

C A N A D A
PROVINCE DE QUÉBEC
DISTRICT DE BEAUHARNOIS
N° : 760-05-005093-107

C O U R S U P É R I E U R E
(Chambre civile)

CHRISTINA WHITE
Demanderesse

- c. -

VILLE DE CHÂTEAUGUAY
Défenderesse

- ET -

ROGERS COMMUNICATION INC.
Intervenante

- ET -

BERNARD ROY - JUSTICE QUÉBEC
Mis en cause

AUDIENCE TENUE LE 18 FÉVRIER 2013
DEVANT L'HONORABLE MICHELINE PERREAULT, J.C.S.

COMPARUTIONS :

Me ANDRÉ J. BÉLANGER,
pour la demanderesse

Me PATRICE GLADU,
pour la défenderesse

Me PIERRE Y. LEFEBVRE et
Me VINCENT CERAT-LAGANA,
pour l'intervenante

Me SIMON LAROSE,
pour les mis en cause

130218.CS

DENISE TURCOT, sténographe officielle

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JAMES McNAMEE
INT. PAR Me LEFEBVRE

1 EN L'AN DEUX MILLE DOUZE (2012), ce dix-huitième
2 (18e) jour du mois de février,
3

4 **Me PIERRE Y. LEFEBVRE :**

5 Alors, on peut commencer avec la
6 continuation de l'interrogatoire de
7 monsieur NcNamee. Mr. NcNamee?
8

9 **LA GREFFIÈRE :**

10 Faites-vous serment de dire la vérité,
11 toute la vérité, rien que la vérité?
12 Levez la main droite et dites: « Je le
13 jure. »
14

15 **Mr. JAMES NcNAMEE :**

16 Excusez, I...
17

18 **LA GREFFIÈRE :**

19 En anglais?
20

21 **Mr. JAMES NcNAMEE :**

22 Anglais, please.
23

24 **LA GREFFIÈRE :**

25 Do you swear to tell the truth, the real

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JAMES McNAMEE
INT. PAR Me LEFEBVRE

1 truth, and nothing but the truth? Raise
2 your right hand and say: « I do. »
3

4 **Mr. JAMES McNAMEE :**

5 I do.
6

7 **LA GREFFIÈRE :**

8 Can I have your name and your age and your
9 address, please?
10

11 **Mr. JAMES McNAMEE :**

12 James McNamee. And my what address?
13

14 **Mr. JAMES McNAMEE :**

15 Your address?
16

17 **Mr. JAMES McNAMEE :**

18 Home address?
19

20 **LA GREFFIÈRE :**

21 Yes.
22

23 **Mr. JAMES McNAMEE :**

24 202 Elliott Street, Kemptville, Ontario.
25

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INT. PAR Me LEFEBVRE

1 **LA GREFFIÈRE :**

2 And your age?

3

4 **Mr. JAMES McNAMEE :**

5 43.

6

7 **LA GREFFIÈRE :**

8 Thank you.

9

10 **INTERROGÉ PAR Me PIERRE Y. LEFEBVRE,**

11 **pour l'intervenante :**

12 Q.1 Mr. McNamee, I will ask you to speak a bit
13 louder so that everybody can hear what you
14 have to say.

15 A. Okay.

16 Q.2 Mr. McNamee, I would like to present you
17 a document which has been filed by Mrs.
18 Havas under tab 17 of P... it's P-62, tab
19 17. I'll show the document to you right
20 away. I would like to go to page 423. I
21 would ask you to read the three first
22 paragraphs under the heading « *The*
23 *Development and Implementation of Safety*
24 *Code 6* ». And my question, after you read
25 this, will be to ask you if these

1 representations that were made by Health
2 Canada, or the way they were understood by
3 the committee, are accurate or not?

4 A. Okay.

5 « *The committee heard*
6 *from Health*
7 *Canada...* »

8 Q.3 Read it for yourself, okay?

9 A. Okay.

10 Q.4 Take the time to read it and just tell me
11 if this is accurate and represents what
12 Health Canada does with regard to Safety
13 Code 6.

14 So, my question is, now that you've
15 read these three paragraphs, is this the
16 understanding of the committee, is it
17 accurate with regard to the functioning
18 and the adoption of Safety Code 6 and its
19 updating?

20 A. It is accurate.

21 Q.5 Thank you. Now, the last time you were
22 before us, you referred to three books and
23 literature. Could you explain why you did
24 bring these three books and literature?

25 A. The literature that was supplied

1 represents a large number of national and
2 international reviews of the science which
3 employ a weight of evidence, evaluation of
4 the scientific literature. As opposed to
5 going into individual research studies,
6 these authoritative reviews that are
7 conducted by national health agencies and
8 international organizations, they
9 represent a high level thorough synopsis
10 of the scientific literature which Health
11 Canada also is of the same opinion. So,
12 that's why these documents were supplied.

13 Also supplied, some very specific
14 topic area reviews and papers summarizing
15 literature of specific endpoints such as
16 gene and protein expression or electro-
17 magnetic hypersensitivity, some of those
18 types of issues.

19 Q.6 So, if we go through them, tab 1 is Safety
20 Code 6, so, we'll go through it. If we go
21 to tab 2, can you just describe to this
22 Court what...

23
24 **LA COUR :**

25 What exhibit are we looking at?

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INT. PAR Me LEFEBVRE

1 **Me PIERRE Y. LEFEBVRE :**

2 Ah, I'm sorry, PC-65.

3

4 **LA COUR :**

5 Oh, we're still at...

6

7 **Me PIERRE Y. LEFEBVRE :**

8 No, this is PC-62, yes, I'm sorry.

9

10 **LA COUR :**

11 Sorry, which binder, because I have three
12 binders?

13

14 **Me PIERRE Y. LEFEBVRE :**

15 The first binder.

16

17 **LA COUR :**

18 And which tab?

19

20 **Me PIERRE Y. LEFEBVRE :**

21 Tab 2.

22

23 **LA COUR :**

24 Okay.

25

1 **Me PIERRE Y. LEFEBVRE :**

2 Q.7 Could you just describe this document?

3 A. This document was published by the
4 National Institute for Public Health in
5 the Environments out of the Netherlands
6 and it represents a comparison of
7 international exposure recommendations
8 from various countries, mainly from
9 Europe. High-level summaries that most of
10 these countries either directly adopt the
11 recommendations of the ICNIRP, the
12 International Commission on Non-Ionizing
13 Radiation Protection standards, or they
14 use them in the derivation of different
15 policies and guidelines. Basically, they
16 outline the approaches that are taken by
17 most European countries.

18 Q.8 Is this document or some piece of
19 literature that has been considered by
20 Health Canada in the determination of
21 Safety Code 6?

22 A. No. No. No.

23 Q.9 So, why do you put it there?

24 A. It's a reference point for what other
25 countries are doing.

1 Q.10 Now, if we go to tab 3, same question,
2 what is this document?

3 A. This document is a document that was
4 produced by the Committee of Man and
5 Radiation, which is a sub-committee of the
6 Institute of Electronic and Electrical
7 Engineers. It's a standard-setting
8 organization out of the U.S. which sets
9 standards for many things, but in
10 particular to this case, with respect to
11 radiofrequency or electromagnetic energy.
12 So, they have come out with an information
13 sheet talking about how the science should
14 be evaluated in a weight of evidence
15 approach. They also discuss the
16 Bioinitiative Report which was a review
17 that was done by some scientists a couple
18 of years ago which advocated much more
19 restrictive exposure limits than those of
20 national health agencies. So, they have
21 comments on how that review was done and
22 how they disagree with those conclusions.

