



# ONTARIO ENERGY BOARD

**FILE NO.:** EB-2011-0120

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**VOLUME:** Technical Conference

**DATE:** November 4, 2011

THE ONTARIO ENERGY BOARD

**IN THE MATTER OF** the *Ontario Energy Board Act*,  
1998, S.O. 1998, c. 15, (Schedule B);

**AND IN THE MATTER OF** an application by Canadian  
Distributed Antenna Systems Coalition for certain  
orders under the Ontario Energy Board Act, 1998.

Hearing held at 2300 Yonge Street,  
25<sup>th</sup> Floor, Toronto, Ontario,  
on Friday, November 4<sup>th</sup>, 2011,  
commencing at 9:41 a.m.

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TECHNICAL CONFERENCE  
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JULIE GIRVAN	Consumers Council of Canada (CCC)
CHRISTINE KILBY	Electricity Distributors
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LAWRENCE SCHWARTZ	
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MARK RODGER	Toronto Hydro-Electric System
JOHN VELLONE	Limited
MICHAEL STARKEY	
ADONIS YATCHEW	
AMANDA KLEIN	
MICHAEL JANIGAN	Vulnerable Energy Consumers Coalition (VECC)

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1 Friday, November 4, 2011

2 --- On commencing at 9:41 a.m.

3 MS. SEBALJ: Good morning. My name is Kristi Sebalj  
4 and I am legal counsel to the Board on this matter. We are  
5 here for the Canadian Distributed Antenna Systems Coalition  
6 application. The document number is EB-2011-0120, and  
7 today of course is a technical conference.

8 I'm accompanied by Gona Jaff, who the case manager for  
9 this file. Some of you may have been dealing with Judith  
10 Fernandes, but there has been a change, and Gona now is the  
11 new case manager.

12 You should also be aware Staff has retained experts  
13 for the purposes of simply advising Staff on technical  
14 issues. And are Shawn Ota, who is to my far right, and  
15 Paula Zarnett. Shawn is the CEO of METSCO Energy  
16 Solutions. Paula is subcontracted to METSCO for the  
17 purposes of this retainer.

18 So by way of introduction, the Canadian Distributed  
19 Antenna Systems Coalition, which I will refer to as CANDAS,  
20 filed an application on behalf of its member companies with  
21 the Ontario Energy Board, which was received on April 25th,  
22 2011. The application seeks certain orders of the Board,  
23 including requests for interim relief -- or sought requests  
24 for interim relief in letters to the Board dated May 3rd  
25 and June 7th.

26 CANDAS withdrew its request for interim relief. The  
27 current application, therefore, seeks a number of orders  
28 which relate to -- and I won't read them into the record,

1 because you are familiar with them, but which relate to  
2 access to electricity distributors' poles for the purpose  
3 of attaching wireless equipment, including wireless  
4 components of distributed antenna systems, or DAS systems;  
5 and directing all licensed electricity distributors to  
6 provide access if they are not so doing.

7 The Board issued a notice of motion of application and  
8 hearing on May 11, 2011. Procedural Order No. 1 was issued  
9 on June 13th, 2011, which did a number of things, including  
10 setting out a schedule for the proceeding, which included  
11 filing of evidence and interrogatories on that evidence.

12 CANDAS did file evidence. It was delayed in  
13 responding to some interrogatories, which resulted in a  
14 request by THESL and the Canadian Electricity Association  
15 for a delay in the date by which intervenor evidence was  
16 required to be filed.

17 On August 26th, 2011, the Board issued Procedural  
18 Order No. 2, which provided for a short extension for the  
19 filing of intervenor evidence, interrogatories and  
20 responses on that evidence, and for CANDAS to file reply  
21 evidence, which was requested of CANDAS, as well as  
22 interrogatories and responses on that evidence.

23 The Board also set dates for other procedural steps.  
24 And, as we all know, those steps were subsequently  
25 modified.

26 On September 2nd, 2011, Toronto Hydro filed a notice  
27 of motion seeking dismissal of the CANDAS application on a  
28 number of grounds. In a letter issued on September 7th,



1 the Board disagreed with the submissions and requested that  
2 it would hold THESL's notice of motion in abeyance until  
3 the CANDAS application was heard and determined.

4 The Board did, however, accept the affidavit evidence  
5 provided by Toronto Hydro's motion as intervenor evidence  
6 and extended the deadline for filing interrogatories on  
7 that intervenor evidence.

8 There were delays in the responses by Toronto Hydro to  
9 interrogatories, and on September 22nd CANDAS filed a  
10 letter stating that it would be unable to file its reply  
11 evidence by the date stipulated in the Board's procedural  
12 order and requested a revision to the remaining procedural  
13 steps and a postponement of the oral hearing.

14 In Procedural Order No. 3, which was issued on  
15 September 23rd, the Board set new dates for the filing of  
16 responses to interrogatories on intervenor evidence, the  
17 filing of reply evidence by CANDAS and interrogatories and  
18 responses on the reply evidence.

19 That procedural order also set today as the date for  
20 the technical conference and Monday the 7th and Tuesday the  
21 8th for a settlement conference, and, in the absence of a  
22 complete settlement, setting the oral hearing for December  
23 12th, 13th, 15th and 16th.

24 Motions were filed by each of the Canadian -- by CCC  
25 and CANDAS on October 31st and November 3rd, respectively,  
26 relating to the sufficiency of responses to interrogatories  
27 by Toronto Hydro.

28 The Board issued a PO yesterday to set out a process

1 to hear those motions in writing. The Board also postponed  
2 the settlement conference to the 28th and 29th of November  
3 and the filing of any settlement proposal to December 5th.  
4 The hearing dates remain the same.

5 I should also mention that CEA filed a letter on  
6 November 2nd indicating that because of duplication it said  
7 existed between its evidence and that of Toronto Hydro's,  
8 it would not be calling the author of the LCC International  
9 report to speak to the evidence filed and would be reducing  
10 its level of participation in the hearing.

11 Toronto Hydro responded to that letter, disagreeing  
12 that the report filed by the CEA is duplicative of other  
13 material on the record. Toronto Hydro indicated it had  
14 spoken with CEA and would independently retain LCC and put  
15 forward the author of the report at the oral hearing.

16 To the extent that any parties have questions with  
17 respect to the LCC report today, Toronto Hydro has  
18 suggested they put those questions on the record and that  
19 Toronto Hydro will endeavour to get them answered as soon  
20 as possible.

21 Due to the timing of the filing of the Toronto Hydro  
22 letter, we have nothing from the Board to indicate whether  
23 it accepts or rejects the Toronto Hydro proposal, or  
24 whether it will address it at all, frankly.

25 So unless any party has a strong objection to the  
26 Toronto Hydro proposal with respect to the LCC report, I  
27 propose we go ahead and proceed as Toronto Hydro has  
28 suggested.

1           If there are objections, we will put those on the  
2 record today to preserve the ability of parties to ask  
3 questions on the LCC evidence. The Panel can deal with any  
4 objections related to the procedure in due course.

5           I remind all parties that this is a technical  
6 conference. It is, therefore, being transcribed by the  
7 court reporter. Please speak clearly into your microphones  
8 so the court reporter can hear you.

9           For those of you who aren't familiar with the Board's  
10 hearing room, the mics are activated using the small green  
11 button in front of you. I should warn that the pods are  
12 connected, so if you turn your mic off, you turn your  
13 neighbour's mic off. So please try and avoid doing that,  
14 although it happens at least a couple of times every  
15 technical conference.

16           And as I've indicated, we don't have an adjudicative  
17 panel here today, so to the extent there are any disputes  
18 or objections, all we can do is record those on the record  
19 and have a Panel review them and deal with them in due  
20 course.

21           I note Staff did ask parties to indicate whether they  
22 were going to participate actively today by asking  
23 questions, and we did get responses from a number of  
24 parties. Thank you for that. So what my records indicate  
25 that parties is that wish to ask questions of the CANDAS  
26 witness panel are Toronto Hydro, the EDA, Energy Probe,  
27 VECC, CCC and Board Staff.

28           Is there anyone here who is intending to ask questions

1 of CANDAS that I did not just mention? All right.

2 In terms of questions for the Toronto Hydro panel, I  
3 have noted here that CANDAS, Energy Probe, VECC, CCC and  
4 Board Staff have questions. Have I missed anyone? Okay.

5 There's nothing precluding you later in the day from  
6 deciding you have a question. I'm just trying to organize  
7 the day as best I can upfront.

8 So what I propose to do, unless anyone has any  
9 vehement opposition to it, is to start with the CANDAS  
10 witnesses. Is that acceptable?

11 MS. NEWLAND: It is.

12 MS. SEBALJ: And with Toronto Hydro as the first party  
13 asking questions, as I think they have indicated that they  
14 have the largest number of questions, and then we can go in  
15 the order that I indicated, unless that doesn't work for  
16 people as we move along.

17 Are there any preliminary matters that I haven't  
18 otherwise mentioned in the introduction that people want to  
19 address?

20 In that case, we should move to -- I'll ask for  
21 appearances just so we get on the record who is in the  
22 room, and then we can start.

23 **APPEARANCES**

24 MS. NEWLAND: I am Helen Newland, and I represent  
25 CANDAS. Appearing with me are Gordon Kaiser, Monica Song  
26 and Kathleen Burke.

27 MR. RODGER: Good morning. Mark Rodger, Toronto  
28 Hydro-Electric System Limited, and to my left is my

1 colleague John Vellone, and also appearing with me to my  
2 right is Ms. Amanda Klein.

3 MS. SEBALJ: Thank you.

4 MR. MacINTOSH: David MacIntosh for Energy Probe, and  
5 with me is Dr. Schwartz.

6 MS. LEMAY: Johanne Lemay of Lemay Associates, and I'm  
7 with CANDAS.

8 MR. WARE: Roger Ware. I'm a professor of economics  
9 at Queen's University, and I'm with CANDAS.

10 MS. SEBALJ: Thank you.

11 MR. JANIGAN: Michael Janigan, counsel for the  
12 Vulnerable Energy Consumers Coalition, VECC.

13 MS. SEBALJ: Thank you.

14 MR. MCCARTHY: Devin McCarthy with the Canadian  
15 Electricity Association.

16 MS. SEBALJ: Thank you.

17 MR. ENGLEBERG: Michael Engelberg, counsel to Hydro  
18 One Networks Inc.

19 MS. SEBALJ: Thank you. Is there anyone else that  
20 wants to --

21 MS. KILBY: Christine Kilby, counsel to the EDA, and  
22 with me is Afreen Khan from the EDA.

23 MS. SEBALJ: Thank you.

24 MS. GIRVAN: Julie Girvan, consultant to the Consumers  
25 Council of Canada.

26 MS. SEBALJ: No one else? Okay. In that case, I'll  
27 turn it over to you, Ms. Newland, to introduce your panel.

28 MS. NEWLAND: Thank you. We'll be producing two

1 panels this morning. The first panel is already sitting to  
2 my left and I'll introduce them.

3 Sitting immediately -- or closest to me is Brian  
4 O'Shaughnessy. He is the chief technology officer with  
5 Public Mobile.

6 Sitting next to Mr. O'Shaughnessy is Mr. Bob Boron.  
7 He is the general counsel and vice-president, legal and  
8 regulatory affairs, of Public Mobile.

9 Sitting next to Mr. Boron is Mr. George Vinyard. He  
10 is the vice-president and general counsel of ExteNet  
11 Systems Inc.

12 And sitting next to Mr. Vinyard is Mr. Tormod Larsen,  
13 chief technology officer of ExteNet Systems Inc.

14 MS. SEBALJ: So I'll turn it over to you, Mr. Rodger,  
15 unless...

16 MR. RODGER: Thank you, Kristi.

17 **CANDAS - PANEL 1**

18 **Brian O'Shaughnessy**

19 **Bob Boron**

20 **George Vinyard**

21 **Tormod Larsen**

22 **QUESTIONS BY MR. RODGER**

23 MR. RODGER: Panel, as indicated, my name is Mark  
24 Rodger and I'm counsel to Toronto Hydro Electricity System  
25 Limited.

26 What we're going to do is divide up the labour here.  
27 I've got some questions, and I'm going to turn it over to  
28 our consultants, Mr. Michael Starkey and Dr. Adonis

1 Yatchew. And then I will have some wrap-up questions,  
2 although if you have two panels there may be a little bit  
3 of back and forth, but we'll get through it.

4 So I'm wondering first, panel, if you could please  
5 turn up your response to Toronto Hydro's Interrogatory  
6 3(b), please. And this was an interrogatory -- and the  
7 reference was to page 12 and page 14, paragraphs 4.1 and  
8 5.9 of CANDAS' prefiled evidence, and I'll wait until you  
9 get that turned up.

10 I'm not sure who the best person to address this, so  
11 perhaps when you hear the question you can decide amongst  
12 yourselves who would be the appropriate person to respond.

13 But in this interrogatory, we asked you about  
14 alternatives that you considered to where DAS networks may  
15 be sited. And we asked in part (a):

16 "Has ExteNet, Public Mobile or DAScom considered,  
17 either together or individually, any other  
18 alternatives to siting, and deployed its proposed  
19 Toronto DAS Network other than using distribution  
20 utility poles?"

21 And the answer in part (a) was yes.

22 Then in (b), you spell out a number of alternatives,  
23 which I want to speak to, but first I wanted to ask you,  
24 the question asked about whether ExteNet, Public Mobile or  
25 DAScom had considered these options, and the answer was  
26 ExteNet and DAScom has considered various alternatives, but  
27 there is no reference to Public Mobile.

28 So if I could first ask you: Is Public Mobile -- were

1 they to be included in this answer, that Public Mobile has  
2 also included alternatives -- has also considered  
3 alternatives?

4 MR. O'SHAGHNESSY: Yes. Public Mobile has --  
5 alternatives are to build traditional macro networks versus  
6 building a DAS network of this variety.

7 So we did not go out and look for other companies who  
8 provide a DAS - we talked to different companies that  
9 provide DAS, but we did not go and find other sources of  
10 poles to distribute, because that was the responsibility of  
11 the contractor, in this case DAScom.

