scientific position on this, and as I reported to the  
8 Lieutenant Governor is, the document is baseless and  
9 actually out of line --

10 THE CHAIRPERSON: No, we understand that.

11 MR. BENNETT: Considering I was part of the Texas Public  
12 Utilities expert panel on this, and that document did  
13 not include or address any of the issues that we  
14 brought up as part of their expert panel. And that  
15 information brought up for the Texas Public Utilities  
16 panel was specific to causation, biological  
17 plausibility and reproducibility and the fact that  
18 they left out bioelectricity.

19 THE CHAIRPERSON: Okay, thank you, sir.

20 MR. BENNETT: And does that address those four bullet  
21 points?

22 THE CHAIRPERSON: Well, I -- the onus is on you, sir, to  
23 address the bullet points.

24 MR. BENNETT: Well, you know, okay -- well, I would say  
25 that -- I don't know if the Commission -- the  
26 Commission made an error in fact that they made

1 reference to this application being accepted because  
2 of my cross-examination in Volume 6 specific to those  
3 pages, and that was one of the reasons even in stating  
4 that you accepted that application, was specific to my  
5 name being mentioned again with that.

6 **Proceeding Time 11:39 a.m. T52**

7 Next is, you know, there's a fundamental  
8 change in circumstances related to this because of  
9 biological plausibility, causality being recognized  
10 for the first time in a utility application.

11 And again, that -- just to say this. When  
12 you talk about a change in circumstances or facts,  
13 representing causality, biological plausibility and  
14 reproducibility in humans being electrical  
15 substantiates the medical reporting of your witnesses  
16 after the fact. The scientific reality of that.  
17 Whereas the thermal effect is really archaic, such  
18 limited science that is so inaccurate related to this.  
19 And if I can say that, that every time there's a power  
20 density change, I don't know --

21 THE CHAIRPERSON: Mr. Bennett, you've already had your --  
22 to use the term, your day in court on that one.

23 MR. BENNETT: Okay.

24 THE CHAIRPERSON: So I would ask you to --

25 MR. BENNETT: Well, the only reason I say that it's  
26 specific to testimony that's been given to you related

1 to power density changes and thermal and non-thermal  
2 effects --

3 THE CHAIRPERSON: Well, I appreciate that, thank you.

4 MR. BENNETT: I apologize.

5 THE CHAIRPERSON: Okay, thank you very much.

6 MR. BENNETT: Thank you.

7 THE CHAIRPERSON: Then I would ask any parties in support  
8 of the application, come forward please.

9 Seeing none, any parties opposed to the  
10 application?

11 MR. ANDREWS: I'm must rising to say that whatever  
12 decision the Commission makes on this, Mr. Bennett is  
13 quite free to make the comments and criticisms that he  
14 has of the Texas Report to the Commission within his  
15 final written argument in this proceeding. Thank you.

16 THE CHAIRPERSON: Thank you. Any other parties opposed  
17 to the application? Mr. Weafer?

18 **SUBMISSIONS BY MR. WEAFER:**

19 MR. WEAFER: Thank you, Mr. Chairman. I won't address  
20 most of what Mr. Bennett said in terms of some of the  
21 submissions, but in terms of the test for  
22 reconsideration, as has been discussed already in this  
23 proceeding, I submit there has been no error in fact  
24 or law. To the extent Mr. Bennett is concerned that  
25 there was a reference to the transcript in his cross-  
26 examination of Mr. Loski, that was not the primary

1 basis for requesting that the Commission accept the  
2 document.

3 **Proceeding Time 11:42 a.m. T53**

4 The reason for requesting that the  
5 Commission accept the document was that it was in fact  
6 already on the record. It was referred to in a Fortis  
7 IR 2.4.3 of Exhibit 9.13.1. So the address for that  
8 report and the topic of that report has been the  
9 subject matter of evidence in this proceeding since  
10 February. So, and I think that ultimately was the  
11 primary basis for the Commission accepting the filing.  
12 So there's been no error in fact or law.