23 Q.11 Was this document revised or analyzed by
24 Health Canada?

25 A. No, it wasn't.

- 1 Q.12 So, what's the purpose of putting this in
2 the binder?
- 3 A. Once again, it's a reference document.
- 4 Q.13 Okay. Tab 4, what is this document?
- 5 A. This is a review article looking at non-
6 specific symptoms of health effects
7 associated with radiofrequency energy.
8 This article, once again, is a scientific
9 reference to literature that does not
10 support the evidence for non-specific
11 health symptoms related to very low
12 exposure to radiofrequency energy. This
13 was not considered in developing Safety
14 Code 6 2009 because it was published in
15 2011, but it is literature since that
16 date.
- 17 Q.14 Tab 5, what is it?
- 18 A. This is a statement by the International
19 Commission on Non-Ionizing Radiation
20 Protection reaffirming their exposure
21 limits that they published in 1998,
22 indicating that there are no new health
23 effects upon which to derive new exposure
24 limits.
- 25 Q.15 Is this a document that was revised by

1 Health Canada?

2 A. It was not revised by Health Canada, it
3 was reviewed by Health Canada.

4 Q.16 Reviewed, I'm sorry.

5 A. Yes.

6 Q.17 Sometimes my English, not being my mother
7 tongue, revise and review for me are
8 almost synonym, but I understand they're
9 not. So, it was reviewed. And what use
10 did Health Canada make of this document?

11 A. Well, this document also accompanied a
12 very large review, which I'm sure we'll
13 get to as well. It acted to reinforce our
14 own assessment of the scientific
15 literature.

16 Q.18 Tab 6 I will go over. Tab 7, what is this
17 document?

18 A. Tab 7, this is a journal article published
19 in the Lancet Oncology Journal by the
20 International Agency for Research on
21 Cancer. In 2011, an expert panel was
22 composed to assess the possible cancer
23 risks of radiofrequency energy. I was
24 actually a member of that expert panel.
25 So, this is a synopsis of the conclusions

1 of that committee, or expert committee,
2 which came up with a recommendation to put
3 radiofrequency energy as a Class 2B agent,
4 terminology being as possibly carcinogenic
5 to humans. This classification is meant
6 to reflect there is some evidence, from
7 human studies and from animal studies,
8 that could be used to formulate a decision
9 of carcinogenicity. But it's also an
10 acknowledgement that there's a much
11 greater... or there's a large number of
12 other evidence that doesn't support that.
13 So, essentially, Class 2B is a category
14 for additional study. It means there is
15 evidence, it doesn't necessarily mean the
16 evidence is strong or causal. Most agents
17 that are studied by this group end up in
18 Class 2B.

19 Q.19 So, was this document reviewed by Health
20 Canada?

21 A. This document was published in 2011, which
22 is after Safety Code 6.

23 Q.20 But I understand that Health Canada, you
24 know, you review the literature
25 (inaudible)?

1 A. Oh, on an ongoing... yes. So, much of the
2 literature that was reviewed by this panel
3 was also reviewed by Health Canada.

4 Q.21 So, what impact did this document have on
5 the decision or not to review the Safety
6 Code 6?

7 A. This didn't change our position of the
8 literature. This is just another
9 formalized approach to classify agents as
10 to their likelihood of carcinogenicity.
11 This group takes more of a strength of
12 evidence, is there evidence that this
13 could be a risk as opposed to a weight of
14 evidence approach.

15 Q.22 And can you explain - I think you
16 testified on this the last time, on the
17 weight evidence approach - could you just
18 develop this, what is a weight evidence
19 approach?

20 A. In a weight of evidence approach, you're
21 not taking one single study on a single
22 health effect and using that as evidence
23 to derive exposure limits, you're looking
24 at the entirety of the scientific
25 literature, both specifically on the

1 health endpoint you're looking at, but
2 also looking at converging lines of
3 evidence. So, if you're looking at gene
4 and protein expression, for instance, are
5 downstream genes being affected or are
6 specific pathways being affected. You
7 know, you could see a gene changing, but
8 you know, if other evidence, you know, if
9 the proteins aren't being affected... when
10 you're doing science, there's always false
11 positives and there are always artifacts,
12 and statistically, we expect these. So,
13 that's why you're looking at the bulk of
14 the scientific literature. And it's also
15 very important when doing a weight of
16 evidence evaluation that you're assessing
17 the quality of studies, you're not just
18 counting studies. One study found this
19 and one study found that. You're actually
20 assessing it for quality. There's a great
21 many quality criteria you have to take
22 into account in assessing.

23 Q.23 How does Health Canada assess the quality
24 of a study?

25 A. We go through every document very very

1 thoroughly. You have to look at the
2 design of the experiment, does it have
3 enough biological replicates, does it have
4 enough cases, does it have enough
5 statistical power to find an effect, did
6 it run the appropriate statistics, if it's
7 an animal or an in-vitro study, is thermal
8 confounding, basically thermal artifacts,
9 have they been properly accounted for, is
10 the exposure system properly
11 characterized, do we actually know what
12 the dose is. I would say roughly half the
13 papers in this field have improper design
14 and characteristic of their exposure
15 system, they don't even know what they're
16 exposing, they don't know if there are hot
17 spots in their sample. Really, there's a
18 wide variety of quality in this
19 literature.

20 Q.24 If we go to tab - I think we were at tab
21 8 - if we go to tab... oh, tab 9 then,
22 let's go over, tab 9, what is this
23 document?

24 A. This document is a very large review by
25 the International Commission on Non-

1 Ionizing Radiation Protection published in
2 2009, prior to our updating of Safety Code
3 6. And this document looks at a large
4 large number of health impacts and does a
5 weight of evidence evaluation of the
6 scientific literature. It is actually an
7 excellent resource and review of the
8 scientific literature, looking at both
9 studies that have effects and that don't
10 have effects.

11 Q.25 Is it a document that has been reviewed by
12 Health Canada?

13 A. Yes.

14 Q.26 And what was the use made by Health Canada
15 of this document?

16 A. Once again, this was a reference document
17 that supported our own conclusions on the
18 issue.

19 Q.27 Now, let's go to the second book. Do you
20 have it? Let's go to tab 10.

21 Ça va, Madame la Juge?

22

23 **LA COUR :**

24 Tab 10?

25

1 **Me PIERRE Y. LEFEBVRE :**

2 10. C'est le deuxième volume.

3

4 **LA COUR :**

5 Ils ont été mal identifiés.

6

7 **Me PIERRE Y. LEFEBVRE :**

8 Q.28 What is this document at tab 10?

9 A. This is a review article published by an
10 international group of scientists, many of
11 which were members of the ICNIRP standard
12 committee on health and biology. It's
13 looking at the evidence for there being
14 nervous-system effects from exposure to
15 radiofrequency fields and energy. And the
16 consensus of this paper was that there was
17 supporting evidence of that at low-field
18 exposure levels.

19 Q.29 Was this document reviewed by Health
20 Canada?

21 A. I don't believe this document was
22 published before our last Safety Code 6
23 document, but it is certainly supportive
24 of the literature assessment that we have
25 done.

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- 1 Q.30 Tab 11?
- 2 A. Tab 11 is the standard for radiofrequency
3 energy, it's one of two major standards in
4 the world, ICNIRP being one, and IEEE C-
5 95.6 I believe, C-95.1 being the other.
6 This is published by the Institute for
7 Electronic and Electrical Engineers. This
8 is a very large document discussing the
9 scientific literature and the basic
10 restrictions and reference levels that
11 have been set forth by this organization,
12 with extensive documentation of the
13 scientific literature.
- 14 Q.31 And was this document reviewed by Health
15 Canada?
- 16 A. Yes.
- 17 Q.32 Yes. And what use did Health Canada make
18 of this document?
- 19 A. This document supported the scientific
20 decisions that Health Canada had on this
21 issue.
- 22 Q.33 Tab 12, what is this document?
- 23 A. This document, Recent Advances in Research
24 on Radiofrequency Fields and Health 2004
25 to 2007; this is a review article in which

1 I'm a co-author. Several members of the
2 Royal Society of Canada are also on this.
3 I was invited by them to contribute a
4 portion of the study. And it reviewed the
5 scientific literature between the years
6 2004 and 2007 on possible health effects
7 of radiofrequency fields at low-exposure
8 levels. And the consensus of this
9 document was there were no new health
10 effects.

11 Q.34 Tab 13?

12 A. Tab 13 is a review article on gene and
13 protein expression that I wrote, along
14 with a colleague of mine, in 2009. I
15 think we summarized the results of about
16 60 papers, though I'm not sure, 70 papers,
17 on this topic, looking at gene expression
18 and protein expression. Heat shock
19 protein changes a great deal of
20 literature.