12 MR. RODGER: I see. So your primary alternative was  
13 macrocell?

14 MR. O'SHAGHNESSY: Correct.

15 MR. RODGER: Okay. Just turning to the options, the  
16 alternatives that you did include in your answer, and you  
17 identify Bell Canada poles, various methods of installing  
18 fibre optic cabling in new underground conduits, traffic  
19 light standards and other municipal street furniture,  
20 installation of new node poles in the public right-of-way.

21 Then you go on to say that with the exception of THESI  
22 street lighting poles, none of the foregoing alternatives  
23 was deemed to be viable.

24 And I wonder if you could just take me through one by  
25 one on what basis you came to the conclusion that these  
26 other options weren't viable. And perhaps we could start  
27 with the Bell Canada poles.

28 MR. LARSEN: Sure. So you know, when you build up a



1 DAS system, there's two major parts to it. Well, three,  
2 but for this context it's really two. You have the hub  
3 location, which is a building, which, again, like I said,  
4 doesn't really matter. And then you have the sites where -  
5 you'll radiate the signal, system nodes, and you also have  
6 the connectivity to those nodes.

7 So when it comes to Bell Canada poles, the  
8 availability of them will not make us able to create this  
9 continuous network, because we also need to attach fibre to  
10 get to those poles and we also need a certain density of  
11 poles to be able to provide a continuous coverage. And  
12 most of the Bell Canada poles are added to get to a  
13 specific subscriber, and it's not as continuous as the  
14 utility poles.

15 MR. RODGER: So do I take that to mean that there  
16 simply weren't enough Bell Canada poles for your DAS  
17 technology to work?

18 MR. LARSEN: Not enough poles, and they are not evenly  
19 distributed in the areas where we -- we're supposed to  
20 provide coverage.

21 MR. RODGER: And is this conclusion about the Bell  
22 Canada poles, did you do an analysis or study to arrive at  
23 this conclusion? How did you form the basis for this  
24 conclusion?

25 MR. LARSEN: We did surveys, and obviously -- so,  
26 yeah, we did surveys of areas to be able to see what's the  
27 density of Bell Canada poles.

28 MR. RODGER: Could you produce those studies for us?

1 MR. LARSEN: Yeah.

2 MR. RODGER: Yes. Could I have an undertaking please,  
3 Kristi?

4 MS. SEBALJ: Sure. It will be JTC1.1.

5 **UNDERTAKING NO. JTC1.1: TO PROVIDE DENSITY SURVEYS OF**  
6 **BELL CANADA POLES.**

7 MR. RODGER: And perhaps rather than taking you to the  
8 same line -- I had the same line of questioning for these  
9 other alternatives. Do I take it, Mr. Larsen, that you did  
10 the same kind of analysis and surveys for all these other  
11 options, underground traffic light standards, other  
12 municipal street furniture, new node poles and public  
13 right-of-way?

14 MR. LARSEN: So let's maybe just go through them.

15 MR. RODGER: Sure.

16 MR. LARSEN: Obviously number three, you have the  
17 connectivity aspect, but from a radiation point we can't  
18 put those facilities underground, so...

19 MR. RODGER: I'm sorry, I didn't hear that. From what  
20 point of...

21 MR. LARSEN: The node poles to the node location where  
22 you radiate the signal obviously.

23 MR. RODGER: The radiated signal? Okay.

24 MR. LARSEN: Yeah. Can't be done from underground;  
25 right? So from that perspective, from a connectivity  
26 perspective, yes, but from -- so it's from that  
27 perspective, not a holistic solution; right?

28 Traffic light standards and municipal street

1 furniture, kind of similar from a connectivity perspective.  
2 They don't have, you know, easy access for fibre.

3 And then obviously when it comes to new poles, in our  
4 municipal access agreement with the City of Toronto, they  
5 stipulated that there was so much existing poles that we  
6 didn't have to sink poles. So that was part of that, and  
7 maybe George could add to that.

8 So really the thing that we're left with from that  
9 perspective is that Bell Canada poles and obviously the  
10 THESI poles and regular utility poles.

11 MR. RODGER: Let me follow up on one thing. I think  
12 you said, when you referred to either traffic light  
13 standards or municipal street furniture, was part of your  
14 answer that somehow the City of Toronto would prohibit you  
15 from attaching these type of wireless devices to city  
16 infrastructure? Is that part of the reason why these  
17 options aren't viable alternatives?

18 MR. LARSEN: I said that related to installation of  
19 new poles.

20 MR. RODGER: Do you know the answer to my question  
21 about whether the city permits on its infrastructure these  
22 types of wireless attachments?

23 MR. LARSEN: What I've said when it comes to that is  
24 that when it comes to traffic lights, they don't have easy  
25 access for fibre. So the connectivity piece, which I think  
26 has been left out in a lot of the discussions here, is  
27 obviously not all that trivial. Then from a street  
28 furniture perspective, that is typically very close to the

1 ground, so we wouldn't be able to provide the coverage,  
2 from an RF propagation perspective.

3 So the type of structure there is not feasible.

4 MR. VINYARD: I would like to supplement what Mr.  
5 Larsen said, and also I think clarify. And correct me if  
6 I'm wrong, but we have the undertaking to provide you with  
7 whatever documentation we have on the surveys, but these  
8 are field surveys by engineers who go out and walk around  
9 and look and report back.

10 It's not -- I don't know that we necessarily have  
11 detailed written reports of all those findings.

12 MR. LARSEN: That is, field verified.

13 MR. RODGER: So the extent to which you do have  
14 written material that you can provide us on all these  
15 options you've laid out in this answer, that would be  
16 helpful. Otherwise, I guess what you are saying is you  
17 made the conclusion that there were no alternatives on,  
18 what, just verbal chats with field folks? Is that the  
19 basis for the answer?

20 MR. LARSEN: Not field chats. We actually went out  
21 and saw the physical infrastructure that's there.

22 MR. RODGER: Now, when you had these conversations,  
23 went out with field staff, to what extent were these other  
24 options -- or was a consideration that these other options  
25 would be more expensive than the \$22 per pole per year that  
26 you are putting forward in this case? Was that one of the  
27 considerations why the other alternatives would not be  
28 viable, because there is a different cost basis?

1           MR. LARSEN: No. From a pure engineering perspective,  
2 right, we had a committed, you know, contractual -- from a  
3 performance perspective to our customer that that's what we  
4 were looking at.

5           MR. RODGER: Okay. And just to stay on this  
6 interrogatory response, moving down to part (d), and we  
7 asked you about whether were you aware of outdoor DAS  
8 networks in the U.S. that had been deployed using assets  
9 other than distribution utility poles, and the answer you  
10 gave in part (d), you say CANDAS is aware of a limited  
11 number of instances in which DAS networks have been  
12 deployed in the U.S. using assets other than electric  
13 distribution poles, and then you describe two categories.

14           And in the reference to the Chicago example, are we to  
15 read that answer as meaning that the only option used in  
16 Chicago was on city-owned street lighting poles?

17           MR. VINYARD: No. The situation in Chicago was that  
18 in certain areas of the core city, there were only street  
19 lighting poles, and then there are also traffic signal  
20 poles. And I think it's a matter of public record you can  
21 find there's an ordinance that was adopted a few years back  
22 that actually provided a procedure, and so forth, for  
23 attachments to street light poles and potentially to  
24 traffic poles with a hierarchy in terms of what the city's  
25 preference was among those. And they preferred ordinary  
26 street light poles versus decorative street light poles  
27 versus traffic signals.

28           MR. RODGER: So in Chicago, it was street lighting

1 poles, traffic signals or traffic infrastructure. Any  
2 other options in the City of Chicago?

3 MR. LARSEN: Maybe I'll -- so when you look at our  
4 response, you know, the network that we plan to build in  
5 Toronto, with a wide span from kind of the city core  
6 throughout, you know, a large area. In the city core for  
7 Toronto, we were looking at obviously THESI poles, as well  
8 as other utility poles.

9 Same thing in Chicago. In the core of Chicago - this  
10 is the reference - there is no other alternative to those  
11 street lamps and traffic lights, because the utilities are  
12 underground.

13 However, in other parts of Chicago, if we look at kind  
14 of a typical metropolitan area, we have built on utility  
15 poles from ConEd, so that's -- you know, from an  
16 availability perspective in the core of a city, you'll  
17 typically have street lights and traffic lights that, in  
18 that case, had conduit, and all that was provided by the  
19 city, unlike what the situation was here.

20 MR. VINYARD: Chicago recognized that and passed an  
21 ordinance accordingly, made it available.

22 MR. RODGER: So does the city ordinance from Chicago  
23 that you reference in this answer, does it spell out, then,  
24 Here's the infrastructure that can be used for wireless and  
25 presumably here is what cannot be? Does it give a laundry  
26 list saying this is what -- the alternatives, through the  
27 city ordinance, it allows to be attached to?

28 MR. VINYARD: In terms of city property that are

1 available potentially for attachments, it defines  
2 categories. It doesn't say what can't be attached to it.  
3 It just lists what the city is willing to make available  
4 and categorizes those in a way that has a procedure or  
5 priority for certain over others, if they are available,  
6 and also other procedures for how one could apply.

7 MR. RODGER: Would you be able to produce for us a  
8 copy of this city ordinance that is being referred to in  
9 this answer, please?

10 MR. VINYARD: We can certainly do that. It's  
11 available on the City of Chicago's website.

12 MR. RODGER: Thank you for that. Do you have a sense  
13 of what the most recent leasing costs are in Chicago under  
14 this ordinance?

15 MR. VINYARD: I believe it's spelled out in the  
16 ordinance, but I'm not sure what relevance that has.

17 MR. RODGER: Well, one of the questions that the Board  
18 has clarified in this hearing is about whether the current  
19 pole attachment rate is appropriate. That's one of the  
20 issues that's comes out of the Board correspondence from  
21 the earlier parts of this proceeding that Ms. Sebalj has  
22 gone through.

23 MS. NEWLAND: I don't think that's the case, Mark. I  
24 would have to look at it closely. I think what the Board  
25 said is it would decide in this proceeding whether the  
26 current attachment rate pertains to wireless attachments,  
27 but it didn't say that if that rate did not pertain, if it  
28 found the rate did not pertain, it would -- it specifically

1 said that if the rate did not pertain, it would not  
2 consider what the new rate should be in this proceeding.

3 MR. RODGER: I'm looking at the Board's letter dated  
4 September 14th, 2011. This is to all parties. And on page  
5 3, it talks about the heads of relief that CANDAS seeks,  
6 and then it says, quote:

7 "The Board is of the view that the question of  
8 whether the current Board-approved attachment  
9 rate applies to wireless attachments is  
10 appropriately part of this proceeding."

11 MR. VINYARD: I guess I would just suggest that's  
12 different than saying whether it was an appropriate rate.

13 MR. RODGER: Do you know what the leasing rates are in  
14 Chicago?

15 MR. VINYARD: I don't off the top of my head, but it's  
16 in the ordinance. You'll see it.

17 MR. RODGER: Perhaps we need a separate undertaking  
18 for that city ordinance, please, Kristi.

19 MS. SEBALJ: Yes. Gona has corrected me. I should  
20 have marked the first undertaking as JTC1.1, so this will  
21 be JTC1.2.

22 **UNDERTAKING NO. JTC1.2: TO PROVIDE CITY OF CHICAGO**  
23 **ORDINANCE.**

24 MR. RODGER: Just staying with the Chicago situations,  
25 are the nodes that were mounted on street light poles  
26 pursuant to the city ordinance, are they for AT&T; do you  
27 know? That was discussed in Mr. Starkey's evidence.

28 MR. LARSEN: I'm not sure if we were under -- have the



1 availability to -- or actually could respond to that...

2 MR. RODGER: I'm sorry, I didn't get the answer.

3 MR. LARSEN: If that's information he has, then there  
4 was probably -- I don't know what his source is, so...

5 MS. NEWLAND: Mark, could you just clarify your  
6 question?

7 MR. RODGER: So part of the answer in Interrogatory  
8 (d) said that nodes -- says nodes were mounted on street  
9 light poles pursuant to a city ordinance dealing  
10 specifically with attachments to city-owned structures.  
11 And we're just wondering, were these nodes that are  
12 referenced in this answer, were they for the AT&T system,  
13 as Mr. Starkey discussed in his evidence? Are you aware of  
14 that?

15 MS. SONG: Could you just give us a reference to Mr.  
16 Starkey's affidavit?

17 MR. VINYARD: I don't know of any project done for  
18 other people other than AT&T.

19 MR. RODGER: That's satisfactory. Thank you.

20 Just one final clarification question on this  
21 interrogatory answer. When you were doing your analysis  
22 about alternatives and coming to the conclusion that other  
23 alternatives weren't viable, did you also consider a  
24 combination of options? So for example, if you looked at  
25 Bell Canada poles, traffic light standards, street  
26 furniture, is there some combination of these different  
27 other options that would work for you? Was that ever  
28 considered by you in assessing the viability of

1 alternatives to Toronto Hydro's poles?

2 MR. LARSEN: Certainly. Like I said earlier, we were  
3 -- set out to provide a wide area network, and we could  
4 maybe do bits and pieces, but without the THESL poles we  
5 would not be able to get to a reasonable percentage of  
6 coverage, and specifically get out in areas where it's --  
7 you have THESL utility poles, but you don't have street  
8 lamps, you don't have traffic lights, at least at a density  
9 that would be able to provide this higher coverage.

10 MR. RODGER: I guess our thinking, Mr. Larsen, is that  
11 we thought, given your experience in the U.S. and different  
12 alternatives that have been used there, that you would have  
13 kind of used that approach to say: Well, you know, these  
14 different options in other jurisdictions, could they also  
15 work in Toronto? And did you go through that type of  
16 analysis?

17 MR. LARSEN: Certainly. Every time when we build a  
18 network, those are the type of considerations that are  
19 going into the design process.