13 With respect to fairness to the process,  
14 and the Commission being sure that the witnesses have  
15 a sense of what's on the record, while Mr. Loski  
16 apparently, in Mr. Bennett's position, misunderstood  
17 the cross-examination and turned his mind to a report  
18 that he thought was on the record, in fairness, for  
19 the Commission to know what that report is and to know  
20 that it was referred to in the IR process, that is in  
21 the interests of having a broad evidentiary basis for  
22 the proceeding. So I don't think there was an error,  
23 and even if there was, it's not material to the  
24 determination of the Commission and the decision.

25 In terms of the other criteria, there's no  
26 fundamental change in circumstances or facts since the

1 decision, except Mr. Bennett has now understood that  
2 he probably shouldn't have said "took no position" at  
3 the time, and that's not really conducive to a  
4 effective and efficient process. That someone can  
5 come up later and say "I misunderstood, I want to come  
6 again." So it's a bit problematic to an efficient  
7 hearing process. There's no basic principle that has  
8 not been raised in the original decision by the  
9 Commission, and no new principle has arisen as a  
10 result of the decision. So, in terms of the criteria  
11 this Commission uses, the document should stay on the  
12 record. Thank you, sir.

13 THE CHAIRPERSON: Thank you. Mr. Shadrack?

14 MR. SHADRACK: Before I speak, I want to make sure I'm  
15 not out of line. I don't want to talk in opposition  
16 to what -- I take no position, but I do have a concern  
17 about the original process around this. Could I speak  
18 to that or is it not the right time?

19 THE CHAIRPERSON: I don't think that's the right time to  
20 speak to about the original process.

21 MR. SHADRACK: Fair enough.

22 THE CHAIRPERSON: Thank you. Anyone else who has a  
23 position opposed to the application? Mr. Macintosh.

24 **SUBMISSION BY MR. MACINTOSH:**

25 MR. MACINTOSH: I do. Thank you, Mr. Chairman. First of  
26 all, as a matter of practice and process for the

1 Commission, reconsideration is a serious issue. It's  
2 not embarked upon lightly, and I cannot say "never"  
3 because I don't have complete knowledge. But I can  
4 say that I have no knowledge of it ever being used for  
5 an evidentiary ruling that was made in the course of  
6 the hearing. And once documents are admitted into  
7 evidence they are normally then dealt with on that  
8 basis thereafter. If someone seeks a remedy by appeal  
9 they can do so.

10 **Proceeding Time 11:45 a.m. T54**

11 But the practical problem is that once a  
12 document has been entered into evidence and then it's  
13 been the subject of questioning, it's very hard to  
14 unscramble the egg because there's pages and pages and  
15 pages of transcript which now rely upon the presence  
16 of that document as part of the record.

17 And I fully understand that Mr. Bennett is  
18 not legally trained, but it's not totally  
19 insignificant that he did not oppose the document  
20 going in when it did go in.

21 And related to that is this. In a  
22 proceeding of this breadth and complexity, oftentimes  
23 dozens of documents go in without commentary. They  
24 form themselves as part of the record very easily  
25 without analysis. When this went in, it was the  
26 subject of scrutiny. Mr. Aaron opposed it going in.

1 I believe it was Mr. Weafer was seeking that it go in.  
2 I wasn't present in the room. But in other words it  
3 was a considered issue at the time it went in. It  
4 didn't just go in haphazardly. That's at transcript  
5 1482 where Mr. Aaron gave his opposition. So it was a  
6 considered evidentiary ruling. It's a discretionary  
7 ruling by the Commission.

8 And another concern is that there was  
9 nothing wrong with putting the report in. The breadth  
10 of documentary evidence in a hearing of this nature is  
11 extremely, extremely wide, and just because a document  
12 contains portions or even the entirety of a document  
13 is something which an opponent disagrees with is not  
14 the test for it not being allowed to be part of the  
15 evidence.