21 Q.35 Was this document reviewed and used by
22 Health Canada?

23 A. Yes.

24 Q.36 Yes. And in what respect?

25 A. It was evidence supporting the decisions

1 in Safety Code 6.

2 Q.37 Tab 14?

3 A. Tab 14 is a document by the Health Council
4 of the Netherlands commenting on the
5 Bioinitiative Report of 2007, indicating
6 their concern about the approach taken in
7 the Bioinitiative Report and their non-
8 support for the conclusions derived from
9 that report.

10 Q.38 Was this document reviewed by Health
11 Canada?

12 A. No.

13 Q.39 Is it considered by Health Canada, was it
14 read (inaudible)?

15 A. Well, it has been read since, I don't
16 believe that we had reviewed this document
17 at the time when we developed Safety Code
18 6. But it certainly is in line with our
19 opinions on the Bioinitiative Report.

20 Q.40 Tab 15?

21 A. This is a document from a Scientific
22 Committee on Emerging and Newly-Identified
23 Health Risks, the acronym SCENIHR. It's
24 part of the European Commission, one of
25 the European Commission's scientific

1 committees, which reviewed the scientific
2 literature in 2007 looking for evidence of
3 adverse health effects from radiofrequency
4 energy. Their conclusion was that there
5 were no adverse health effects below the
6 limits in international standards.

7 Q.41 Was this document considered by Health
8 Canada?

9 A. Yes, it was.

10 Q.42 At the time of the adoption of Safety Code
11 6?

12 A. Yes.

13 Q.43 Yes, okay. In what way?

14 A. The scientific literature reviewed is very
15 similar to the scientific literature that
16 Health Canada reviews and it supported the
17 same decisions that we had.

18 Q.44 Tab 16, what is this?

19 A. This is a review by scientists out of the
20 Swiss Public Health of the University of
21 Basel looking at health effects from
22 exposure to mobile phone base stations.
23 I believe it's a review of other articles
24 that have been published on this issue.
25 And their conclusions were that there was

1 no evidence of an association from those
2 studies.

3

4 **Me PATRICE GLADU :**

5 Just a second, please. It don't seem to
6 be the same tab as mine, in my document.

7

8 **Me PIERRE Y. LEFEBVRE :**

9 Tab 16?

10

11 **Me PATRICE GLADU :**

12 16?

13

14 **Me PIERRE Y. LEFEBVRE :**

15 16.

16

17 **Me PATRICE GLADU :**

18 It starts with the WHO organization?

19

20 **Me PIERRE Y. LEFEBVRE :**

21 Yes.

22 A. I have different...

23

24 **Me PATRICE GLADU :**

25 It's not the same.

1 **Me PIERRE Y. LEFEBVRE :**

2 It's the same.

3

4 **Me PATRICE GLADU :**

5 Ah, it's the same, okay, sorry, the
6 outline was not the same.

7

8 **Me PIERRE Y. LEFEBVRE :**

9 Q.45 Tab 17, could you tell us what this
10 document is?

11 A. In 1999, Health Canada - actually, I guess
12 it would be 1998 when it began -
13 commissioned the Royal Society of Canada
14 to do an independent review of the
15 scientific literature...

16 Q.46 Who is the Royal Society of Canada?

17 A. They're a group of scholars, professors,
18 across the country or abroad that are
19 members of a scientific society, the Royal
20 Society of Canada. Upon request, this
21 society...

22 Q.47 Upon request by whom?

23 A. Well, a contractor, such as Health Canada,
24 the Government of Canada. These types of
25 reviews have been done by the Government

1 of Canada for many issues. I believe
2 they've probably done 15 or 20 large
3 either topic area reviews or reviews of
4 policy or issues for the Government of
5 Canada using independent experts from
6 universities across the country, or
7 sometimes they bring in experts from
8 outside of the country with expert
9 knowledge on the topic.

10 So, in 1998, Health Canada contracted
11 the Royal Society of Canada to perform an
12 independent review of the scientific
13 literature. And that's what this document
14 entails, the results of the review of the
15 literature and in answering some specific
16 questions that Health Canada had to the
17 committee.

18 Q.48 What were the questions essentially asked
19 by Health Canada to the Royal Society of
20 Canada?

21 A. I'll have to read them to you.

22 Q.49 Sure.

23 A. *« Do the provisions of*
24 *Safety Code 6... »*

25 Q.50 What page are you?

1 A. Ah, I'm sorry, page 2.
2 « Do the provisions of
3 Safety Code 6 protect
4 both ARC workers and
5 the general population
6 from the thermal
7 effects associated
8 with exposure to
9 radiofrequency
10 fields? »

11 Next question:
12 « What are the non-
13 thermal biological
14 effects and/or
15 potential adverse
16 health effects
17 associated with
18 exposure to
19 radiofrequency
20 fields? »

21 Q.51 What's the difference at this point, just
22 maybe to explain to the Court what's the
23 difference between thermal effects and
24 non-thermal effects?

25 A. A thermal effect would be an effect on a

1 body or a tissue arising from a
2 temperature change. When you look at
3 people, you would be looking more of a
4 pathological change, like... you know,
5 we're looking at adverse effects, so, this
6 would be an adverse change in some
7 endpoint, or any endpoint really, but it's
8 resulting from heating. Heating of
9 tissue. A non-thermal effect would be an
10 adverse health effect, when we're talking
11 about exposure limits, that would result
12 from exposures which are not sufficient to
13 cause heating of tissue, or appreciable
14 heating of tissue.

15 Q.52 Next question that was asked to...

16 A. « *What are the*
17 *biological...* »

18 Q.53 You're at page 3 now?

19 A. Page 3.
20 « *What are the*
21 *biological effects*
22 *and/or potential*
23 *adverse health effects*
24 *associated with*
25 *exposure to radio-*

1 *frequency fields*
2 *emitted from wireless*
3 *telecommunication*
4 *devices such as*
5 *wireless phones and*
6 *base station*
7 *transmitters? »*

8 Q.54 Next question?

9 A. Page 4:

10 *« Is there evidence*
11 *that such non-thermal*
12 *effects, if any, could*
13 *be greater for*
14 *children or other*
15 *population*
16 *subgroups? »*

17 Still on page 4:

18 *« What are the*
19 *implications for*
20 *Safety Code 6 of the*
21 *panel's scientific*
22 *review of the*
23 *currently available*
24 *data on biological*
25 *effects and the*

1 *potential adverse*
2 *health effects of*
3 *exposure to*
4 *radiofrequency fields,*
5 *in particular, should*
6 *the phenomenon of non-*
7 *thermal effects be*
8 *considered in Safety*
9 *Code 6? »*

10 And the final question on page 5:

11 « *What research is*
12 *needed to better*
13 *understand the*
14 *potential health*
15 *consequences for non-*
16 *thermal effects? »*

17 Q.55 Now, the answers to those questions and
18 the conclusions I gather are at page 110,
19 am I correct?

20 A. Well, it's in the... they do follow the
21 questions for the public summary. But
22 they're also...

23 Q.56 What are the conclusions of the Royal
24 Society of Canada with regard to the
25 answers that they gave to the questions

1 asked?

2 A. Do you want me to read them to you?

3 Q.57 Well, could you go to page 110?

4 A. Okay.

5 Q.58 So, these would be the conclusions of the
6 committee?

7 A. That's correct.

8 Q.59 And I see that, at page 113, you have
9 research recommendations, correct?

10 A. Yes.

11 Q.60 Now, could you tell us whether Health
12 Canada reviewed those conclusions and
13 recommendations?

14 A. Yes, we did.

15 Q.61 Were these conclusions and recommendations
16 considered within the adoption of Safety
17 Code 6?

18 A. Yes.

19 Q.62 Now, if we go to the third volume, tab 18.
20 C'est le troisième volume, Madame la
21 Juge.

22 Just a second, we'll give a chance to
23 the Court to get the book.

24 Tab 18, what is it?

25 A. This is a review article published by

1 researchers out of the U.K., United
2 Kingdom, looking at the issue of
3 electromagnetic hypersensitivity, whether
4 it exists, whether it doesn't exist,
5 reviewing the scientific literature from
6 many studies - I'm not sure how many, I
7 think it's listed in here - that have
8 studied this issue and their conclusion
9 was there was no association between those
10 studies and the possible existence of
11 cancer.