20 MR. RODGER: Let's just assume, let's say the City of  
21 Toronto didn't have, the downtown core, the downtown area,  
22 didn't have Toronto Hydro above-ground poles. Let's just  
23 assume it was totally an underground system.

24 What would you do, then, in the City of Toronto in  
25 that situation?

26 MR. LARSEN: So you have a couple of options. Not  
27 build at all.

28 MR. RODGER: Right?

1           MR. LARSEN: Which is actually a viable one. If you  
2 had ability to sink poles, you might be doing that. And  
3 then the connectivity piece. If you don't have any duct  
4 banks that could connect it, that might not be an option.

5           MR. RODGER: If I could ask you next, please, to go to  
6 response to Toronto Hydro Interrogatory 35(a), and this is  
7 a reference, page 13, question 9.

8           MS. NEWLAND: What's the page number, Mark?

9           MR. RODGER: Sorry, page 59 of 90.

10          Again, this question arises from Mr. Larsen's pre-  
11 filed evidence. We wanted to understand your answer that  
12 said the estimated impact on construction costs could  
13 exceed \$200,000, a node site just to provide such  
14 connectivity. And as part of the answer on page 60 in  
15 response to how you came up with this \$200,000 estimate,  
16 and you offer a series of categories coming up with a total  
17 cost of \$287,700.

18          And we would like to try and get a better  
19 understanding of how you came up with these costs. So if  
20 we start, for example, in part (a), you identify site  
21 acquisition and leasing. Could you explain what exactly  
22 have you included in that category?

23          MR. LARSEN: Yeah. So when it comes to -- the  
24 question was related to using -- specifically if you had to  
25 go into buildings; right? And used that as an alternative  
26 to existing poles, and to be able to do that, obviously you  
27 need to bring the fibre into the building.

28          So to be able to get the agreements in place with the

1 building owner, get all the leasing, all the legal work,  
2 and also be able to attach antennas on the face of the  
3 building, all that is what's in that number, is to get all  
4 the appropriate agreements and all the work that -- going  
5 into that.

6 Another element of it is that you most probably, to be  
7 able to get one building or one location, you most probably  
8 have to probably work with multiple buildings for one  
9 location, because it might not be that that building owner  
10 that you initially target would be able to or willing to  
11 give you that, as well as from a municipal perspective, to  
12 have the ability to place the antennas on that.

13 So it's a lot of work for one location to be able to  
14 secure those rights.

15 MR. RODGER: So this is along the lines of legal  
16 agreements? It sounds like administrative-type work, to  
17 move these initiatives forward, putting contracts in place  
18 and...

19 MR. LARSEN: No, no. It's not only administration.  
20 You need to go out, identify those, meet with them, and  
21 then start to enter into those -- so it's planning and then  
22 being able to approach them, so from a site acquisition,  
23 that's -- if you looking at a carrier, they have large  
24 teams that go out. And it's not lawyers; they are people  
25 that are land use-type of people that approach a building  
26 owner, in this case, or a landlord and -- so it's a lot of  
27 that kind of -- in that.

28 MR. RODGER: Are any of these same activities or costs

1 that you've just described, would they also be necessary in  
2 a DAS node installed on a Toronto Hydro pole?

3 MR. LARSEN: Actually, some of it, because you -- the  
4 benefit of when you go on a pole is that you have a more  
5 uniform approach. So yes, some of those costs will be  
6 there, but it will be not to the same extent.

7 MR. RODGER: I take it that's one of the business  
8 reasons why CANDAS has brought this application. It's a  
9 better business proposition for you to just deal with one  
10 entity, Toronto Hydro, than deal with people in other  
11 jurisdictions where they have to negotiate these one-off  
12 deals and deal with separate landowners; is that fair?

13 MR. LARSEN: Yeah. From a technical and from a time  
14 perspective, which is, you know, more so the driving factor  
15 maybe than the economical.

16 MR. RODGER: The next item you give -- this is now on  
17 the top of page 60 -- site zoning, planning, permitting,  
18 including legal and municipal hearings, \$13,000, would any  
19 of this amount go towards public consultations?

20 MR. LARSEN: Yeah. Municipal hearings, in some cases  
21 you need to send out letters and so forth for public  
22 hearings and so forth, so --

23 MR. VINYARD: Could you clarify what I mean by public  
24 consultations? Is that what you're referring to?

25 MR. RODGER: Yes. So as I understand it in other  
26 jurisdictions, there is a municipally-driven process where  
27 the public or business owners could have input into whether  
28 they want wireless attachments in front of their

1 businesses, or so on, to avoid clutter, et cetera, et  
2 cetera.

3 And at least my understanding is it's kind of a  
4 standard part of the process to approve wireless  
5 attachments in various jurisdictions. So there would be  
6 costs -- I'm asking if there is costs associated with that  
7 process and whether that's what you are also trying to  
8 capture here.

9 MR. LARSEN: Yes.

10 MR. RODGER: Are you aware at all of the City of  
11 Toronto's telecommunications tower and antenna protocol?  
12 Are you familiar with that at all?

13 MR. LARSEN: Which part of it? Maybe you can be more  
14 specific.

15 MR. RODGER: Is there a parallel here in Toronto with  
16 that city process -- in the City of Toronto to this process  
17 I've just described in other jurisdictions where the public  
18 has an opportunity to have input into the decisions about  
19 where wireless is attached. I'm wondering if there is a  
20 parallel here in terms of what you do elsewhere and the  
21 City of Toronto's attachment policy.

22 MS. NEWLAND: Maybe you could explain what the  
23 relevance of this line of questioning is.

24 MR. RODGER: Well, as it will be no secret, Helen, as  
25 has been plain from our motion, we believe there are  
26 several alternatives to Toronto Hydro poles to facilitate  
27 these attachments, and this is exploring the extent to  
28 which costs may be comparable or not comparable in

1 evaluating different options.

2 MS. NEWLAND: Well, our application is not for access  
3 to other alternatives. Our application is for access to  
4 hydro poles, so I mean I don't -- this is a technical  
5 conference, and we try to be helpful in terms of putting  
6 information on the record that will assist the Board in its  
7 decision.

8 We have one day for this technical conference and I'm  
9 not so sure this is really helpful to anyone.

10 MR. RODGER: That's fine. The witnesses are either  
11 aware of the City of Toronto policy or not, and if they are  
12 not, that's fine. We can move on.

13 MR. VINYARD: My understanding is we had some  
14 awareness, but I can't say we have any specific knowledge  
15 of what precisely is required for what in the States would  
16 be zoning and special use permitting.

17 MR. RODGER: Then just finally on this list of  
18 charges, you have indoor installations, including exterior  
19 antenna, 29,600. Can you tell me how roughly how much that  
20 \$29,600 is actually for the exterior antenna?

21 MR. LARSEN: The cost of the antenna?

22 MR. RODGER: Yes.

23 MR. LARSEN: Or the cost of putting it up?

24 MR. RODGER: The cost of the antenna and the cost of  
25 putting it up.

26 MR. LARSEN: Number 1, to be able to use as an  
27 alternative, you know, we need to be able to connect from  
28 the outside in, and then obviously put the antenna on the

1 exterior. So typically that will be contracted out as one  
2 job. It's not realistic to have somebody go and put an  
3 antenna on the face of a building and can't connect it. So  
4 I don't have a breakdown of that.

5 MR. RODGER: Okay. Just to move to part (b) below,  
6 and the answer you've given is:

7 "In a metropolitan area like Toronto, there are  
8 few available and consistent alternatives.

9 ExteNet has conducted some analysis based on  
10 typical costs for alternative solutions. Costs  
11 are summarized below."

12 I guess I first wanted to understand if you could just  
13 explain what we're looking at here in terms of these  
14 various costs.

15 MR. LARSEN: Yeah. So it's different type of  
16 infrastructures that THESL had brought as alternatives. We  
17 hypothetically - underline "hypothetically" - looked into  
18 what would be the cost to do the engineering and  
19 construction for those different options.

20 MR. RODGER: So for example -- and, again, let's  
21 assume that Toronto Hydro's poles were not available to  
22 you. You come to Toronto. You are looking at different  
23 options. You considered meter towers. Do I interpret this  
24 correctly to say that you are looking at \$211,000 cost to  
25 install a meter tower in Toronto to connect a DAS system?  
26 Is that how we should read that?

27 MR. LARSEN: Yeah. So we have to build a tower and  
28 installation associated with that.



1 MR. RODGER: That's one tower? One single tower?

2 MR. LARSEN: Uh-huh.

3 MR. RODGER: And it is the same analysis for all these  
4 other breakdown of costs? We're looking at in the first  
5 case of a 10-metre -- it's for one pole, \$6,400?

6 MR. LARSEN: Hm-hmm.

7 MR. RODGER: Thank you. Finally on this  
8 interrogatory, go over to page 61, part (c). In this  
9 question, we asked you what is the all-in construction cost  
10 estimate per node site if CANDAS was to utilize LDC utility  
11 poles. And the range, you said, was \$7,000

12 We're trying to understand what comprises this figure,  
13 and particularly, could you give us an order of magnitude  
14 of what portions of the \$7,000 figure would be necessary  
15 for a DAS node installed somewhere other than an LDC pole?

16 MR. LARSEN: Yeah. So go back to (b). \$7,000 is  
17 related to the estimate \$6,400. It's pretty close, and you  
18 have all the other estimates right there.

19 MR. RODGER: Thanks. Now, I wonder if you could  
20 please turn to the answer to CCC No. 7. That's from the  
21 Consumers Council, a response to their Interrogatory No. 7.

22 MS. NEWLAND: Page?

23 MR. RODGER: Page 13 of 29. It's simply entitled  
24 "Responses to Interrogatories of CCC filed August 18th,  
25 2011", page 13 of 29. Do you have that one, panel? Do you  
26 have the question?

27 MR. LARSEN: Yes.

28 MR. RODGER: So this one we made reference to your

1 application that talked about investments in wireless  
2 networks that were made in reliance of the Board's CCTA  
3 order that become stranded. We asked you about the value  
4 of them, of that investment. And the answer was that  
5 collectively ExteNet, DAScom and Public Mobile invested  
6 more than 10 million in developing the Toronto DAS network.

7 And I'm wondering if you are able to provide us with a  
8 breakdown of that \$10 million figure, and I'm thinking  
9 particularly - and I'm not asking it right now, but this  
10 could potentially be an undertaking - a breakdown in terms  
11 of how much for fibre, fibre installation, node equipment,  
12 node equipment installation, site acquisition and leasing,  
13 site zoning, planning, permitting, including legal or  
14 municipal costs, engineering and fibre construction. Would  
15 that be possible?

16 MS. NEWLAND: Mark, we're not prepared to answer that  
17 question.

18 MR. RODGER: Why is that, Helen?

19 MS. NEWLAND: On the basis of relevance. We're not  
20 seeking to recover those costs in this proceeding.

21 MR. RODGER: I'm trying to get a better understanding  
22 of the answer you've provided.

23 MS. NEWLAND: I'm sorry, we're not answering that  
24 question.

25 MR. RODGER: I'll note that as an objection. We may  
26 to have deal with that in a motion, Kristi, so I'll leave  
27 it for now.

28 If I could now ask you, panel, to please turn up the

1 response to Toronto Hydro Interrogatory 50. And this is  
2 page 81 of 90. And IR 50, the reference on page 8,  
3 question 12. This was a question put to Mr. O'Shaughnessy.  
4 I'll wait until you get that up.

5 And this referred to your evidence when you described  
6 how Public Mobile decided to switch to a traditional  
7 macrocell site strategy, including antennas on building  
8 rooftops and special purpose towers. And we asked you a  
9 whole series of questions about this statement and you  
10 refused to answer them, all of them from (a) to (o).

11 And I wanted to ask you, since you filed this  
12 response, this non-answer back in August, you now have the  
13 Toronto Hydro materials and evidence that were filed in  
14 September, and you have had the Board now spelling out the  
15 issues that are in scope.

16 Does this remain your position, that you still believe  
17 that our questions that we asked are not relevant to the  
18 applications or the issues before the Board?

19 MS. NEWLAND: Mark, there are many sub-parts to this  
20 question. I think what we'll do is we'll confer at the  
21 break, and we'll get back to you with that response.

22 MR. RODGER: Thank you, Helen.

23 The next one is the CEA Interrogatory 18, part (b).  
24 This is page 20 of 102. Part (b) asked:

25 "Has any CANDAS member proposed utilizing  
26 underground conduit infrastructure to support  
27 their fibre network?"

28 And the answer was no.

1           My question to you is: If underground conduit  
2 infrastructure was available, would you consider it? Would  
3 this become an option for you?

4           MR. LARSEN: Yeah, we would consider it. And like I  
5 said, it's a matter of both the -- that will be just for  
6 the connectivity piece; right?

7           MR. RODGER: Has CANDAS or its members actually looked  
8 for available underground conduit in Toronto?

9           MR. VINYARD: I think it was clear that in connection  
10 with the proposed construction of the project as originally  
11 planned, we contracted with Cogeco Data Services, and we  
12 assumed that they looked at options and availabilities for  
13 fibre that was underground.

14          MR. RODGER: Do you know whether Cogeco, in fact,  
15 owns, maintains or has access to underground conduit in and  
16 around Toronto?

17          MR. LARSEN: Yeah. Some of the fibre is in conduit.

18          MR. RODGER: Just a few interrogatories over, CEA 24,  
19 this is now at page 28.

20          This was a question regarding Mr. Vinyard's evidence.  
21 Again, we -- there was a question around alternatives for  
22 meeting the needs of wireless carriers, and the answer,  
23 again, was the information is not relevant.

24          I just wanted to clarify, Mr. Vinyard, is it your  
25 position that substitutes for DAS are irrelevant for this  
26 proceeding?

27          MR. VINYARD: What do you mean by "substitutes"?

28          MR. RODGER: Alternatives, feasible alternatives.

1           MR. VINYARD: I think the answer to that is yes. I  
2 mean, if there are many different technologies that can be  
3 used, no one should be preferred over the other.