16 So just because Mr. Bennett or someone else  
17 may disagree with something said by the Commission in  
18 Texas is not a ground for precluding the document from  
19 going into the evidence. If that were the test here,  
20 there wouldn't be any document in evidence because  
21 nobody agrees with everything here. And so the  
22 document now will be treated for what it is worth.  
23 Each side will seek to use it as they choose to or  
24 distinguish it as they choose to, and that's the way  
25 every document is considered in these processes.

26 I'm pausing just to see if my note should

1 include any further submission. Just give me one  
2 second as I stay on my feet, please.

3 **Proceeding Time 11:48 a.m. T55**

4 No, just let me summarize. It was an  
5 evidentiary ruling where the Commission was free to  
6 exercise its discretion. It was a considered ruling.  
7 The document has now entered its way into the record  
8 and been the subject of extensive questioning. And  
9 how the document will be weighted by the Panel in its  
10 deliberations will be the subject of the final  
11 arguments by the parties. Thank you.

12 THE CHAIRPERSON: Thank you. Mr. Fulton?

13 MR. FULTON: I have nothing further to say, thank you,  
14 Mr. Chairman.

15 THE CHAIRPERSON: Thank you. Mr. Bennett, do you have a  
16 reply to the comments that have been made?

17 **REPLY BY MR. BENNETT:**

18 MR. BENNETT: Two words I thought I'd never say -- I do.  
19 First off, in regards to -- can I say this,  
20 I've always wanted to say this -- in regards to my  
21 friend over here. Yes?

22 MR. MACINTOSH: Had trouble coming out of his mouth with  
23 that.

24 MR. BENNETT: Well, no, this is fine.

25 THE CHAIRPERSON: I heard you stumbling with those words  
26 in the same way you stumbled with the "I do" words.

1 MR. BENNETT: Yes. Yes, yes. I do. I did as well.

2 Now, just in regards to even Mr. Weafer  
3 talking about that document, or Mr. Macintosh talking  
4 about that document being in earlier IRs, that wasn't  
5 referenced in the application. Otherwise it would  
6 already be part of evidence. This application was  
7 specific to my volume, the -- specific to me, what I  
8 had said, to potentially open up this can of worms and  
9 put in this document.

10 Now, Mr. Loski -- and my questions to Mr.  
11 Loski were specifically related to my submitted  
12 evidence, not a previous document such as this. And  
13 again, something very important, and I say this with  
14 just great respect to all process, I'm not legally  
15 qualified but I'm exceptionally technically qualified,  
16 and it's just important that all the information get  
17 through to the Panel, in the best interests of all  
18 parties.

19 THE CHAIRPERSON: Thank you. The panel needs to  
20 deliberate on this matter, which I think we can do  
21 fairly quickly. But I think we need to have a short  
22 break to do that.

23 Are there other matters, Mr. Fulton, that  
24 you want to put before us that -- thank you, Mr.  
25 Bennett -- that you want to put before us that we need  
26 consider at the same time?

1 MR. FULTON: No, Mr. Chairman. The other matters that I  
2 have, I don't believe are controversial. So we can  
3 deal with them when you come back.

4 THE CHAIRPERSON: Okay. I'm just concerned about making  
5 best use of everyone's time. But perhaps we should  
6 just break briefly. Let me just confer with my  
7 colleagues here.

8 A 15-minute break. We'll then come back  
9 and I realize it's coming up to noon, but hopefully we  
10 can deal with this, you know, correctly, but also  
11 rapidly. Thank you.

12 MR. FULTON: Thank you, Mr. Chairman.

13 **(PROCEEDINGS ADJOURNED AT 11:52 P.M.)**

14 **(PROCEEDINGS RESUMED AT 1:14 P.M.)** **T56/57**

15 THE CHAIRPERSON: Please be seated.

16 This deals with the application presented  
17 to the Commission by Mr. Bennett for reconsideration  
18 of the admissibility of the -- or the decision to  
19 admit a particular document into the record.