12 Q.63 Was this document or report or article
13 considered by Health Canada?

14 A. Not in Safety Code 6.

15 Q.64 Was it reviewed after that by Health
16 Canada?

17 A. After the publication, yes.

18 Q.65 Did it change anything?

19 A. No.

20 Q.66 No, okay. Well, tab 19 I understand is
21 the Safety Code 6, so, we'll go over it.
22 Tab 20, what is it?

23 A. This is a fact sheet published by the
24 World Health Organization on Public Health
25 and Mobile Phones.

- 1 Q.67 And what date was it made?
- 2 A. This is June 2011.
- 3 Q.68 And was this document looked at by Health
4 Canada?
- 5 A. This document was published after Safety
6 Code 6.
- 7 Q.69 I understand that, but was it looked at
8 after?
- 9 A. Yes, it has been seen and reviewed by
10 Health Canada.
- 11 Q.70 Did they change anything in the decisions
12 by Health Canada with regard to the
13 content of Safety Code 6?
- 14 A. No.
- 15 Q.71 Why is that?
- 16 A. Pardon me?
- 17 Q.72 Why?
- 18 A. Because the message in here is similar to
19 Health Canada's position on the issue.
- 20 Q.73 Tab 21, is it the same kind of document?
- 21 A. Yes, it's another fact sheet published by
22 the World Health Organization.
- 23 Q.74 Tab 22?
- 24 A. It's another fact sheet on base stations
25 and wireless technologies published by the

1 World Health Organization.

2 Q.75 Tab 23?

3 A. I believe I spoke on this during my
4 earlier testimony. This is a World Health
5 Organization document, it's a framework
6 for developing health-based EMF standards,
7 where they've set forth recommendations
8 for national governments to either adopt
9 international standards, such as ICNIRP,
10 or deriving their own national standards,
11 certain considerations and approaches that
12 should be taken in developing those
13 standards.

14 Q.76 When was this document issued?

15 A. I believe it was 2006.

16 Q.77 2006. Was this document taken into
17 consideration at the time of the adoption
18 of Safety Code 6?

19 A. Yes, it was, and it was referenced in
20 Safety Code 6.

21 Q.78 Tab 24, what is it?

22 A. This is another review of the scientific
23 literature by the European Commission
24 Scientific Committee on Emerging and
25 Newly-Identified Health Risks. The last

1 one I spoke of was 2007; this is an
2 updated review in 2009.

3 Q.79 And was this document taken into
4 consideration in the adoption of Safety
5 Code 6?

6 A. Yes, I believe it was.

7 Q.80 25, tab 25, the last one, what is... no,
8 it's not the last one, sorry to say that.
9 What is tab 25?

10 A. This is a Swedish review of the scientific
11 literature on RF fields and potential
12 health risks from 2008. And this document
13 was read and reviewed by Health Canada
14 before its last revision of Safety Code 6.

15 Q.81 And what's the conclusions?

16 A. The conclusions are similar to those in
17 Safety Code 6.

18 Q.82 Tab 26 I pass over. Tab 27?

19 A. Tab 27 is a review article published by
20 two researchers of Belgium on the evidence
21 for gene and protein expression effects
22 from radiofrequency fields, very similar
23 to the review that my group published in
24 2009, with the conclusion that there is no
25 consistent scientific evidence relating

1 low-level RF field exposures to changes in
2 gene and protein expression.

3 Q.83 Tab 28?

4 A. This is another review article by a
5 different research group looking at non-
6 specific health symptoms in relation to
7 base stations. The conclusion of this
8 study was that it was the perceived
9 proximity to the cell tower which was
10 correlated with symptomology as opposed to
11 a real RF exposure.

12 Q.84 Tab 29?

13 A. Tab 29 is another review article in 2011
14 from the British group looking at
15 electromagnetic hypersensitivity, or
16 possible electromagnetic hypersensitivity,
17 in relation to low-level radiofrequency
18 field exposures. This looked at a large
19 number of provocation studies where they
20 take individuals who believe they have
21 these symptoms or these conditions and
22 they expose them to the fields and then
23 they identify whether or not their
24 symptoms actually match their exposures.
25 And the synopsis of this study was that

1 there was no causal association.

2 Q.85 That was the last document in the books.
3 Mr. McNamee, did you read the report of
4 Mrs. Havas?

5 A. I did.

6 Q.86 Do you have a copy of it?

7 A. I believe so.

8 Q.87 Ce serait la pièce PC-62, Madame la Juge.

9

10 **LA COUR :**

11 C'est PC-62?

12

13 **Me PIERRE Y. LEFEBVRE :**

14 Oui. Le rapport est en début, vous n'avez
15 pas besoin peut-être de prendre tout le...

16

17 **LA COUR :**

18 Donc, c'est dans le premier cartable?

19

20 **Me PIERRE Y. LEFEBVRE :**

21 Le premier, oui.

22

23 **LA COUR :**

24 Quel onglet? Parce que, là, c'est
25 l'ensemble des pièces.

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18 FÉVRIER 2013

JAMES McNAMEE
INT. PAR Me LEFEBVRE

1 **Me PIERRE Y. LEFEBVRE :**

2 En principe...

3

4 **Me PATRICE GLADU :**

5 Dans l'ensemble des pièces, il est à PC-62
6 également, mais il y a deux cartables
7 individuels qui sont PC-62 également,
8 parce que c'était trop volumineux de
9 mettre...

10

11 **LA COUR :**

12 Non, c'est ça, c'est parce que, je ne sais
13 pas pourquoi, mais les identifications ne
14 semblent pas correspondre à ce qu'il y a
15 à l'intérieur du cartable. Écoutez, moi,
16 ce que j'ai ici, c'est pièce PC-62, 2 de
17 2, copie du rapport d'expert de madame
18 Havas.

19

20 **Me PATRICE GLADU :**

21 Il y a le 1 de 2. Le rapport serait à
22 l'intérieur du 1 de 2. C'est deux volumes
23 comme ça.

24

25

1 **LA COUR :**

2 Oui, mais c'est ça que je vous dis, 1 de
3 2 c'est l'ensemble des pièces, donc, il y
4 a quelque chose qui ne fonctionne pas avec
5 la façon dont...

6

7 **Me PATRICE GLADU :**

8 Bien, vous pouvez prendre l'ensemble des
9 pièces, Madame la Juge, allez à l'onglet
10 62 de l'ensemble des pièces.

11

12 **Me PIERRE Y. LEFEBVRE :**

13 J'en ai une copie additionnelle, si vous
14 me permettez.

15

16 **LA COUR :**

17 Bien, ça va peut-être accélérer les
18 choses.

19

20 **Me PIERRE Y. LEFEBVRE :**

21 Je vois que j'ai ombragé, je ne sais pas
22 si ça dérange vraiment mon confrère?

23

24 **Me PATRICE GLADU :**

25 Non, écoutez, je veux juste voir si...

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18 FÉVRIER 2013

JAMES McNAMEE
INT. PAR Me LEFEBVRE

1 Non.

2

3 **Me PIERRE Y. LEFEBVRE :**

4 A moins que vous ayez une copie
5 complètement vierge?

6

7 **Me PATRICE GLADU :**

8 Bien, je n'en ai pas. Je ne m'attendais
9 pas à ça. Bien, c'est le rapport.

10

11 **Me PIERRE Y. LEFEBVRE :**

12 Oui, oui, c'est parce que j'ai souligné
13 des passages.

14

15 **Me ANDRÉ BÉLANGER :**

16 Ça avait aussi été produit comme D-24, D-
17 25 à l'origine.

18

19 **LA COUR :**

20 Ah, attendez, j'ai 1 de 2 ici...

21

22 **Me PATRICE GLADU :**

23 Juste avant la *tab* 1. C'est le rapport,
24 vous l'avez.

25

1 **LA COUR :**

2 Je l'ai, parfait.

3

4 **Me PIERRE Y. LEFEBVRE :**

5 Bon bien, tant mieux.

6 Q.88 At page 3 of this report, at the paragraph
7 starting by « *The current SC-6* », in the
8 middle of the paragraph, it says:

9 « *This guideline was*
10 *designed to protect*
11 *the body against*
12 *heating and is a*
13 *thermal guideline.* »

14

15 **LA COUR :**

16 What page are you on?

17

18 **Me PIERRE Y. LEFEBVRE :**

19 Page 3.

20

21 **LA COUR :**

22 3.