4           This is about access to poles for DAS and other  
5 wireless applications.

6           MR. RODGER: Thank you.

7           I think my final question of this first part is  
8 Toronto Hydro's Interrogatory Response 39.

9           MS. NEWLAND: You mean --

10          MR. RODGER: This is page 67.

11          MS. NEWLAND: -- our response to THESL?

12          MR. RODGER: Yes. And also in this answer, it refers  
13 to Exhibit D, which -- Exhibit D to the affidavit of Mr.  
14 Larsen in his supplementary evidence. You may just want to  
15 have, Mr. Larsen, that Exhibit D with you. We have an  
16 extra copy we can hand out, Helen, if you want to hand that  
17 out.

18          The response of this interrogatory indicated to us,  
19 Mr. Larsen, that the proposed Toronto DAS network  
20 installations kind of correspond to this Exhibit D.

21          And we're trying to understand, are you suggesting in  
22 this answer, in this Exhibit D, that the Toronto DAS  
23 network is representative of all possible wireless  
24 attachment designs and configurations?

25          MS. NEWLAND: Mark, could you repeat the question --  
26 could you repeat the question and relate it to the question  
27 that was asked in the interrogatory?

28          MR. RODGER: I'll go right to the answer. And you'll

1 see the part of the answer given by Mr. Larsen was that  
2 "None of the planned Toronto DAS network node  
3 installations were intended to be materially  
4 different than that presented in Exhibit D."

5 So my question, then, is: Should we interpret your  
6 answer in this Exhibit D to mean that the Toronto DAS  
7 network is then representative of all possible wireless  
8 attachments, designs and configurations?

9 MS. NEWLAND: But that wasn't the question that was  
10 asked. You didn't ask about other DAS networks in this  
11 particular interrogatory.

12 MR. RODGER: Well, we asked in other interrogatories,  
13 which I can take you to; for example, 21. Our purpose was  
14 to help the Board understand relevant information regarding  
15 to DAS-related equipment that is proposed to be attached to  
16 Toronto Hydro poles.

17 The CANDAS application as it's framed is not limited  
18 to the Toronto DAS network; it's to amend the licences of  
19 every distributor in the Province of Ontario.

20 So we're trying to understand the relevant information  
21 about how your -- attachments you're proposing. And we  
22 took this Exhibit D to mean that -- the answer itself, the  
23 Toronto DAS network node installations, none of the planned  
24 Toronto DAS network node installations were intended to be  
25 materially different than that presented in Exhibit D.

26 So what we're asking is: Is this, then, the blueprint  
27 for -- in your view, the blueprint for all DAS network  
28 configurations?

1           MR. LARSEN: "Blueprint" might be a strong word. It's  
2 very consistent what's been done in DAS networks throughout  
3 the U.S. and all the -- kind of back to the response, the  
4 approach we were taking was to have a consistent or fairly  
5 consistent approach. So typically, yeah, this is a typical  
6 attachment.

7           MR. RODGER: But you would agree, Mr. Larsen, that  
8 there very well could be variations in antenna, for  
9 example?

10          MR. LARSEN: It could be like any other attachments  
11 you have on your poles.

12          MR. RODGER: There could be variations in UPS?

13          MR. LARSEN: And the question is minor variations,  
14 what -- you know, define variations.

15          MR. RODGER: There could be variations in the FTE box;  
16 is that correct?

17          MR. LARSEN: Excuse me?

18          MR. RODGER: There could be variations in the FTE box?

19          MR. LARSEN: There could always be variations. The  
20 question is: To what degree?

21          MR. RODGER: I think that's all I have for now, so I'm  
22 going to turn it over to Mr. Starkey, who has some  
23 additional questions for this panel. Thank you very much.

24           **QUESTIONS BY MR. STARKEY**

25          MR. STARKEY: I'm not used to being on this side of  
26 the questions. My questions probably won't be as polished  
27 as Mr. Rodger's were, but I'll muddle through it.

28          The first set of questions deals with two

1 interrogatory responses, CANDAS' response to THESL No. 9  
2 and 19.

3 MS. NEWLAND: Mr. Starkey, do you have a page number?  
4 It's just easier to --

5 MR. STARKEY: I do. 21 of 90, I believe, is No. 9.  
6 And then 37 of 90 is No. 19.

7 MS. NEWLAND: Thank you.

8 MR. STARKEY: As sort of a preface to the questions  
9 associated with that, Mr. Larsen, in your, I think, most  
10 recent testimony, you described blanket coverage. I think  
11 it's at page 2 of 13. Can you just describe for me again  
12 what you mean by that, when you talk about blanket  
13 coverage?

14 MR. LARSEN: Certainly. So if you cover a continuous  
15 area rather than a very small limited area, so that's kind  
16 of -- in this case, the DAS network will be the primary  
17 source of coverage and service net area, and not a  
18 complement or an add-on to an existing macro network.

19 MR. STARKEY: I think in your testimony you described  
20 it as an area of greater than 10 square kilometres --  
21 coverage in an area of greater than 10 square kilometres.  
22 Is that still a valid description of blanket coverage?

23 MR. LARSEN: That was not referred to blanket. It was  
24 referred to a large-scale network.

25 MR. STARKEY: So the term "blanket coverage" isn't  
26 meant to encompass any particular geographic scope. It's  
27 just meant, within whatever scope you are describing, it's  
28 primary coverage; is that the idea?



1 MR. LARSEN: Yes.

2 MR. STARKEY: So it could be a block, two blocks, or  
3 it could be greater than 10 kilometres?

4 MR. LARSEN: Yes.

5 MR. STARKEY: If we turn our attention to  
6 Interrogatory Response No. 9, in the table there you list -  
7 - it looks like about ten cities in the United States where  
8 you're aware of DAS networks in operation? Is that what  
9 that is?

10 MR. LARSEN: Yes, it's a subset, yes.

11 MR. STARKEY: The first question is: What's the  
12 source of that information? Is that based on your own  
13 personal knowledge, or is there some source that we could  
14 go to look at that supports that particular table?

15 MR. LARSEN: It's based on our market knowledge.  
16 We're in the business, and we have a good sense of what's  
17 going on. I think you could do research, and it's out  
18 there in press releases and market studies, but this is our  
19 estimate based on being in this business.

20 MR. STARKEY: The reason I'm asking about 9 and 19  
21 together is that in No. 19, your response to No. 19, you  
22 sort of provide ExteNet's more direct experience, I think,  
23 relative to individual cities in the United States where  
24 you've provided systems; is that fair?

25 MR. LARSEN: I just need to look -- yes. So 19 is  
26 specific to ExteNet, and we're not talking about nodes.  
27 We're talking about number of networks in certain states.

28 MR. STARKEY: So let's take New York as an example in

1 No. 19 there. I think that table says that ExteNet has two  
2 DAS networks operating in New York. Is that a fair reading  
3 of that? Can you tell us where those are?

4 MR. VINYARD: Those are in Yonkers and Mount Vernon.  
5 There's four Mount Vernons in New York. This is the one  
6 that abuts Yonkers.

7 MR. STARKEY: Can you tell me how many nodes is in  
8 each of those?

9 MR. LARSEN: Close to 300 total, and it continues.

10 MR. STARKEY: Between the two there's 300?

11 MR. LARSEN: Yes.

12 MR. STARKEY: So do you consider that two networks or  
13 one network?

14 MR. LARSEN: They are two different jurisdictions, and  
15 we consider them two different networks from that  
16 perspective. They are continuous and actually out of the  
17 same hub location.

18 MR. STARKEY: They share a hub location?

19 MR. VINYARD: Yes.

20 MR. STARKEY: I see. Ballpark -- I know it's a  
21 difficult question, but, ballpark, what kind of coverage  
22 are we talking about there, square mileage wise, or  
23 kilometres?

24 MR. LARSEN: Unfortunately, it's a way back since we  
25 did it, but it's the entire Municipality of Mount Vernon  
26 and it's the entire Municipality of Yonkers. So you're  
27 talking about a blanket coverage; good example.

28 MR. STARKEY: In those two networks, staying with

1 those two networks, I take it from the table that your  
2 equipment, primarily the antenna and supporting equipment,  
3 is attached to utility poles?

4 MR. LARSEN: Correct.

5 MR. STARKEY: Whose utility poles are those?

6 MR. VINYARD: That's Consolidated Edison.

7 MR. STARKEY: In both municipalities?

8 MR. VINYARD: Yes. Just can we flip over to that one?  
9 I think you jogged my memory, other than -- yeah. In that  
10 case, we're talking about street light and traffic signal.  
11 I don't know if there are any traffic signals there. I  
12 think a very small number of those nodes are on street  
13 light poles that were made available by one of the cities.  
14 You know, out of the -- whatever the number is, several  
15 hundred, it would be less than ten, is my recollection.

16 MR. STARKEY: So those ten that were available on  
17 street lights, those are not Consolidated Edison poles?

18 MR. VINYARD: Right.

19 MR. STARKEY: Can you tell me the process by which you  
20 obtained access to the Consolidated Edison poles?

21 MR. VINYARD: Yeah. We had an agreement with  
22 Consolidated Edison, a generalized attachment agreement,  
23 and then applied for permits for specific infrastructures  
24 under that agreement.

25 MR. STARKEY: Do you remember what the rates are per  
26 pole there?

27 MR. VINYARD: No, I do not.

28 MR. STARKEY: Are they more than \$22 a year?

1           MR. VINYARD: I would imagine they are, but I don't  
2 know that for sure. It would depend on whether it's the  
3 nodes or the -- it might depend on whether it's the nodes  
4 or the fibre connections. I can't really say. I don't  
5 know. I don't know what they -- whether it's more than 22  
6 on most of the poles.

7           MR. STARKEY: I was going to say I'm not sure about  
8 the procedural vehicle by which to ask if we could get that  
9 information. I know you called it something early area.

10          MR. RODGER: An undertaking.

11          MR. STARKEY: Undertaking. Is it fair to ask that as  
12 an undertaking?

13          MS. NEWLAND: We're not going to give it. We're not  
14 prepared to provide information on rates in other  
15 jurisdictions because of the relevance -- the lack of  
16 relevance to the issues in this proceeding.

17          MR. RODGER: They are relevant, because the whole  
18 premise of CANDAS is that the whole 2005 decision applied  
19 to wireless, and we said it doesn't. Part of the rationale  
20 is to show that that every other jurisdiction is paying  
21 substantially more for their attachment fees than we are  
22 here in Ontario.

23          One of the reasons for that may be that wireless was  
24 never considered in establishing that \$22, and that's why  
25 it's relevant for the Board.

26          MS. NEWLAND: Well, Mark, you could either bring a  
27 rate application or, if this is an issue for you in this  
28 proceeding, you can bring the evidence. But you can't --

1 we are not going to help you build that case by giving you  
2 a bunch of undertakings which, in my view, are not relevant  
3 to the issues in this proceeding.

4 MR. RODGER: We can put it as another refused one and,  
5 if we have to deal with it through the Board formally, we  
6 will. But you've got our position on why it's relevant to  
7 the issues before the Board.

8 MS. SEBALJ: We'll note that.

9 MR. STARKEY: Might I add, for completeness, I was  
10 likely going to ask that same question on each of these.  
11 So does it make sense for the undertaking to be the rates  
12 for each in a single undertaking?

13 MR. RODGER: We may have to deal with this now at a  
14 formal motion before the Board, so I think we'll just save  
15 up all these types of questions and we will bring it as one  
16 motion, if that's the route we choose to go down.

17 MR. STARKEY: Okay. In the process of approaching  
18 Consolidated Edison in New York, were you aware of the  
19 regulatory framework that exists in New York for pole  
20 attachments and including for wireless?

21 MR. VINYARD: We were generally aware.

22 MR. STARKEY: What was your understanding?

23 MR. VINYARD: Our understanding was that New York was  
24 a state that had elected to do its own regulation that --  
25 in terms of rates, in terms of conditions of the attachment  
26 -- attachments to electricity utility poles, but that  
27 attachment rights were mandated by the federal statute in  
28 the U.S., so state regulation of a federal right, and we

1 reviewed the agreement and the agreement that they proposed  
2 seemed reasonable to us.

3 I don't know, I don't recall having occasion to  
4 research any specific details of the regulatory scheme  
5 there.

6 MR. STARKEY: Okay. Just sort of generally, the idea  
7 was you approached them, you negotiated both terms and  
8 conditions and rates, came to agreement, and then were able  
9 to submit applications?

10 MR. VINYARD: I can't recall whether we negotiated  
11 rates or if rates were established by the state, in New  
12 York.

13 MR. STARKEY: When were these networks built?

14 MR. LARSEN: 2007, 2008 time frame.

15 MR. STARKEY: Switching gears to California, again,  
16 Interrogatory Response No. 19 shows that ExteNet has six  
17 networks there; is that fair? Am I reading that right?

18 MR. LARSEN: Yes. It depends on the time frame.

19 MR. VINYARD: It could be a higher number now, but at  
20 the time, the answer to that was correct.

21 MR. STARKEY: What cities are those? You don't have  
22 to be specific, like Burbank. You can say Los Angeles, if  
23 it's --

24 MR. VINYARD: There are one or two in the Los Angeles  
25 area, one in the San Diego area.

26 MR. LARSEN: Several in the San Francisco area.

27 MR. VINYARD: And several in the San Francisco area.

28 MR. STARKEY: How many nodes are we talking about, per

1 network in general?

2 MR. LARSEN: They vary, obviously. I would say from  
3 15 up to 60, 70.

4 MR. VINYARD: In that range. Probably 10 to 60 to 70.

5 MR. STARKEY: And the largest, a 70-node network, what  
6 kind of coverage --

7 MR. VINYARD: In that range. I don't know the precise  
8 number.

9 MR. STARKEY: Generally, what kind of coverage are we  
10 talking about there?

11 MR. LARSEN: Could you clarify? Is it square mileage  
12 or what type of area we are covering?

13 MR. STARKEY: Let's use square miles.

14 MR. LARSEN: Typical -- again, I need to go back and  
15 look at those specifics, but...

16 MR. STARKEY: Would it be less than 10 square  
17 kilometres?

18 MR. VINYARD: Some of them certainly would be.

19 MR. LARSEN: Larger networks are -- they're larger  
20 than 10 square kilometres. The smaller ones are not.

21 MR. STARKEY: Okay. These are considered to be  
22 blanket coverage networks?

23 MR. LARSEN: For the most part. We have a few that's  
24 covering a particular thoroughfare or road. But for most  
25 of the time, they are a blanket coverage. A good example  
26 is the Municipality of Rancho Santa Fe, outside San Diego.  
27 We're covering that entire neighbourhood.