20 And firstly with regard to Mr. Fulton's  
21 submission on the admissibility of the content of Mr.  
22 Bennett's letter, the reconsideration being a request  
23 being put on the record should be limited to the first  
24 and second page of Mr. Bennett's letter, ending at the  
25 words "link above" in the first full paragraph. The  
26 reason for this is that the remainder of the

1           submissions would constitute new evidence.

2                       Mr. Bennett requested reconsideration on  
3           the ruling excepting Exhibit C-17-24 as an exhibit.  
4           The Panel has not been persuaded, based on the  
5           criteria for reconsideration, that reconsideration is  
6           warranted. The primary reason the Panel agreed that  
7           the document should form part of the evidentiary  
8           record is that it had been entered in an IR from  
9           Fortis to Dr. Carpenter, and I'd refer you to C9-13-1,  
10          which requested that the Texas Staff Report be  
11          submitted. The Panel did note in its reasons that Mr.  
12          Loski said he believed the report had been filed, and  
13          no objection was raised at that time. However, the  
14          Panel decision did not hinge on that statement.

15                      Mr. Bennett takes a position contrary to  
16          the contents of the document, and I'd refer you to  
17          page 2 of Mr. Bennett's letter. This is not a ground  
18          for reconsideration.

19                      Mr. Fulton.

20       MR. FULTON:    Thank you, Mr. Chairman, and I would ask  
21          that the letter of Mr. Bennett dated March 15, 2013  
22          under the heading of Thermographics Consulting  
23          Corporation be marked the next exhibit in the C19  
24          series, which would be C19-18, and that letter have --  
25          the copy of the letter I have has the complete  
26          evidence so that that evidence that appears after the

1 second paragraph on page 2 of the letter that you  
2 referred to should all be blacked out so that it does  
3 not form part of the written record.

4 **Proceeding Time 12:16 p.m. T58**

5 So that means in turn that after that  
6 second paragraph, the balance of the page, the next  
7 page, and the two pages that follow should all be  
8 blacked out before the document is posted on the  
9 Commission website. So if that then could be marked  
10 Exhibit C19-18, with those changes.

11 THE HEARING OFFICER: Marked C19-18.

12 **(LETTER DATED MARCH 15, 2013 FROM THERMOGRAFIX**  
13 **CONSULTING CORPORATION WITH REDACTIONS, MARKED EXHIBIT**  
14 **C19-18)**

15 MR. FULTON: The next matter that I have, Mr. Chair,  
16 relates to some confusion on the record in terms of  
17 the time for filing outstanding IRs and undertakings.  
18 And you will recall that you pointed out yesterday in  
19 the record that Friday was in fact March the 22<sup>nd</sup>, and  
20 as I understood it, you allowed March 22<sup>nd</sup> to be the  
21 date for those filings. Yesterday in her submissions,  
22 towards the end of the day, on the outstanding  
23 undertakings, at transcript 2045, Ms. Herbst referred  
24 to the March 21<sup>st</sup> date. And nothing was said further,  
25 but the intention as I take it is that all the  
26 outstanding undertakings from both FortisBC and from

1 the interveners, together with the answers to the  
2 outstanding IRs, are to be by one date, and that date  
3 in fact is the March 22<sup>nd</sup> date.

4 THE CHAIRPERSON: That's correct. I didn't raise that  
5 issue yesterday. I had already had my round with you,  
6 Mr. Fulton, on whether Friday was the 21<sup>st</sup> or the 22<sup>nd</sup>.  
7 I didn't want to rub salt in the wound. But I agree  
8 with you. The correct date for submissions in terms  
9 of the deadline is Friday the 22<sup>nd</sup>.

10 MR. FULTON: Yes, Mr. Chairman. It's probably been more  
11 painful for me to stand up now and note again that I  
12 got the date wrong.