23

24 **Me PIERRE Y. LEFEBVRE :**

25 Middle of the paragraph « *This*

1 *guideline* ». The beginning of the
2 paragraph is « *The current SC-6* », a bit
3 further down...

4

5 **LA COUR :**

6 « *This guideline was*
7 *designed to*
8 *protect...* »

9

10 **Me PIERRE Y. LEFEBVRE :**

11 Q.89 « *This guideline was*
12 *designed to protect*
13 *the body against*
14 *heating and is a*
15 *thermal guideline. It*
16 *does not take into*
17 *account non-thermal*
18 *effects, and as such,*
19 *is inadequate to*
20 *protect public*
21 *health.* »

22 Now, is it accurate to say that this
23 guideline is a thermal guideline and not
24 a non-thermal guideline?

25 A. It's a catchup in words. This guideline,

1 it's actually not a guideline, it's a
2 safety code, takes into account both
3 thermal and non-thermal effects. In a
4 low-frequency range, the effects we're
5 preventing against are peripheral nerve
6 stimulation, which is a non-thermal
7 effect. We will provide protection
8 against any established health effect,
9 whether it is thermal or non-thermal. So,
10 to say it is only a thermal guideline is
11 technically incorrect.

12 Where it is somewhat correct is that
13 in the frequency range used by wireless
14 devices, the effect we're trying to
15 protect against is a thermal effect
16 because that is the effect which has been
17 established, the only effect which has
18 been established. Not to say that you
19 couldn't have nerve and muscle stimulation
20 from exposures to those frequencies, but
21 they would occur at higher intensities
22 than that which a thermal effect would
23 occur. So, basically, we're taking the
24 lowest exposure level which produces an
25 adverse health effect and using that. So,

1 we consider both the non-thermal and the
2 thermal effects literature when
3 establishing a safety code.

4 Q.90 So, if I understand your testimony
5 correctly, Safety Code 6 takes into
6 account all effects, but in the case of
7 non-thermal effects, because there's a
8 lack of literature supporting any non-
9 thermal effect, it does not take that into
10 consideration. Would that be accurate?

11 A. It takes all literature into account and
12 it establishes limits on the lowest
13 threshold of effect, whether it's thermal
14 or non-thermal.

15 Q.91 At page 4 in this report there's a
16 reference at the bottom of the page to an
17 internal document written by a Herbert
18 Pollack, M.D., on behalf of the Institute
19 for Defense Analysis Research and
20 Engineering Support Division. Did Health
21 Canada review this internal document?

22 A. This is not an internal document within
23 Health Canada.

24 Q.92 No, but this document that was issued by
25 Mr. Pollack on behalf of the Institute for

1 Defense Analysis Research and Engineering
2 Support Division, was it seen or reviewed
3 by Health Canada?

4 A. No, it wasn't, no.

5 Q.93 Do you know why?

6 A. It's a very very old document and...

7 Q.94 How old is it?

8 A. I would have to refer to it, but I believe
9 it's...

10 Q.95 Yes, sure.

11 A. I believe it's in the 1960s. Actually, I
12 don't have that document in front of me in
13 this package. But it's quite old. Much
14 has changed in the last 30 years or 40
15 years of research in this area. Much of
16 the original studies in this area were
17 done on servicemen in the military exposed
18 to high-power radar. It was very very
19 crude dissymmetry at the time, people
20 didn't know what levels of RF exposure
21 they were exposed to. And there were
22 adverse health effects observed, effects
23 on the eye and various other health
24 effects. Since then, a great deal of
25 scientific research and analysis have gone

1 into this, and it is recognized that these
2 high-powered exposures were causing
3 adverse health effects, but they were
4 thermally related. And that has been
5 taken into account in standards reaching
6 back into the 1970s to prevent against
7 those effects.

8 Q.96 Page 5 of the report, it says « By
9 1972 »... if you go to page 5, do you have
10 it?

11 « ... there were more
12 than 2,000 references
13 documenting the
14 adverse effects of
15 radiofrequency
16 radiation at both
17 thermal and non-
18 thermal exposures. »

19 Would that be accurate?

20 A. I can't tell you one way or the other
21 because I haven't reviewed the specific
22 documents in the Glazer Report.

23 Q.97 Now, how many documents Health Canada
24 reviews?

25 A. We've seen thousands.

- 1 Q.98 Thousands?
- 2 A. Thousands, yes.
- 3 Q.99 And are you in a position to establish how
4 many of those are reliable and others are
5 not?
- 6 A. Yes.
- 7 Q.100 What's the figure?
- 8 A. Pardon me, what percentage of...
- 9 Q.101 Yes.
- 10 A. ... studies are reliable? It depends on
11 the endpoint, on what you're studying.
12 There certainly are a large number of
13 studies which are scientifically flawed,
14 they're either heating their samples,
15 heating their animals, improperly
16 conducted with not enough animals... I
17 won't go into the list of details, but
18 there's a great number of pitfalls which
19 have been published in scientific
20 literature, even by the WHO, outlining
21 criteria which must be met when performing
22 these types of studies.
- 23 Q.102 Which is something that Health Canada
24 evaluates on a regular basis?
- 25 A. Yes. Yes.

1 Q.103 Page 5, there's a reference to Dodge 1969.
2 Are you aware of this article?

3 A. I've read it.

4 Q.104 And was it considered by Health Canada?

5 A. Not when developing Safety Code 6.

6 Q.105 I'm sorry?

7 A. Not when developing the latest version of
8 Safety Code 6.

9 Q.106 And is there a reason why it wasn't?

10 A. It's a very old document and it would be
11 considered out of date for the same
12 reasons as the last study.

13 Q.107 On page 8 of the document, it says, just
14 below the paragraph that starts with « *In*
15 *conclusion* »:

16 « *Safety Code 6 is*
17 *based on a false and*
18 *outdated premise that*
19 *radio...* »

20

21 **LA COUR :**

22 What page is that, maître Lefebvre?

23

24 **Me PIERRE Y. LEFEBVRE :**

25 Page 8.

1 Q.108 « *Safety Code 6 is*
2 *based on a false and*
3 *outdated premise that*
4 *radiofrequency*
5 *radiation can cause*
6 *harm only by heating*
7 *the body. Guidelines*
8 *were formulated to*
9 *protect adult males*
10 *against heating*
11 *causing by exposure,*
12 *for brief periods, to*
13 *radiofrequency*
14 *radiation generated by*
15 *radar installations.*
16 *These guidelines were*
17 *never intended to*
18 *protect the general*
19 *public, especially*
20 *children exposed*
21 *continuously to low*
22 *levels of radio-*
23 *frequency radiation as*
24 *has become*
25 *increasingly common in*

1 *our ever-growing*
2 *wireless society. »*

3 Is this statement correct?

4 A. No.

5 Q.109 In what way isn't it incorrect, is it in
6 correct?

7 A. I'll go through it sentence by sentence.

8 *« Safety Code 6 is not*
9 *based on the premise*
10 *that RF energy can*
11 *only cause adverse*
12 *health effects through*
13 *heating of the body. »*

14 The safety code itself already takes into
15 account in the lower-frequency range non-
16 thermal effects, effects on peripheral
17 nerve stimulation, which is a non-thermal
18 effect. The next sentence states:

19 *« The guidelines were*
20 *formulated to protect*
21 *adults against heating*
22 *caused by exposure to*
23 *brief periods of RF*
24 *energy. »*

25 While there are provisions in the safety

1 code to prevent against heating effects,
2 the intention was for all members of the
3 public, including children, we want to
4 prevent... I mean, this document was
5 originally written as a reference document
6 under Canada Labour Court for federal
7 workplaces, but it has become *de facto*
8 standard for many provinces and other
9 departments for the licensing of wireless
10 devices, because it is the Canadian
11 reference document on this issue.

12 So, over the years the code was
13 aligned to provide safety provisions for
14 all members of the public for 24 hour per
15 day, seven days a week, 365 days per year
16 exposure. So, that statement is incorrect
17 as it's stated.