28 MR. STARKEY: And that neighbourhood is like a -- a

1 neighbourhood association is a group of -- it's not a  
2 municipality per se, or are you covering the entire  
3 municipality?

4 MR. LARSEN: We're covering - this is an HOA that's  
5 covered by --

6 MR. VINYARD: I think it's an area that's governed by  
7 a homeowners association. I don't know if it's co-  
8 extensive with the municipality.

9 MR. STARKEY: Understood. When we talk about blanket  
10 coverage, I think we sort of talk about -- we've been  
11 thinking about it, or I've been thinking, at least, in  
12 terms of for ExteNet or DAScom, that it is your primary  
13 coverage in those areas? That's kind of what we've been  
14 talking about; right? Certainly, there are other networks  
15 there, as well?

16 MR. VINYARD: Give us a second.

17 MR. LARSEN: First and foremost, we have customers  
18 that we provide service to. So when you talk about  
19 coverage in this case, it would be for one or multiple  
20 service providers.

21 So for our customers, the wireless operators, service  
22 providers, it will be a blanket coverage. So if you look  
23 at -- I used Rancho Santa Fe as an example. We have  
24 multiple service providers there. There's no alternative.  
25 We have other --

26 MR. STARKEY: Did you say that there's no alternative?  
27 Is that what you said?

28 MR. LARSEN: No, the carriers that are not on our



1 networks do have very poor coverage. One thing is when you  
2 define "coverage" -- I'm not asking you a question here,  
3 but is -- you know, how do you define it? RF is not like  
4 it's stopping and it's nothing there; right? But is it  
5 useful? Is it able to provide a useful service for the  
6 provider? And that being voice, and more and more, it's  
7 could you get reasonable data rates.

8 So when I say that in Rancho Santa Fe, the service  
9 providers that are not on our network don't have a  
10 consistent useful service there.

11 Other areas, yeah, the carriers have found ways of  
12 providing some kind of a service, but our customers have  
13 determined that for their business, the network we provide  
14 is what provides them that blanket coverage and service  
15 that they require to support their customers.

16 MR. STARKEY: Earlier when we talked about -- I think  
17 it was LA or maybe San Francisco, you said the networks  
18 range from 12 to 60 to 70, generally, nodes?

19 MR. VINYARD: That was the state of California. I  
20 thought you were referring to the state.

21 So it's between 60 and -- between 10 and 60 or 70 at  
22 different places in the state.

23 MR. STARKEY: I probably was generally referring to  
24 the state.

25 In those networks where you have 10 nodes, do you  
26 consider that blanket coverage?

27 MR. LARSEN: That depends on, again, the area, but in  
28 that limited area, yes, because it will be the primary

1 coverage for -- and, again, depends what you are covering;  
2 right? In a dense metropolitan area, I might go in and put  
3 nodes at particular locations that is kind of a hot spot.  
4 It wouldn't be blanket coverage, but most of that DAS  
5 networks -- and I think Brian could attest to this in terms  
6 of how he planned his network. He preferred to have a  
7 defined area that is -- the primary coverage is from the  
8 DAS, and then in that case, that area is blanketed by the  
9 DAS.

10 MR. STARKEY: Let's take one of those networks where  
11 we have 10 nodes. And let's say you have a customer -  
12 let's say it's AT&T, just to make one up - that uses you  
13 for blanket coverage within -- with 10 nodes, you are  
14 probably talking about a coverage of several blocks within  
15 a metropolitan area?

16 MR. LARSEN: So let's kind of give you a range. So in  
17 a suburban environment, that might be two square miles. In  
18 a not-too-dense urban environment, maybe a square mile or a  
19 little bit less. Again, it depends on the particular  
20 network.

21 MR. STARKEY: So in one of those 10-node networks  
22 where you are providing blanket coverage for a particular  
23 client, wireless providers that are providing service in  
24 that same area are likely using different technologies; is  
25 that fair?

26 MR. LARSEN: Could you specify what you mean with  
27 "technologies"?

28 MR. STARKEY: Well, let me just ask it this way. They

1 are not using you for blanket coverage in that area;  
2 correct? If they don't have a contract with you?

3 MR. LARSEN: They could.

4 MR. STARKEY: But we're assuming they don't.

5 MR. LARSEN: Okay.

6 MR. STARKEY: So your suggestion isn't by that blanket  
7 coverage that your blanket coverage is the only way they  
8 could serve that area, or the only way they do serve that  
9 area, are you?

10 MR. LARSEN: No. Again, it depends on the situation;  
11 right?

12 MR. VINYARD: Just to be clear, I think -- and I don't  
13 want to get us too confused on this -- that would be the  
14 only way the particular carrier dealing with us would serve  
15 that area. Obviously if somebody is not using us, they are  
16 using something else, which may or may not be a DAS or some  
17 other technology.

18 MR. STARKEY: What's the basis for that conclusion,  
19 that someone who uses you would only use you in that  
20 coverage area? Is that contractual, or is that just common  
21 sense kind of thing?

22 MR. LARSEN: It's a common sense type of thing. When  
23 you build a wireless network, one thing is to provide  
24 coverage for signal, but you also want to make sure you are  
25 not interfering. So if you try to do something on top of  
26 each other, if you want, you have interference issues.

27 MR. VINYARD: I'll also ask -- this is dangerous, but  
28 I'll ask Tormod to correct me. The other thing that -- if

1 I'm wrong, but the other thing to be cognizant of is that  
2 at the risk of people's eyes glazing over with the  
3 technology, there are different frequencies and  
4 technologies with carriers, and there could be instances  
5 where a particular carrier would use us and a DAS -- or  
6 some other DAS provider to provide the coverage for one  
7 particular kind of wireless technology, and have other  
8 means of providing different wireless technologies with  
9 different functionalities and capabilities.

10 MR. STARKEY: They could use you in one band and  
11 another technology in a different band and provide coverage  
12 in the same area, two different ways without interference,  
13 couldn't they?

14 MR. LARSEN: Correct.

15 MR. STARKEY: Really I guess what I'm trying to get  
16 it, and I really don't want to make this too much of an  
17 argument, but I'm just really trying to understand what you  
18 mean by blanket coverage. I'm trying to understand, of all  
19 these networks that are described Interrogatory No. 19,  
20 which you would consider to be blanket coverage and which  
21 you wouldn't. Would you consider all of these to be  
22 blanket coverage networks?

23 MR. LARSEN: No, because some of them had a very  
24 targeted -- like I said, a road, a highway, or that our  
25 customer had an existing network and they went in and said,  
26 Could you provide some relief in this intersection here,  
27 and then, you know, three blocks or five blocks or ten  
28 blocks, you know, could you help me here, as well.

1           And they are combined in that scenario. But, again,  
2   that depends on who the customer and the carrier is; right?

3           MR. STARKEY: So on this list, you say some are  
4   blanket coverage and some aren't.

5           MR. LARSEN: Most of them are.

6           MR. STARKEY: As I heard you describe sort of the  
7   distinction, I think I heard it as being twofold. Correct  
8   me if I'm wrong. One of them is a matter of geography, the  
9   amount of space covered in a useable format; and the other  
10   really is the intention of your customer and how it's going  
11   to use the network. Is that a fair way to distinguish  
12   between blanket and non-blanket?

13          MR. LARSEN: Yeah, most probably.

14          MR. STARKEY: Let's just do one more of these really  
15   quick. Let's do Michigan. It says you have four networks  
16   there. Where were those?

17          MR. LARSEN: In and around Detroit.

18          MR. STARKEY: And who do you connect to? Who is your  
19   primary supplier of attachment facilities there?

20          MR. LARSEN: Detroit Edison.

21          MR. STARKEY: Are they all on Detroit Edison, or are  
22   some on others?

23          MR. LARSEN: Actually, I think there it's --

24          MR. VINYARD: I think the ones that are listed, they  
25   are all Detroit Edison.

26          MR. STARKEY: The ones that are listed there?

27          MR. LARSEN: We are constructing networks right now.

28          MR. STARKEY: You are constructing another network in

1 Detroit right now and that's not on Detroit Edison?

2 MR. VINYARD: I think it primarily is, but there is  
3 maybe a stray node in a public space, or something, that  
4 might be on a street light standard or a park light  
5 standard.

6 STARKEY: That would be via contract with the  
7 municipality?

8 MR. VINYARD: Yes.

9 MR. STARKEY: In Detroit, when you attached -- how  
10 many nodes are we talking about in Detroit?

11 MR. VINYARD: It's the Detroit area. It's not all  
12 within the city.

13 MR. LARSEN: A couple of hundred, because you have --  
14 yeah, it's in that range. We have some networks that --  
15 kind of similar to like in California. I think we have a  
16 14-, 15-node network, and we have some that is in the 40,  
17 50 range.

18 MR. STARKEY: When you attached in any of these  
19 municipalities or any of these jurisdictions in Detroit  
20 with any of these nodes, were you required to go through a  
21 public consultation process that was sort of talked about  
22 earlier in the cost estimate of getting in front of the  
23 public and hearing concerns and complaints?

24 MR. VINYARD: I don't believe so.

25 MR. STARKEY: Is that generally the case or not  
26 generally the case in these networks that you have built  
27 that you do have to go through that process or don't?

28 MR. VINYARD: It depends greatly on the state and the

1 area of the country. There are a number of states where  
2 there is none at all and it is purely a city administrative  
3 process, and then there are a number of states where, to  
4 one degree or another, the municipalities require a public  
5 consultation/planning-type process.

6 MR. STARKEY: Are you aware in any of these networks  
7 on the list in No. 19 where you and your DAS technology are  
8 the sole supplier of antenna capacity for a given carrier  
9 in any of those jurisdictions?

10 MR. LARSEN: Absolutely. We just mentioned it  
11 earlier. Mount Vernon, Yonkers, New York, Providence. A  
12 lot of them that's the case.

13 MR. STARKEY: So in Yonkers and Mount Vernon, as an  
14 example, your client has no other wireless assets in those  
15 areas, other than your network?

16 MR. LARSEN: That's correct.

17 MR. VINYARD: Just to be clear, around the edges they  
18 may, but in the areas actually covered by or served by the  
19 DAS, they don't have other assets.

20 MR. STARKEY: Can I ask who that client is, or those  
21 clients are? I don't know what the confidential nature of  
22 the process is.

23 MR. VINYARD: In Mount Vernon, it's public knowledge  
24 because of a court case that they brought, and that was  
25 Metro PCS.

26 MR. STARKEY: Thank you. I'm going to shift gears now  
27 to the Public Mobile.

28 MS. SEBALJ: Can I just interrupt to see if you can

1 give us a time estimate? This would be a logical time to  
2 take a break. I'm not sure how much longer Toronto Hydro  
3 has.

4 MR. RODGER: That would be fine, Kristi. Just one  
5 other point. I think just in an attempt to try and move  
6 things along, because I know there are a lot of parties,  
7 when I was asking questions and Helen kindly agreed to  
8 consider their current answers to Toronto Hydro  
9 Interrogatory 50 -- this was the one where they answered  
10 not relevant for a bunch.

11 Rather than take the panel through, we have a series  
12 more like that that you answered not relevant. Why don't  
13 we just give you a list, and then, when you have a chance,  
14 come back and one way or the other we can know whether that  
15 is still your position, and I think that might speed things  
16 up, if that works.

17 MS. NEWLAND: That would be great. We have a time  
18 constraint in terms of Ms. Song will be examining the THESL  
19 panel. She has another commitment at 4 o'clock this  
20 afternoon which we didn't think was going to be a problem,  
21 but depending on how long THESL is going to be with the  
22 CANDAS witnesses, I'm not so sure anymore. Do you have  
23 sort of a ballpark figure, Mark?

24 MR. RODGER: I think we're probably about 45 minutes.

25 MS. SEBALJ: With this witness panel?

26 MR. RODGER: Yes.

27 MS. SEBALJ: Then how long with the second witness  
28 panel?



1 MR. RODGER: I would say perhaps maybe 40 minutes for  
2 the second panel.

3 MS. NEWLAND: Let's say two hours, because you don't  
4 know how long the answer will be; right?

5 MS. SEBALJ: We're going to have a bit of a problem  
6 getting through today, I think, because we don't even have  
7 Toronto Hydro's panel up and we haven't let anyone else ask  
8 any questions of this panel.

9 MS. NEWLAND: Which is what we had a concern about  
10 that.

11 MS. SEBALJ: I know, but if I followed the estimates I  
12 was given, we would be done by noon. So I can only control  
13 this so much. I guess let's take a break for 15 minutes,  
14 so if you can come back at 11:45, and let me try and chat  
15 with some of the parties and see what we can do.

16 --- Recess taken at 11:18 a.m.

17 --- On resuming at 11:29 a.m.

18 **PROCEDURAL MATTERS**

19 MS. NEWLAND: I wanted to put on the record our  
20 position with the CEA and the withdrawal of the evidence  
21 and the adoption of the evidence by THESL.

22 We have no objection to that, but we're not in a  
23 position today to put questions to -- in writing, so we  
24 will endeavour to get those to THESL as soon as we can, but  
25 it won't be today.

26 MS. SEBALJ: Presumably you'll file them in writing,  
27 and...

28 MS. NEWLAND: Well, it wasn't really clear from the

1 PO. Were you expecting that people would orally put their  
2 questions on the record today, or just give --

3 MS. SEBALJ: I wasn't expecting anything. Given that  
4 that letter came in late in the day yesterday, I didn't  
5 know what to expect, to be honest.