13 THE CHAIRPERSON: I wasn't going to say that.

14 MR. FULTON: The next matter, Mr. Chairman, relates to a  
15 letter of comment from Bev Allen that she has provided  
16 me with. It's dated March the 14<sup>th</sup>, 2013. I have had  
17 some discussions with Ms. Allen during the course of  
18 the week. You will recall that earlier in the week,  
19 on March the 11<sup>th</sup> we marked a letter of comment from  
20 her as Exhibit E31-2, and I did provide a copy of this  
21 letter to counsel for Fortis, and I'll let counsel  
22 speak to it in a moment.

23 **Proceeding Time 12:19 p.m. T59**

24 But I wanted to say, and I have advised Ms.  
25 Allen of this. Her letter contains questions that --  
26 the Commission doesn't answer questions. The

1 Commission will make its decision based on the  
2 evidence that it's heard in the oral hearing, based on  
3 the written filings it's received, and the Commission  
4 will speak through the decision that it makes on this  
5 application.

6 So I will turn the mike over to counsel to  
7 Fortis to just address this letter, and I will say  
8 that ordinarily when the Commission receives letters  
9 of comment we only receive one letter of comment per  
10 person and then those are put on the record. In this  
11 proceeding in instances we have received multiple  
12 letters of comment from individuals, and so in that  
13 respect I think that Fortis should be able to make a  
14 comment, if it has a comment, in terms of the letter  
15 before we mark it, certainly the ones that have been  
16 brought forward here.

17 THE CHAIRPERSON: Thank you.

18 MS. HERBST: Thank you, Mr. Fulton, thank you, Mr. Chair.  
19 It's simply to say that although we don't object to  
20 the filing of the letter, we don't agree with the  
21 content of the letter, of course, and so that's all I  
22 wanted to get on the record. Thank you.

23 THE CHAIRPERSON: Yes, thank you. I think under the  
24 circumstances we certainly haven't published  
25 guidelines at the moment limiting the letters of  
26 comment. If there's no objection to it, we'll allow



1 according to my watch at least, it's 12:22, March 15,  
2 2013, subject to the filing of any outstanding  
3 undertakings and responses to the IRs that the  
4 Commission Panel ordered FortisBC to answer yesterday.

5 So, that is my request.

6 THE CHAIRPERSON: So, Mr. MacMurphy just reminded me that  
7 should include intervener responses?

8 MR. FULTON: Yes, it is. And so it's subject to the  
9 filing of any outstanding undertakings.

10 THE CHAIRPERSON: Okay.

11 MR. FULTON: And I intended that to include interveners.  
12 So thank you for that clarification, Commissioner  
13 MacMurphy. So that's all outstanding undertakings.  
14 And the responses to the Information Requests that the  
15 Commission Panel ordered FortisBC to answer yesterday.

16 THE CHAIRPERSON: So ordered.

17 MR. FULTON: Thank you, Mr. Chairman. That concludes the  
18 comments that I have for the proceedings.

19 THE CHAIRPERSON: Thank you. I do have a few comments to  
20 add, if people will just -- I realize that time is  
21 rolling on, but if people will just indulge me for a  
22 few minutes, just some wrap-up comments. We've just  
23 gone through two weeks of what I describe as very hard  
24 work, which obviously required considerable  
25 preparation as well before the hearing. And this is  
26 because this is a very important matter with obviously



1 a hearing of this type, particularly being held away  
2 from the normal Commission facilities, and of this  
3 duration, is significant. And certainly again we've  
4 been well-served by the Hearing Officer and his staff,  
5 and I thank them for their help. But I also want to  
6 acknowledge the help and assistance of the hotel  
7 staff, and I want to thank them for a job well done.

8 Finally, on behalf of the Commission and my  
9 Commission panel colleagues, I thank everyone who has  
10 participated in this oral hearing, and everyone who  
11 showed the interest and took the time to attend.  
12 Thank you very much.

13 And for those people who are here from out  
14 of town, I wish everyone safe travels as they return  
15 home. Thank you very much.

16 **(PROCEEDINGS ADJOURNED AT 12:26 P.M.)**

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