18 The document is written to provide
19 protection against all individuals of the
20 public.

21 Q.110 Now, in the report, just a bit below, it
22 refers to the precautionary principle.
23 Now, does Health Canada, when it adopted
24 the Safety Code 6, and further down or
25 more recently, have taken this

1 precautionary principle into
2 consideration?

3 A. The precautionary principle is invoked
4 when you have a degree of uncertainty in
5 the scientific literature with the
6 potential for a long-term harm, or short-
7 term harm for that matter. The degree of
8 precautionary approaches that you take to
9 relate to the amount of uncertainty in the
10 literature, whether it's small or whether
11 it's great, and the severity of the harm.
12 So, there's a wide range of precautionary
13 measures that can be taken, some of which
14 may be just monitoring the scientific
15 literature, others may be a change in
16 regulations. There's a wide range of
17 precautionary measures can be taken.

18 Safety Code 6, when we developed the
19 limits, when we're establishing the basic
20 restrictions, we're sort of using the
21 worst-case scenarios for both the
22 development of the basic restrictions and
23 then the derived reference limits that go
24 with them. So, that's the worst-case body
25 size, worst-case frequency, worst-case

1 orientation with the field, standing on,
2 you know, bare foot on a wet surface. All
3 of these worst-case scenarios are taken
4 into account to establish the envelope of
5 the lowest exposure level which is
6 allowable. So, there's precaution taken
7 into account there.

8 Beyond that, we then apply a safety
9 margin of 50-fold for the general public
10 as another precautionary measure. So,
11 precautionary measures are already taken
12 into account and we do other measures such
13 as ongoing review of the science, ongoing
14 studies, research studies. This is not
15 something that we pick up and drop and
16 move on to something else, this is
17 something we do all the time.

18 Q.111 Just a bit below it says:

19 « A precautionary
20 approach in the
21 current situation
22 would be to place the
23 tower and the antennas
24 at least 400 to 500
25 meters away from

1 *residences and*
2 *schools. »*

3 And it refers to Levitt & Lai 2010. Are
4 you aware of this article by Levitt & Lai?

5 A. I am.

6 Q.112 And was it considered, this article, by
7 Health Canada?

8 A. It was not considered in reviewing Safety
9 Code 6 in 2009. The document espouses an
10 opinion which is contrary to that of
11 Health Canada and to which we do not
12 agree. With respect to...

13 Q.113 Why does Health Canada not agree?

14 A. We don't agree with how their review of
15 the literature was done and the
16 recommendations that they came to, because
17 they don't take the same approach that
18 most health agencies would toward
19 evaluating the scientific literature.

20 Q.114 Are there any articles that were
21 considered by Health Canada that support
22 the position that the antennas should be
23 at least 400 to 500 meters away from
24 residences?

25 A. This is a flawed argument because a

1 setback distance really does nothing to
2 perhaps reduce exposure, because if you
3 double the distance, but increase the
4 power by four-fold, you have the same
5 exposure. So, really, applying a setback
6 distance, while it might appease the
7 public, and I'm certainly cognizant of
8 that, does nothing to reduce exposure
9 levels, and therefore to reduce potential
10 health risks if you believe them to occur.

11 Q.115 Now, later in the report, under heading C
12 at page 11, Mrs. Havas talks about
13 biological and health effects of microwave
14 radiation and she refers to various
15 studies. Did Health Canada consider those
16 studies in the adoption of Safety Code 6?

17 A. Studies that would have been published
18 prior to mid-2009 or late 2009 would have
19 been considered. Anything published after
20 2009 would not. So, the Levitt & Lai
21 article came after that date. And having
22 said that, we're well aware of all of
23 these studies. If we saw something in any
24 study published after our last safety code
25 that prompted us great concern or worry,

1 or challenged the limits, we would change
2 them, we would not wait for, you know, a
3 periodic review.

4 Q.116 I have no further questions for the
5 witness.

6

7 **Me PATRICE GLADU :**

8 Madame la Juge, si possible, je vous
9 demanderais 15 minutes, parce qu'on avait
10 annoncé quatre heures de preuve.

11

12 **LA COUR :**

13 Oui.

14

15 **Me PATRICE GLADU :**

16 Je suis un peu surpris. Mais je vais
17 juste assembler... parce que, pour ma
18 part, j'ai annoncé une heure, mais c'était
19 une heure en prévision de plusieurs
20 questions qui pourraient se rajouter.
21 Mais si vous me donnez 15 minutes de
22 suspension...

23

24 **LA COUR :**

25 Il n'y a aucun problème.

1 **Me PATRICE GLADU :**

2 ... je vais être en mesure de faire le
3 contre-interrogatoire.

4

5 **LA COUR :**

6 Alors, on suspend.

7

8 **SUSPENSION DE L'AUDITION**

9 **REPRISE DE L'AUDITION**

10

11 **CONTRE-INTERROGÉ PAR Me PATRICE GLADU,**
12 **pour la défenderesse :**

13 Q.117 Mr. McNamee, I'm the attorney of the Town
14 of Châteauguay; I will ask you some
15 questions in cross-examination.

16 First of all, in your last testimony
17 on February 14, 2012, at the reference
18 time of 4:19, you mentioned that for
19 frequency from 100 kilohertz to six
20 gigahertz, and I quote:

21 « The basic
22 restrictions are set
23 out in terms of
24 specific absorption
25 rates. »

1 Do you remember saying that?

2 A. I don't remember, but I'm sure I probably
3 did.

4 Q.118 And you agree with that information?

5 A. I believe so, yes.

6 Q.119 You believe you agree with that?

7 A. If my memory serves correctly, yes.

8 Q.120 And specific absorption rates, which are
9 namely SAR, I believe, in the guidelines,
10 what kind of indication of effect does it
11 measure?

12 A. It would be heating effect.

13 Q.121 Heating effect?

14 A. Yes.

15 Q.122 This absorption rate for frequency that
16 we're dealing here with the Rogers future
17 tower, it's 800 megahertz, 1,900 megahertz
18 and 200 and 600 megahertz. What are the
19 absorption rates or the specific power
20 intensity that we're dealing with for
21 those?

22 A. Specific absorption rate limits in that
23 range would be 0.8 watt per kilogram.

24 Q.123 That is the information that we see on
25 Safety Code 6 2009 at page number 9. If

1 you want to...

2 A. I'm sure it's... yes.

3 Q.124 You're sure it's...

4 A. Yes.

5 Q.125 ... 0.8 watt per kilogram?

6 A. Yes.

7 Q.126 I refer the Court to Safety Code 6, which
8 is reproduced in many documents.

9

10 **LA COUR :**

11 Yes, just give me one.

12

13 **Me PATRICE GLADU :**

14 One, it's in the Dr. Havas table 9, it's
15 the English version of the Safety Code 6,
16 at page 9. It's the last paragraph of
17 page 9. And it's also at page 11 in table
18 1.

19 Q.127 Am I correct in saying that?

20 A. You are correct.

21 Q.128 So, it's the 0.8 for the uncontrolled
22 environment?

23 A. That's right.

24 Q.129 Okay. On which basis is the SRA
25 calculated for uncontrolled area regarding

1 the exposed-time limit? The average-time
2 limit, on which base is it calculated? It
3 referred to...

4 A. You're talking about the...

5 Q.130 Uncontrolled environment.

6 A. The time averaging, how is that derived?

7 Q.131 Yes, the time averaging.

8 A. Okay. First of all, the time averaging
9 doesn't refer to any length of time that
10 you're allowed to be exposed, it's just a
11 reference period upon which to make your
12 measurements. To make a comparison, you
13 have to pick some amount of time to make
14 that measurement in. You could make it
15 six minutes, you could make 30 minutes.
16 The shorter amount of time allows less
17 deviation, because you may have an
18 exposure which had a peak and then nothing
19 for the next five and a half minutes. And
20 as long as that - we have regulations on
21 the peak intensity - but as long as -
22 because it's a heating effect, as long as
23 the total amount of energy absorbed over
24 that reference period, you can vary the
25 reference period, but the shorter the

1 better, it doesn't allow any heating to
2 occur in that time because it's limiting
3 the amount of absorption of energy within
4 the body or the tissue in that time
5 period.