6 So I don't think it's unreasonable for parties to file  
7 any questions they have in writing, but...

8 MR. RODGER: That's fine, Helen.

9 MS. NEWLAND: Okay. Thanks.

10 MR. MCCARTHY: I just wanted to clarify, from CEA's  
11 perspective, if I could for a second, it wasn't our  
12 intention to withdraw that evidence from the get-go.

13 We just felt that there was a duplication of efforts  
14 in terms of questioning some of those witnesses, and that  
15 we weren't going to bring legal counsel into this  
16 proceeding or the oral hearing to sort of duplicate the  
17 lines of questioning that has already taken most of the  
18 morning. To bring another legal team in to duplicate that  
19 work we didn't feel was in the best interests of the  
20 Board's time.

21 So I just wanted to clarify that.

22 MS. SEBALJ: I think that has been clarified now  
23 through -- the original letter did leave an open question  
24 as to what would happen with the evidence, but I think  
25 that's been clarified. So I think we can move forward on  
26 that basis.

27 From CEA, can you put your name in for the record,  
28 please?

1 MR. McCARTHY: Yes, sorry. That was Devin McCarthy.

2 MR. RODGER: So Kristi, perhaps just before Mr.  
3 Starkey resumes, and as I mentioned before the break, to  
4 move this thing along, what I've done - and I'll just put  
5 it on the record, so everybody is aware of it - is that  
6 there's a series of interrogatories that were asked that  
7 were all refused by CANDAS, largely on the grounds of not  
8 relevant.

9 Again, just like we asked CANDAS for THESL  
10 Interrogatory 50, we just would ask CANDAS to reconsider  
11 their answers in light of the evidence that we have put  
12 forward and in light of the Board's decisions. And if the  
13 answer comes back that -- no change, still irrelevant, then  
14 we can deal with that. What the attempt is here is to try  
15 to avoid another motion.

16 So just for the record, the one page that I've handed  
17 my friend reads:

18 "Interrogatories previously refused by CANDAS and  
19 to be reconsidered in light of THESL evidence and  
20 subsequent correspondence from the Board."

21 And the interrogatories in question are from the CEA,  
22 No. 14, No. 19, No. 33, No. 50, No. 52 and No. 60. And  
23 from Toronto Hydro, 1(d), (e) and (f), 7(a), 13, No. 50 and  
24 No. 51(j). Thanks.

25 MS. NEWLAND: We will endeavour to provide a response  
26 as soon as possible, likely also in writing, given the time  
27 constraints today.

28 MS. SEBALJ: I'm just wondering how we want to mark

1 this, whether we want -- you are fine with it just being on  
2 the transcript? Do you want an undertaking? Do you  
3 want...

4 MR. RODGER: Why don't we have an undertaking, just to  
5 be safe? Then it's recorded.

6 MS. NEWLAND: Yes, an undertaking to respond one way  
7 or the other.

8 MR. RODGER: Yes.

9 MS. SEBALJ: Just so that I'm clear, Mark, this is in  
10 addition to Question 19, which is the one you raised --  
11 sorry, that was the rate one.

12 You've included the one that you raise this morning?

13 MR. RODGER: Yes. That was No. 50.

14 MS. SEBALJ: So let's mark it as JTC1.3.

15 **UNDERTAKING NO. JTC1.3: TO PROVIDE RESPONSES TO CEA**  
16 **INTERROGATORIES NOS. 14, 19, 33, 50, 52 AND 60, AND**  
17 **TORONTO HYDRO INTERROGATORIES NOS. 1(D), (E) AND (F),**  
18 **7(A), 13, 50 AND 51(J).**

19 MR. RODGER: Thanks very much.

20 MS. SEBALJ: So let's resume.

21 **CONTINUED QUESTIONS BY MR. STARKEY**

22 MR. STARKEY: I still have a bunch of questions, so  
23 I'm going to speed this up a little bit.

24 Mr. O'Shaughnessy or Mr. Boron, whichever is best to  
25 answer the question, I just wanted to understand a little  
26 bit more about the relationship between Public Mobile and  
27 ExteNet and DAScom.

28 As I understand it from -- and we can refer to these

1 if we need to, but I don't think we'll have to -- the  
2 response to the response to THESL No. 11(a), it was  
3 indicated that you guys, Public Mobile, would own -- the  
4 intention was that you would own the radios and the  
5 equipment that ExteNet would put on the poles; is that  
6 fair?

7 MS. NEWLAND: That is 11(a), Mr. Starkey?

8 MR. STARKEY: I believe so.

9 MS. NEWLAND: What page is it? Do you know?

10 MR. STARKEY: Sorry, I don't have that one in front of  
11 me, because that was just kind of a general --

12 MR. RODGER: Page 24.

13 MR. O'SHAUGHNESSY: So the question is who owns which  
14 items on the pole? Is that specifically --

15 MR. STARKEY: What was the intention? I understood  
16 from that response that it was your intention that Public  
17 Mobile would own the equipment, the telecommunications  
18 equipment, the radio equipment.

19 MR. O'SHAUGHNESSY: Yes. Public Mobile will own three  
20 components that are on the pole: the antenna, the  
21 electronics - that relates to the transmitter - and the  
22 power supply and batteries.

23 MR. STARKEY: Was the notion that ExteNet or DAScom  
24 would have rights of use of that equipment?

25 MR. O'SHAUGHNESSY: There is a -- yeah, there is a  
26 notion that they would be able to use the antenna, for  
27 example, as a -- for other carriers.

28 MR. STARKEY: So that would be an agreement between

1 the two of you?

2 MR. O'SHAUGHNESSY: Correct.

3 MR. STARKEY: Sort of an IRU or something similar?

4 MR. O'SHAUGHNESSY: Correct.

5 MR. STARKEY: Okay.

6 MR. BORON: Excuse me, Mr. Starkey. One piece of  
7 information you should be aware of, that the agreement  
8 between Public Mobile and ExteNet Canada has been  
9 terminated with respect to Toronto, because of the  
10 inability to move forward because of the situation with  
11 Toronto Hydro.

12 MR. STARKEY: Okay.

13 MR. RODGER: Can I ask you, sir, when was that  
14 contract terminated?

15 MR. BORON: June of 2011. Sorry, 2010.

16 MR. RODGER: Thank you.

17 MR. STARKEY: That sort of leads me to my next couple  
18 of questions, one of which was -- so I guess in answer to  
19 that next question, which was: Do you still intend to put  
20 radios on poles via the ExteNet construction? I guess the  
21 answer is no?

22 MR. O'SHAUGHNESSY: I think the answer to that  
23 question is, as it stands now, we don't have a contract, so  
24 no. If this proceeding succeeds in producing conditions  
25 that make sense, we will reconsider at that time.

26 MR. STARKEY: When you built your macrocell-based  
27 network - and from what we can tell, there are 125, at  
28 least 125 antenna locations in that network - were you able

1 to contract with a single vendor to append that -- your  
2 equipment in those locations, or were you forced to work  
3 with multiple vendors?

4 MR. O'SHAUGHNESSY: In the City of Toronto area, in  
5 the same area where DAS was planned, it is a variety of  
6 vendors. Some are one, single building owners; some are  
7 multiple owners.

8 MR. STARKEY: Do you have any idea how many different  
9 vendors you had to work with in that regard?

10 MR. O'SHAUGHNESSY: You know, I honestly don't know.

11 MR. STARKEY: More than 10?

12 MR. O'SHAUGHNESSY: Oh, probably more than 50, but I  
13 can't -- I'm just guessing at that. I don't know the  
14 number off the top.

15 MR. STARKEY: Understood. Okay. Do you still  
16 consider, given the circumstances you just described, do  
17 you still consider THESL utility poles to be an essential  
18 facility for your service?

19 MR. O'SHAUGHNESSY: Can you explain what you mean by  
20 "essential facility" just so I answer correctly?

21 MR. STARKEY: Generally as it's been used in this  
22 context, in this case, but to give you a little context, I  
23 guess, what I mean by it is a facility for which you  
24 wouldn't be able to provide your service in a cost-  
25 effective way otherwise.

26 MR. BORON: Just to clarify, when you say "your  
27 service" what do you mean by "your service"?

28 MR. STARKEY: The service you provide, Public Mobile.

1           MR. BORON: The service that Public Mobile provides to  
2 our retail customers?

3           MR. STARKEY: Are there other services you provide?

4           MR. BORON: That's the service that we provide today,  
5 yes.

6           MR. STARKEY: Then for that service, yes.

7           MR. O'SHAUGHNESSY: So our network today is built  
8 using a macrocellular network -- that's been described --  
9 because we had to get to market. Our intention, would we  
10 use this kind of architecture in the future, DAS? If it  
11 was possible, I believe we would, but again, that depends  
12 on the circumstances as to how all this ends; right?

13           As it relates to DAS in general or smaller cell  
14 coverage in general, it is increasingly important for all  
15 carriers across North America. And based on the amount of  
16 traffic that's being generated by number of users, based on  
17 the type of services being offered, data services starting  
18 to become more and more important -- you hear about, 3G,  
19 4G, 4G LTE services every day, which are basically these  
20 high-bandwidth data pipes -- the reality is you need to get  
21 to smaller and smaller cells to be able to provide that  
22 service. The reason being is each cell structure, each  
23 radio tower location can handle a fixed number of calls  
24 simultaneously. If you have more traffic than can be  
25 handled by one of those, you need to split it and take one  
26 cell to two, to four, to five, whatever.

27           So we look at this type of architecture being a proper  
28 way of developing in the future, and we look at what's



1 happened in the U.S. as being a great example of that,  
2 where you see most, if not all, major carriers have started  
3 deploying DAS within their urban footprints.

4 MR. STARKEY: I think it was in Mr. Larsen's testimony  
5 where he brought up what I thought was an important  
6 distinction, a distinction between coverage and capacity,  
7 and maybe it was in an IR response, asked which was the key  
8 component.

9 For Public Mobile in Toronto which is your key  
10 challenge at this point? Is it coverage or capacity?

11 MR. O'SHAUGHNESSY: That particular issue changes, and  
12 they are not dissimilar from each other. When you first  
13 launch service, it's about getting coverage, because  
14 obviously when you only have one customer, capacity is not  
15 an issue. It's over time, as you introduce -- gain more  
16 customers, capacity becomes an issue.

17 And when you get down to it, the issue is additional  
18 coverage for capacity, in the sense that I have to shrink  
19 my site to be able to have enough capacity to support all  
20 the customers, as each site can only handle so many. So  
21 when you shrink the site, I now need to replace it with  
22 another one, which means I need more sites for additional  
23 capacity, but it's to provide smaller coverage zones  
24 within. And that becomes an issue over the next few years.

25 MR. STARKEY: So as you've built your macrocell  
26 network, would you -- is it still a challenge for you for  
27 blanket coverage, or is it more, as you just described,  
28 sort of the cell densification notion that -- is it more

1 the latter of those?

2 MR. O'SHAUGHNESSY: It's for both. In some areas,  
3 blanket coverage is fine. In other areas, it is not,  
4 because when you go into a neighbourhood that has single-  
5 family homes mostly, very few people are looking to have a  
6 tower put up in their neighbourhood. Where you can find a  
7 rooftop building, you can lease the rooftop, put equipment  
8 on it.

9 But you look at some areas, whether it be something  
10 like -- it's always the best example, because it  
11 illustrates it -- Old Post Road in Toronto is multi-million  
12 dollar mansions. No one wants a tower put up in that  
13 location.

14 In those kind of areas, the only way to cover is it by  
15 putting smaller and smaller cells. In something of this  
16 nature, let's use the existing pole structure to provide  
17 coverage in that area without having to install new  
18 structures.

19 Over time, though, it becomes more of a capacity  
20 issue.

21 MR. STARKEY: Is it your sense, in those situations  
22 where nobody wants a tower, that they don't want a tower or  
23 they don't want a radio antenna?

24 MR. O'SHAUGHNESSY: Most issues, we find it's about  
25 aesthetics and visibility.

26 MR. STARKEY: I'm looking over those questions I took  
27 out. I think I know the answer to this question from your  
28 previous response, but in the situation where you owned or

1 intended to own the radio equipment and supporting gear on  
2 the pole and allow ExteNet to use it, it was ExteNet, not  
3 Public Mobile that would be intended to resell that to  
4 other carriers. That was not Public Mobile's intention?

5 MR. O'SHAUGHNESSY: That's correct.

6 MR. STARKEY: I think I may have just one more  
7 question for Mr. Larsen. Actually, I have one more for  
8 you, Mr. O'Shaughnessy. Assume for me that CANDAS is  
9 successful in this proceeding, and is granted the right to  
10 attach to THESL poles.

11 Does that give you any indication that Public Mobile  
12 would scrap its macrocell-based network, or will that be  
13 maintained -- is the notion that would be maintained in any  
14 circumstance?

15 MR. O'SHAUGHNESSY: The original design as planned  
16 with CANDAS would probably not be reinstituted, because we  
17 have a large number of macrocells built. But in areas  
18 where there are either the coverage issue we talked about  
19 earlier or where demand from our customers starts to grow  
20 quickly, we would look at deploying DAS in those areas,  
21 assuming everything again. I can't speak to how this will  
22 turn out and what the commercial arrangements will be.  
23 That's subject to all that being worked out in the future.

24 MR. STARKEY: In that circumstance, would you limit  
25 your analysis just to DAS or would you also consider other  
26 technologies?

27 MR. O'SHAUGHNESSY: Can you explain what you mean by  
28 "other technologies"?

1           MR. STARKEY: Femtocells, pico cells, something that  
2 isn't a combined system like DAS is and with lower power.

3           MR. O'SHAUGHNESSY: So we would obviously look at any  
4 tool that's available at any given time. Typically a  
5 femtocell or pico cell are designed for covering very, very  
6 small areas, which means they are not useful in a broad  
7 neighbourhood coverage. They are meant to cover a venue.

8           We would look at those obviously in those contexts,  
9 but typically that would not succeed in a broad area. But  
10 of course it depends on everyone's definition. There are  
11 probably as many definitions as there are people for each  
12 of those.

13          MR. STARKEY: Fair enough. Your macro-based network  
14 has been in operation for how long, serving customers?

15          MR. O'SHAUGHNESSY: We launched in May of 2010.

16          MR. STARKEY: So more than a year, about a year and a  
17 half. Have you identified those problem areas where either  
18 capacity or coverage are an issue?

19          MR. O'SHAUGHNESSY: What I would say on that one is  
20 we've identified areas where we know for sure we will need  
21 additional capacity in the future, based on where our  
22 customers are using their devices. As it relates to how  
23 the network is working today, it is largely working very  
24 well and we're not experiencing any level of broad issues.

25          Every wireless network has some level of, Gee, it  
26 won't work in one person's basement, but it does in  
27 another. That's the nature of wireless, always.

28          MR. STARKEY: Do you have an internal plan or any

1 documentation that describes those areas of concern or of  
2 challenge and how you intend to address them?

3 MR. O'SHAUGHNESSY: We don't have any plans, per se.  
4 We're constantly monitoring the network and looking at  
5 where we need to put additional capacity.

6 MR. STARKEY: Again, I'm not sure about the  
7 undertaking notion, but to the extent there is  
8 documentation or plans regarding areas in the network where  
9 supplementation may be necessary in the near future --

10 MR. BORON: I would ask our counsel to chime in here,  
11 because I don't know the relevance of this vis-à-vis Public  
12 Mobile's network.

13 MS. NEWLAND: Exactly. Could you explain what the  
14 relevance is to ask for sort of proprietary information  
15 about one particular carrier's network to this application?

16 MR. RODGER: I think it goes to the fundamental issue  
17 which you are claiming, that LDC poles are required to  
18 facilitate this kind of infrastructure, and, in Public  
19 Mobile's case, to facilitate their services.

20 MS. NEWLAND: And?

21 MR. RODGER: And if the analysis that they have  
22 undertaken says that for these little pockets where there  
23 may be an issue and there's other options, it, again, goes  
24 to the ultimate question about whether Toronto Hydro poles  
25 are essential facilities, essentially, for wireless  
26 attachments. And that's the heart of the CCTA decision.

27 MS. NEWLAND: This case is not about asking the Board  
28 to pick winners and losers in terms of technology and what

1 technology gets to roll out in the City of Toronto and what  
2 technology doesn't. This is a simple case of asking the  
3 Board to mandate access for wireless technology, including  
4 DAS technology. So we do want -- we are here to be helpful  
5 and to try to complete the record where necessary, but we  
6 would take the position this line of questioning is just  
7 not relevant to the matters at issue in this proceeding.

8 MR. RODGER: But the issue before the Board - the  
9 Board has been clear about one of the issues - is whether  
10 the 2005 CCTA decision applies or not. And we know that  
11 the heart of that decision was that the reason that wire  
12 lined attachments are put on Toronto Hydro's poles is that  
13 they are considered essentially to be essential facilities.

14 So in this case, one of the issues will be, to the  
15 extent there is alternatives and other options, that takes  
16 away from the basis of the decision that's now trying to be  
17 applied for wireless.

18 MS. NEWLAND: I think I understand the point of  
19 departure, Mark, between us. We understand the relevance  
20 as to a discussion about: Are there other structures on  
21 which you can put your technology? But I think what you  
22 are talking about: Are there other technologies that you  
23 can use, so you don't have to use DAS? And I would -- it's  
24 our view that bucket of issues is not relevant in this  
25 proceeding.

26 So if you have a different view, and you probably do,  
27 then your remedy is to go to the Board.

28 MR. RODGER: Unless there's a way you can restate it

1 simply and then we can either get a refusal or not, and  
2 then if we get a refusal, we can move on. How about that?

3 MS. NEWLAND: I'm sorry, Mark?

4 MR. RODGER: I just asked Mike if there's a way that  
5 he can just capture what the question is, and if there's a  
6 refusal, then we can deal with it later.

7 If the question can be answered, then that's fine too.

8 MR. STARKEY: So I'm -- restate the question? Okay.  
9 I can do that, I think.

10 Let me ask a different question first, and then I'll  
11 restate that one.

12 I think my prior question was about potential future  
13 challenge areas in your network. I understand that, as we  
14 described earlier, that your network's been in service,  
15 serving customers for about a year and a half, a little  
16 less.

17 Have you had to already identify areas where you had  
18 either coverage or capacity problems and fixed them in that  
19 period of time?

20 MS. NEWLAND: I would like to just confer with my  
21 witness a moment.

22 We continue to think that this line of investigation  
23 is irrelevant, and we are not prepared to answer questions.

24 MR. RODGER: We'll add it to the refusals. That's  
25 fine.

26 MS. SEBALJ: Do we want to make clear on the record --  
27 to my mind, it's both future plans and previous expansions,  
28 or -- I don't know what to call them. That have been

1 undertaken in order to increase capacity or coverage.

2 MR. STARKEY: I think of it as augmentation, maybe.

3 MS. SEBALJ: Augmentation? I'm not sure even what  
4 we're talking about geographically. Are we talking about  
5 the City of Toronto?

6 MR. STARKEY: I would confine it to the City of  
7 Toronto, yes.

8 MS. SEBALJ: I just want to make sure the objections  
9 are clear for the Panel when they read the transcript.  
10 Thanks.

11 MR. LARSEN: Excuse me. Maybe I could take this from  
12 a -- were you asking Public Mobile, specifically for their  
13 network, what is their plans and what they try to do from a  
14 capacity perspective? I think that's very -- I understand  
15 why they have reservations.

16 From a general market perspective, what we do every  
17 day, and we work with customers across North America, you  
18 could open Wall Street Journal and you could see the  
19 challenges that the carriers are experiencing. And you ask  
20 for -- about different type of technologies, femtocells,  
21 picocells and small cells in general. All of that is to  
22 address an increasing capacity demand in the networks.  
23 It's a fact; you could go to as many analyst reports out  
24 there as you want. And as an illustration -- and I'm not  
25 sure if you could use up the LCC report -- but they're  
26 stipulating that by end of this year, there will be 20,000  
27 DAS nodes in US alone, DAS nodes. That's 7, 8 percent of  
28 all sites in North America, or in -- sorry, in the US. And



1 if you look on how quickly that's been growing over the  
2 last -- because they have stipulated by end of 2011 or last  
3 year, whatever -- might have it mixed up -- but in that  
4 year, it's basically doubled.

5 So is that giving you an indication of the rate? You  
6 don't have to kind of see the plans. You could see what's  
7 actually happening on a broader range without going into  
8 specifically what's the plan for a carrier.

9 Maybe that could help. Sorry.

10 MR. STARKEY: Okay. As I understand it, we have the  
11 undertaking.

12 I got one more question. Last one. Promise. It's  
13 for Mr. Larsen, and it's very specific. It's to CANDAS'  
14 Interrogatory Response to THESL No. 3 on the most recent  
15 evidence.

16 MS. NEWLAND: That's a different binder.

17 MR. LARSEN: That's the reply evidence?

18 MR. STARKEY: Yes.

19 MR. LARSEN: Which portion of it? Because that's  
20 like...

21 MR. STARKEY: Sub-part (r).

22 MR. LARSEN: Okay. Which part of (r)?

23 MR. STARKEY: Let me catch up with you there, because  
24 I didn't think it was going to be...

25 Okay. The question at (r) was the extent to which  
26 femtocells support "hand-in" or not. And your response was  
27 that there is not a commercially viable residential  
28 femtocell SON solution that supports "hand in".

1           And I'm wondering -- you limited your response to  
2   residential femtocells. I was wondering if your response  
3   would be the same if we didn't limit it to residential and  
4   included enterprise and commercial.

5           MR. LARSEN: This is kind of going back to definition  
6   of femtocells. In terms of femtocells and assuming that  
7   femtocells are cells that you could put in with self-  
8   optimizing networks, which is the SON acronym, meaning that  
9   a carrier don't have to do any configurations, the  
10   statement is the same. I actually got that confirmed  
11   during our FCC conference last week.

12          And their reason is fairly simple. If you have put in  
13   a femtocell, like in your home, which is the reference  
14   here, that will help to detect what the other sites that it  
15   sees and is around there and you could -- it knows its  
16   neighbours; right? Because to be able to hand in and out,  
17   you need to know who's your neighbour, so you could kind of  
18   hand off the signal.

19          Those macros that -- the other cells don't know that  
20   that femto is there, because they don't have that same  
21   feature.

22          So that's the reason, that the femtocells know that I  
23   have neighbours, and I know how to hand out. But nobody  
24   else knows that the femto is there, so they don't know it's  
25   a neighbour. They just know that it's there; they can't  
26   hand in. That's the reason that the hand-in is a major  
27   challenge today for femtocells.

28          MR. STARKEY: And you would make that statement

1 regardless of the macrosite technology?

2 MR. LARSEN: In the current environment, yes.

3 MR. STARKEY: Thank you. That's all the questions I  
4 have.

5 MR. RODGER: I believe Dr. Yatchew has one question;  
6 is that right?

7 **QUESTIONS BY DR. YATCHEW**

8 DR. YATCHEW: Yes. My question relates to the  
9 spectrum that Public Mobile acquired and uses.

10 So my understanding is that in 2008, Public Mobile  
11 acquired a certain slice of spectrum during the spectrum  
12 auction. Might have been called the G-block spectrum. And  
13 my simple question is: To what degree have you relied on  
14 that block of spectrum that you purchased to launch and  
15 then subsequently provide Public Mobile's services in  
16 Toronto?

17 MR. O'SHAUGHNESSY: You are correct. The spectrum we  
18 have is in the PCS band, which -- and this just happened to  
19 be the sub-portion of it that we acquired during an  
20 auction. It's called slice G or block G. And it is the  
21 only spectrum that we possess, so it is what we are using  
22 for our service.

23 DR. YATCHEW: And you are not relying on anybody  
24 else's spectrum in order to deliver your services?

25 MR. O'SHAUGHNESSY: Our direct service, no. We do  
26 have, as is common in the industry, roaming arrangements to  
27 go into other people's territories. But yes, we are just  
28 using that spectrum for our own network.

1 DR. YATCHEW: But not in the Toronto area would you  
2 rely on somebody else's spectrum?

3 MR. O'SHAUGHNESSY: We can roam on other people's  
4 spectrum within the Toronto area. That is possible, yes,  
5 but we design our networks to make sure we contain all the  
6 traffic, to the extent possible, on our own.

7 DR. YATCHEW: Thank you. That's my question.

8 MR. RODGER: Thank you, Kristi. Thank you very much,  
9 panel.

10 MS. SEBALJ: The next group that I have on my list is  
11 the EDA. Does EDA have any questions for this panel?

12 MS. KILBY: No. We don't have any questions for this  
13 panel.

14 MS. SEBALJ: Next is Energy Probe.

15 MR. MacINTOSH: Energy Probe has no questions for this  
16 panel.

17 MS. SEBALJ: Thank you. Vulnerable Energy Consumers  
18 Coalition?

19 MR. JANIGAN: Thank you. I have a limited number of  
20 questions mainly arising out of the evidence of Dr. Ware,  
21 and, in general terms, touching upon his opinion about the  
22 public good.

23 MS. SEBALJ: I assume -- Dr. Ware is going to be on  
24 your next panel; is that right?

25 MR. JANIGAN: I'm sorry. The only questions that I  
26 would have for this panel -- I will have no questions for  
27 this panel.

28 MS. SEBALJ: Thank you. Julie?

1 MS. SONG: No questions, thanks.

2 MS. SEBALJ: Board Staff?

3 **QUESTIONS BY MR. OTAL**

4 MR. OTAL: I have two questions for you, Mr. Larsen.

5 First of all, you answered earlier that you looked at  
6 different for installation of the antennas. I want to  
7 explore that with you a little bit more, mostly for  
8 clarification, from one engineer to another, I guess.

9 MR. LARSEN: That's fine.

10 MR. OTAL: It's my understanding that CANDAS  
11 communication system is the two components. It's the wire,  
12 which is sort of communication cable that runs from pole to  
13 pole, and then you terminate it at an antenna node. And it  
14 also appears there is not a whole lot of objection to  
15 installation of the communication cables on the pole. It's  
16 the antenna installation that is the issue.

17 MR. LARSEN: Actually, a lot of the holdups we had  
18 with THESL was actually related to the fibre, just as an  
19 FYI.

20 MR. OTAL: So my question was: Have you considered  
21 the option where the communication cable is installed on  
22 the distribution power poles, and then you terminate it  
23 once you get to your final location, and then you put a  
24 slack span and install the antenna on an alternate  
25 location, and because you need so few locations for  
26 antennas, but perhaps those could be found on other  
27 installations other than hydro poles.

28 Have you considered that option? Wouldn't that work

1 out?

2 MR. LARSEN: Yeah, we considered the option, and you  
3 made a statement as a few locations. The initial design  
4 that we were working off had 791 locations, so a pretty  
5 considerable amount. And it is also, like we have  
6 described, what would those structures be, because -- and  
7 you could go in any type of environment. It is not a lot  
8 of structures that are maybe conducive to do that, because  
9 you need to be a certain proximity, close proximity to that  
10 last pole.

11 So we looked at it -- we talked about it earlier,  
12 buildings, sinking our own poles. City of Toronto, their  
13 opinion was that there was enough existing structures out  
14 there that we should be able to use those instead of having  
15 to sink other 800 or so poles throughout Toronto.

16 MS. SEBALJ: I don't know if you were going to ask a  
17 follow-up to that, Shawn, but how did you get this opinion  
18 from the city? Is it a written opinion? Was it a meeting?

19 MR. LARSEN: It's a municipal access agreement.

20 MS. SEBALJ: The actual agreement, thank you.

21 MR. OTAL: Thank you. The second question I have is -  
22 - it relates to Interrogatory 4 from the Board Staff to  
23 Toronto Hydro and the question was on the safety code 6.