6 Q.132 Is it correct to say it's a six-minute
7 period?

8 A. In Safety Code 6, it's a six-minute
9 reference period, yes.

10 Q.133 When we are taking back Safety Code 6 at
11 page 9, which I just referred prior to
12 that question, I just want to go through
13 the last paragraph and the first sentence
14 of the last paragraph. It says:

15 « *For frequencies from*
16 *100 kilohertz to 300*
17 *gigahertz... »*

18 Which are the frequencies that we are
19 dealing with, do you agree on that, Mr.
20 McNamee?

21 A. Yes.

22 Q.134 « *... tissue heating*
23 *is the predominant*
24 *health effect to be*
25 *avoided. Other*

1 *proposed non-thermal*
2 *effects have not been*
3 *conclusively*
4 *documented to occur at*
5 *levels below thereso*
6 *where thermal effects*
7 *arise. »*

8 A. Yes, non-thermal adverse health effects.

9 Q.135 Non-thermal, okay. So, that's the
10 position of Health Canada...

11 A. Yes.

12 Q.136 ... saying that for our frequency, we're
13 looking at thermal effects?

14 A. That's the basis of the limit.

15 Q.137 And there's no evidence today for non-
16 thermal effects for our frequency?

17 A. No evidence of non-thermal adverse health
18 effects.

19 Q.138 Non-thermal adverse health effects, okay.
20 In your testimony of February 2012, at the
21 reference time 4:16, you referred to the
22 controlled environmental, okay, the
23 uncontrolled versus the controlled areas.
24 And you mentioned, and I quote:

25 « *The danger of*

1 *excessive exposure to*
2 *radiofrequency for the*
3 *workers... »*

4 Does this apply to the uncontrolled area
5 too, the danger of excessive exposure?
6 You seem to be concerned at that moment
7 that for workers there could be danger for
8 excessive exposure?

9 A. Well, for workers, we have a ten-fold
10 reduction from the threshold for possible
11 effects, and that's a very conservative
12 estimate of the threshold. In fact,
13 humans are much better at thermal
14 regulation than a lot of the animal
15 studies which this is based on. And it's
16 all worst-case scenarios. So, it's a very
17 conservative threshold. And then, we have
18 a 10-fold reduction for the workers. But
19 then we have an additional five-fold
20 margin of safety for the public because
21 they have less knowledge of RF field
22 safety and mitigation strategies.

23 Q.139 But my question is does Health Canada, for
24 the long exposure on uncontrolled area, do
25 they are aware of danger of excessive

1 exposure as they do for the workers or
2 they do not consider because they have a
3 five-time margin error added to the one of
4 the workers?

5 A. I'm not sure I understand your question.

6 Q.140 I wanted to be sure that... in your
7 testimony, you seem, at the reference that
8 I made, to be aware of the fact that of
9 danger of excessive exposure for the
10 workers. And I'm asking you, for the
11 uncontrolled areas, is there in Health
12 Canada's position, danger for excessive
13 exposure on uncontrolled area?

14 A. No.

15 Q.141 You respond by the 15 margin?

16 A. On either the controlled or the
17 uncontrolled environments, you can be
18 exposed up to the limits continuously.
19 So, there's no specific issue.

20 Q.142 Okay. Are you aware that international
21 standards or guidelines elsewhere than
22 Canada are lower than the ones in Canada?

23 A. There are some.

24 Q.143 There are some at your knowledge?

25 A. I know of a lot of them.

1 Q.144 If we go back to Safety Code 6 as it was
2 written in 1999, which is produced in
3 Dr. Havas' table 12, I believe. You can
4 look at it.

5 I refer the Court to table 12 of
6 Dr. Havas, which is the Safety Code 6 as
7 it was written in 1999 at page...

8

9 **LA COUR :**

10 Is it different from the one that I have
11 at tab 9?

12

13 **Me PATRICE GLADU :**

14 Yes, it evolved, as Mr. McNamee's
15 testimony. I don't want to go on, but
16 there has been some changes from the
17 1999...

18

19 **LA COUR :**

20 And so where is the other one?

21

22 **Me PATRICE GLADU :**

23 At table number 12 of Dr. Havas' document.
24 You have the right one.

25 Q.145 At page 11 of that document.

1 A. I don't think I have a copy of it in front
2 of me; perhaps you could show me?

3 Q.146 I can show you. I will have to read with
4 you because I don't have two copies, I'm
5 sorry about that. That's Safety Code 6 as
6 it was in 1999, you can...

7 A. Yes.

8 Q.147 You recognize that. At page 11, I
9 highlight a sentence at paragraph number
10 2 saying:

11 *« Certain members of*
12 *the general public may*
13 *be more susceptible to*
14 *harm from RF and*
15 *microwave exposure. »*

16 A. Would you like me to explain?

17 Q.148 No, why this commentary or this
18 affirmation is not taking into the Safety
19 Code 6 as we know it in 2009?

20 A. This is still part of the decision-making
21 in Safety Code 6 2009. This was just an
22 editorial change. The reason that this
23 sentence was in Safety Code 6 1999 was to
24 provide a rationale for having a lower
25 tier for the general public in

1 uncontrolled environments. All this
2 statement does is recognize that you have
3 a wide range of body sizes, you have a
4 wide range of health status, you know,
5 from the elderly to the very young,
6 different thermal regulation properties
7 amongst people on different medications
8 perhaps. So, it's taking into account...
9 and the lack of knowledge of the general
10 population. So, all this is saying is
11 that there isn't... we're not
12 acknowledging electromagnetic hyper-
13 sensitivity or any of those issues, we're
14 simply acknowledging that there's a
15 diverse population out there and we want
16 to provide an extra margin of safety for
17 those individuals.

18 Q.149 So, do I'm correct saying that when you
19 testify in 2012, and I quote, you say that
20 there are some people are more sensitive
21 because it's a reference that you have
22 made, I can quote you:

23 « *There may be some*
24 *individuals in the*
25 *population which are*

1 *more sensitive to*
2 *certain aspects of*
3 *radiofrequency*
4 *exposure. »*

5 So, you are saying that Health Canada is
6 taking account those person who has higher
7 sensitivity to radiofrequency with their
8 guidelines?

9 A. To the thermal effects.

10 Q.150 To the thermal effects, okay.

11 A. Yes.

12 Q.151 I just want to be sure because the
13 attorney of Rogers at the beginning of
14 this hearing went on and looking at all
15 tables that you produced with your
16 *subpoena*, and you were asking what is the
17 weight of evidence, okay? Because you say
18 yourself that there's a thousand of
19 reviews or studies all over the world
20 regarding RF and that you have to make the
21 weight of evidence. Can you go more in
22 detail of how Health Canada is dealing
23 with, because as I understand, if you have
24 10 studies saying yes and 10 studies that
25 are saying no, you cannot just put them

1 one each other in front and just say
2 there's zero evidence of an effect. How
3 does it works at Health Canada?

4 A. Well, first of all, you want to gather all
5 the relative information on a topic. You
6 then look at that... and actually, on the
7 WHO framework document...

8 Q.152 Yes, the one you refer, okay.

9 A. ... there's a very excellent flow chart of
10 how that process should happen. You then
11 look at each of the individual studies and
12 you say: « Has this study been properly
13 conducted, are there flaws? » In many
14 cases, there are serious flaws to the
15 research. To say anymore that because a
16 study is published in the scientific
17 literature that it's valid is no longer
18 true. There's a wide degree of expertise
19 reviewing these studies and you have
20 studies getting through the cracks which
21 should never have been published. So, in
22 fact, it requires expert judgement and
23 expert review of those who are very
24 knowledgeable in this field, and I would
25 suggest that myself and my colleagues at

1 Health Canada, since we've been doing this
2 for 15 years, are such experts.

3 This approach is also being taken in
4 the ICNIRP review process and national
5 health agencies worldwide adopt this
6 weight of evidence approach of the
7 literature where you're taking both the
8 quality and the number or the amount of
9 research in this area, and then you're
10 looking at it from multiple streams of
11 evidence, you know, are multiple areas or
12 are multiple streams of evidence pointing
13 in the same direction?

14 Q.153 And do I understand that, even though
15 there is out there some studies regarding
16 non-thermal effects for our frequency,
17 the position of Health Canada is that none
18 of those studies, because it's what it's
19 saying in Safety Code 6, is relevant and
20 there's no change?

21 A. We recognize that there are a large number
22 of studies assessing virtually every
23 health endpoint there is. There are a
24 large number that show an adverse effect
25 here, an adverse effect there. So, I'm

- 1 not denying that there are studies showing
2 effects, no question. There are also a
3 large number of studies that don't show
4 effects, and generally, a much larger
5 number of studies, in many cases much more
6 thorough and much more well-conducted.
- 7 Q.154 That's the weight of evidence that you're
8 talking about?
- 9 A. Yes, exactly.
- 10 Q.155 But the position...
- 11 A. The position is...
- 12 Q.156 ... am I correct saying that non-thermal
13 effects for our frequency, there's no
14 evidence, that's what you're saying?
- 15 A. I'm not saying there's no evidence, I'm
16 saying...
- 17 Q.157 Adverse effect.
- 18 A. ... based on the weight of evidence
19 review.
- 20 Q.158 I'm sorry, there's no health adverse
21 effect?
- 22 A. Yes.
- 23 Q.159 That's a very important difference that
24 you make but...
- 25 A. It is.

1 Q.160 ... I want to be sure that we understand
2 that your conclusion is that there's no
3 adverse health effect from those tests,
4 okay.

5 A. Yes.

6 Q.161 You talk in your testimony regarding the
7 Royal Society of 1999, okay?

8 A. Yes.

9 Q.162 I understand that you have shown the Court
10 the question that was asked, and the
11 response. But what did Health Canada did
12 after this report, because it's look at
13 non-thermal effects. I know that you
14 point out to one document of the 2004,
15 2007 reference that you have made
16 yourself, I believe. What was the
17 response of Health Canada regarding non-
18 thermal effects?

19 A. Well, Health Canada was aware of studies
20 of those nature before the review. And
21 largely due to public concern. We
22 commissioned the Royal Society as an
23 independent review. The Royal Society
24 came back with pretty much exactly what we
25 knew of the literature. Yes, there is

1 some evidence out there, more research is
2 required, to reparticipate in additional
3 research. Health Canada helped to fund
4 some research to the Canadian Health
5 Research. We collaborated with
6 international partners on the
7 international EMF project through the WHO.
8 We sat in on deliberations for ICNIRP and
9 for other agencies. I participated with
10 IARC. We've had many many different roles
11 in evaluating the literature going
12 forward.

13 Q.163 That's what you...

14 A. So, that has been our approach, yes.

15 Q.164 Am I correct saying that the Royal Society
16 in their conclusions is saying that we
17 should not shut our eyes - I'm sorry about
18 that - about this non-thermal effect and
19 we should have fun and research to lead us
20 to see if there's something out there.

21 A. Absolutely, and Health Canada would agree
22 with that. In fact, probably 95% of all
23 the research that has been done since the
24 1990s has been trying to look at these
25 non-thermal effects.

- 1 Q.165 The research, not Health Canada, outside
2 in the world?
- 3 A. Everywhere. Everywhere. The research
4 that's being done and the thousand of
5 studies that are being done are not on the
6 thermal aspects, it's on the non-thermal
7 work aspects. And despite those thousands
8 of studies, we're still no closer to
9 finding a mechanism or an adverse effect
10 related to those.
- 11 Q.166 Adverse effects, okay.
- 12 A. Yes.
- 13 Q.167 When we're looking at Security Code 6, the
14 non-thermal effect, because in your main
15 testimony last time and today too, you
16 referred that non-thermal effects are
17 taking account for lower frequency, am I
18 correct saying that?
- 19 A. Yes.
- 20 Q.168 So, the electro-stimulation, hyper-
21 stimulation, I'm sorry, I'm not sure if
22 it's...
- 23 A. Peripheral nerve stimulation.
- 24 Q.169 It's only dealing with frequency that
25 we're not dealing with today?

1 A. That's correct.

2 Q.170 When you were talking about the follow-up
3 of the Royal Society paper, you point out,
4 I believe, and correct me if I'm wrong, to
5 table 12 of your document, which is the
6 Journal of Toxicology and Environmental
7 Health, Part B, Critical Review, which you
8 co-authored?

9 A. Yes.

10 Q.171 It was a direct response, I believe, to
11 the...

12 A. No.

13 Q.172 No, it was not?

14 A. No, this was... Several members of the
15 former Royal Society have gone on
16 informally, without any input from Health
17 Canada, to review, I think in 2001 to
18 2003, and then this one was 2004 to 2007.

19 Q.173 Yes, that's what...

20 A. I thought there was another in there as
21 well. At any rate, so, in this review, I
22 was asked to help out with a section on
23 gene and protein expression.

24 Q.174 But this review addressed the non-
25 thermal effects, am I correct?

- 1 A. It reviewed...
- 2 Q.175 Everything?
- 3 A. It considered all studies, yes.
- 4 Q.176 Can you take, please, table 12 of your
5 document, which is PC-65 I do believe is
6 the proper reference. So, I refer the
7 witness to table 12, which is the Journal
8 of Toxicology. At the end of this
9 document, at the title
10 « *Recommendations* », which is at page 279
11 of the document, could you please read the
12 recommendation number 6 that you suggest,
13 because I believe that you are a co-author
14 of that document, number 6?
- 15 A. « *Scientific efforts*
16 *are needed to develop*
17 *mechanistic studies to*
18 *investigate the*
19 *evidence of non-*
20 *thermal RF effects.* »
- 21 Q.177 So, one of the conclusions that we have to
22 still look at what is going on out there
23 with non-thermical effects?
- 24 A. Absolutely.
- 25 Q.178 You refer in your testimony to the World

1 Health Organization, that they published
2 a communication in 2011, on May 2011,
3 regarding the Class 2B cancerogen. Do I
4 understand that the radiofrequency that
5 they are talking about in that document
6 are the exact same frequencies that are
7 used for base stations that we're dealing
8 with?

9 A. Yes.

10 Q.179 So, the Health Organization is classifying
11 those radiofrequency that we're dealing
12 with as a Class 2B cancerogen, possible?

13 A. Possibly carcinogenic to humans.

14 Q.180 I want to know, does Health Canada,
15 yourself, not other organisms or mandate
16 that you give, but Health Canada, does it
17 conduct research on effect lower, at lower
18 level than Security Code 6?

19 A. Yes.

20 Q.181 You do?

21 A. Yes.

22 Q.182 And do you conduct some research on non-
23 thermal effects?

24 A. Yes. Anything below the limits in Safety
25 Code 6 would be considered non-thermal.

1 And practically every study, in fact,
2 every study we've done has been in that
3 frequency range, so, non-thermal. In that
4 intensity range.

5 Q.183 I don't have any further question for Mr.
6 NcNamee.

7

8 **Me PIERRE Y. LEFEBVRE :**

9 I have no questions for the witness. So,
10 I guess, if you're okay, we can free the
11 witness?

12

13 **LA COUR :**

14 Hum-hum.

15

16 **Me PIERRE Y. LEFEBVRE :**

17 Thank you.

18

19 **ET LE TÉMOIN NE DIT RIEN DE PLUS.**

20 * * * * *

21

22 **LA COUR :**

23 Ça conclurait votre preuve, maître
24 Lefebvre?

25

760-05-005093-107
18 FÉVRIER 2013

JAMES McNAMEE
CONTRE-INT. PAR Me GLADU

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Me PIERRE Y. LEFEBVRE :

Absolument. Absolument.

FIN DE L'EXTRAIT

*** * * * ***

760-05-005093-107
18 FÉVRIER 2013

JAMES McNAMEE
CONTRE-INT. PAR Me GLADU

1 Je, soussignée, DENISE TURCOT, sténographe
2 officielle bilingue 264848-2, certifiée sous mon
3 serment d'office que la transcription des notes,
4 prises au moyen de l'enregistrement mécanique et
5 hors de mon contrôle, est au meilleur de la qualité
6 dudit enregistrement, le tout conformément à la loi.

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Et j'ai signé,

DENISE TURCOT
Sténographe officielle bilingue