24 MS. SEBALJ: So just so they can pull it up, it's  
25 THESL's response to a Board Staff Interrogatory No. 4.

26 MR. OTAL: It was filed October 3rd, page 101.

27 MS. SEBALJ: No, it's a THESL interrogatory.

28 MR. LARSEN: You said it was THESL number?

1 MS. SEBALJ: Four; No. 4.

2 MR. VINYARD: I think we're confused about which  
3 interrogatory it is again.

4 MR. BORON: Did you say question to THESL?

5 MS. SEBALJ: To THESL. It's Board Staff IR No. 4 to  
6 THESL.

7 MR. LARSEN: Ask your question. I'll see if I could  
8 respond.

9 MR. OTAL: According to the evidence submitted by  
10 THESL, the safety code 6 refers to the safety limits issued  
11 by the Health Canada for human exposure to radiofrequency,  
12 electromagnetic energy. And the frequency range from  
13 3 kilohertz to 300 gigahertz, safety code 6 has also been  
14 adopted by Industry Canada in CPC-2-0-03 for purposes of  
15 protecting the general public related to radiocommunication  
16 and broadcasting antenna systems.

17 So the question is: Can you confirm if there's been  
18 any testing done to confirm the compliance of Canada's  
19 antennas with safety code 6?

20 MR. VINYARD: I can respond to that. First of all,  
21 just for clarity, it's not CANDAS. This was the proposed  
22 Toronto network which was being designed and constructed by  
23 ExteNet Canada and DAScom and Cogeco. The real answer is -  
24 and I believe it's in the record - is that we did confirm  
25 to the city, and I think we were probably subsequently  
26 asked by THESL and provided the documentation, that there  
27 was a report in terms not just of compliance with safety  
28 code 6, but compliance with City of Toronto's standard that

1 they --

2 MR. OTAL: Prudent avoidance.

3 MR. VINYARD: The prudent avoidance standard, which I  
4 understand was something like one-one-hundredth of the  
5 exposure levels. So that was done and dealt with.

6 MR. OTAL: Thank you.

7 MS. NEWLAND: Kristi, there was a reference to the  
8 municipal access agreement earlier, and the agreement  
9 between City of Toronto and DAScom Inc. was included in the  
10 application of CANDAS at tab 10. I would just draw your  
11 attention to the restrictions on use, which clause -- which  
12 is clause 3 in that agreement. There are certain  
13 restrictions on the ability of CANDAS to construct or erect  
14 new poles or to string or install overhead cabling where  
15 cabling does not already exist.

16 MS. SEBALJ: Thanks. Unless anyone wants to stand up  
17 and ask a question, I think -- you do, sorry. Go ahead.

18 **QUESTIONS BY MS. ZARNETT**

19 MS. ZARNETT: For clarification -- and this refers to  
20 some of the discussion that was just a few minutes ago in  
21 response to Toronto Hydro. I understand -- okay, you were  
22 asked some questions earlier about blanket coverage and  
23 that the retail communication provider would use the DAS  
24 facilities to provide relief in an area. Is that a correct  
25 understanding?

26 MR. LARSEN: Are you asking me?

27 MS. ZARNETT: Mainly, I guess. Then I would just like  
28 to move on. Assuming that that's true, and then that



1   ExteNet has the right to allow use of those facilities to  
2   other retail carriers, what is the probability that another  
3   retail carrier might bypass those facilities and arrange  
4   with somebody else to install DAS facilities in the same  
5   area, so that ExteNet's antennas are on one pole and  
6   somebody else's are on the pole next door?

7           MR. LARSEN:   So two questions.   One was the blanket  
8   coverage and how that relates to relief?

9           MS. ZARNETT:   That's what I understood.   So given that  
10   one retail carrier requires relief in an area, presumably  
11   there's potential for other retail carriers to require  
12   relief in the same area.

13          MR. LARSEN:   Okay.   So --

14          MS. ZARNETT:   So that's where I was starting.

15          MR. LARSEN:   Yes.   So obviously it's different reasons  
16   that carriers are seeking solutions to -- call it relief,  
17   but they're basically looking at how do they serve their  
18   subscribers and based on the demand, they make those  
19   decisions.

20           So obviously in the similar manner as they are looking  
21   at options, part of that being a macrosite or a DAS  
22   network, they might be co-located or they might not be co-  
23   located, based on, again, the business decisions that a  
24   carrier makes; right?

25           So it is a competitive environment where they make  
26   decisions based on their needs, and a DAS could be co-  
27   located or several wireless operators could be on a DAS.  
28   And we have, obviously, a number of networks that that's

1 the case.

2 So I'm not sure if that answers your question, but  
3 yes, it's -- again, Rogers have very different requirements  
4 than a Public Mobile in how they want to build their  
5 network. You know, I think a lot of this is about who's  
6 dictating how they are going to build their network, or  
7 should anybody be able to dictate how they build their  
8 network; right? And given the options to be able to serve  
9 their subscribers in the best manner possible.

10 MS. ZARNETT: Okay. So I guess just kind of to tie  
11 this off, if ExteNet's equipment, if Public Mobile's  
12 equipment are on poles in an area, that would not preclude  
13 applications from totally unrelated parties to also mount  
14 wireless attachments on poles in the same area?

15 MR. VINYARD: I could respond to that in terms of the  
16 general deployment of DAS as I understand it. And that is,  
17 especially in the States, but there's a non-discrimination  
18 aspect, so that certainly there's a possibility that people  
19 could come in and, in essence, overbuild. And -- in that  
20 sense, but it's also the case that as long as a particular  
21 DAS provider is pricing and offering a competitive service,  
22 they've invested the capital to have a DAS in an area, it  
23 probably puts them in a position to be very competitive, as  
24 opposed to what might be a wasteful exercise of  
25 overbuilding an existing structure that could otherwise be  
26 used.

27 I don't know if that answers your question. It's  
28 certainly possible and it's almost mandated, if you are

1 going to be non-discriminatory in how you treat people.

2 MS. ZARNETT: Just one question, then, in follow-up,  
3 that the DAS network that would be constructed would be  
4 adequate to provide for the needs of a number of carriers?

5 MR. LARSEN: It's designed to be able to support it.  
6 Obviously, like I said, different operators have different  
7 needs, requirements. So if you look at the proposed  
8 network, it's not very likely that another operator will  
9 take that entire footprint, because they have different  
10 existing networks and they have different needs and  
11 requirements, but taking a portion of it is very likely.

12 MR. VINYARD: Whether it's adequate to meet the needs  
13 of another carrier would depend on whether they have needs  
14 in the area that it covers. But it's built to have the  
15 capacity on the fibre backbone to support multiple  
16 carriers.

17 MS. SEBALJ: Anything from anyone else in the room  
18 from this witness panel? Okay.

19 With our thanks, gentlemen, for your time, I think  
20 you're excused for the moment.

21 We're sort of at an awkward timing position, but given  
22 the time constraints, I would prefer to put the next panel  
23 up and give it 15 and 20 minutes and then take a lunch  
24 break, if that's okay.

25 MS. NEWLAND: That's fine, Kristi. Just give us a  
26 couple of minutes to switch over.

27 I think we can proceed, Kristi. Thanks.

28 CANDAS Panel 2 comprises two members, independent

1 expert witnesses retained by CANDAS.

2 Sitting closest to the dais is Dr. Roger Ware. Dr.  
3 Ware is a professor of economics at Queen's University.

4 And sitting beside Dr. Ware is Ms. Johanne Lemay. Ms.  
5 Lemay is co-president of Lemay-Yates.

6 **CANDAS - PANEL 2**

7 **Roger Ware**

8 **Johanne Lemay**

9 MS. SEBALJ: Thank you. Go ahead, Mark.

10 MR. RODGER: I think this time we'll go in reverse  
11 order, Dr. Yatchew, Mr. Starkey, and then I'll conclude.

12 DR. YATCHEW: Do you prefer "Dr. Ware" or "Professor  
13 Ware"?

14 DR. WARE: I have no reference.

15 DR. YATCHEW: Okay, Roger.

16 [Laughter]

17 **QUESTIONS BY DR. YATCHEW**

18 DR. YATCHEW: Dr. Ware, if you could please turn up  
19 your response to a THESL interrogatory, page 17, and I  
20 believe the number of the interrogatory is 10.

21 DR. WARE: Yes, I have that.

22 DR. YATCHEW: So the reference for this interrogatory  
23 is section 3 of your evidence, which is entitled: "Pole  
24 networks are a public good."

25 And this interrogatory requests a definition of "a  
26 public good" and a relevant academic citation. You provide  
27 your definition from a standard, very well-regarded text by  
28 Mas-Colell, Whinston and Green, and the definition of a

1 public good is:

2 "...a commodity for which use of a unit of the  
3 good by one agent does not preclude its use by  
4 others."

5 Now, is this the definition of a public good that  
6 underlies your section in your affidavit, section 3,  
7 entitled: "Pole networks are a public good"?

8 DR. WARE: Yes. It is. And I should add that I'm not  
9 sure that there is more than one definition, actually, but  
10 maybe there is but I can only think of one. And it's  
11 consistent with the one that I provide here.

12 DR. YATCHEW: Okay. Would you agree that an  
13 alternative definition is that a public good is a good for  
14 which one person's consumption does not reduce the amount  
15 available for consumption by others?

16 DR. WARE: Well, to me that's -- it's a different set  
17 of words to describe the same concept that I give here.

18 DR. YATCHEW: So you agree that that's another --

19 DR. WARE: Another term that is used is non-rivalry,  
20 non-rivalrous, considered non-rivalrous, in consumption.

21 DR. YATCHEW: The reason I'm suggesting this other  
22 definition, because it's a little more explicit about what  
23 happens to consumption or how much is available once  
24 somebody else is consuming it. So let me just repeat that.  
25 It is a public good is a good for which one person's  
26 consumption does not reduce the amount available for  
27 consumption by others.

28 So in that context, is it your view that the use of

1 power poles for wireless attachments does not reduce the  
2 amount of pole space available for other users?

3 DR. WARE: Well, in the sense that there's a very  
4 large amount of capacity and the attachment uses a very  
5 small amount of that, yes.

6 DR. YATCHEW: So the issue is that there's apparently  
7 an excess capacity at this point in time?

8 DR. WARE: A lot of excess capacity, yes.

9 DR. YATCHEW: At page 5 of your testimony -- do you  
10 have that?

11 DR. WARE: Yes.

12 DR. YATCHEW: It's in paragraph 6, and it's the  
13 sentence beginning with, "Not only will private markets".  
14 So the sentence that I'm referring to is:

15 "Not only will private markets fail to supply  
16 public goods, but private owners of existing  
17 public goods may fail to provide access to such  
18 goods at efficient prices."

19 I would like to focus on the first portion of that  
20 sentence that says "Not only will private markets fail to  
21 supply public goods". And my question is: Is it your  
22 position that private markets have failed to provide sites  
23 for antennas for the wireless industry?

24 DR. WARE: Well, I mean, my understanding of the  
25 evidence in this case is that private markets don't do a  
26 very good job of supplying wireless antenna sites in  
27 Toronto. But, I mean, just to elaborate on it, what does  
28 the sentence say? The sentence says public goods are not

1 efficiently supplied by private markets, and that's about  
2 as boilerplate a piece of public economics as you can get.  
3 It's not a controversial statement.

4 It's impossible to get private suppliers to provide  
5 public goods efficiently in a market. That's why we  
6 regulate these industries, and that's why the pole network  
7 is a regulated asset.

8 MS. LEMAY: Can I? Sorry, I know the question was not  
9 addressed to me directly, but I did, in the reply evidence  
10 that I submitted, discuss the wireless siting market. So I  
11 think when we talk about towers and rooftops, the Canadian  
12 government, after many years of consultations, has come to  
13 the conclusion that the market was not a commercial  
14 viable -- was not providing access to sites for, like, new  
15 entrant carriers, such as Public Mobile, for example.

16 So they made it a condition of licence that they had  
17 to provide -- they mandated access to sites, because the  
18 market was not functioning. So that's been done a few  
19 years ago by Industry Canada, and that was I think a key  
20 condition for carriers like Public Mobile and others to  
21 actually -- they did make that decision before companies  
22 were to buy spectrum to get into the market, because if  
23 they hadn't done so, many of them maybe would not even have  
24 entered the market or gone to buy spectrum.

25 DR. YATCHEW: But these were private sites that they  
26 were regulating; is that fair?

27 MS. LEMAY: Yes.

28 DR. YATCHEW: So they were private sites that were

1 being regulated, and we can get into the details of what  
2 that specific market looks like that is -- that involves  
3 Industry Canada, and I don't intend to do that now, because  
4 I see this just as an opportunity for clarification.

5 But my question then would be: Whatever the structure  
6 of that market, Public Mobile seemed to have been able to  
7 gain access to a large number of privately-owned sites  
8 sufficient to launch its business in relatively short  
9 order, again, based on a market that has been, let's say,  
10 managed in some way or other. Is that a fair statement?

11 MS. LEMAY: I think it's because there was an  
12 intervention and a condition of licence placed on all  
13 carriers, not just the incumbent, that actually Public  
14 Mobile was -- there was two things that were done:  
15 Mandating access to the towers of existing carriers, and  
16 ensuring that there is no exclusivity for rooftop access.

17 And those conditions are the reason why companies like  
18 Public Mobile and others were able to launch. It takes a  
19 while, but they were able to launch. If you go back before  
20 these conditions were in place, like in the mid-nineties,  
21 you know, battles for access to towers happened all the  
22 time, because when we had new entrants before -- like  
23 Microcell, for example, they couldn't get share -- they  
24 couldn't share towers.

25 DR. YATCHEW: You have spoken of mandated access, or  
26 some sort of rules or regulations that, shall we say,  
27 strongly encourage access by third parties. What about the  
28 prices? Are the prices set by the regulator?



1 MS. LEMAY: Actually, no, they were not set by the  
2 regulators. They did not set prices. I think the intent  
3 is to try as much as possible to evolve this. You have,  
4 you know, a market that would operate on a commercial  
5 basis. However, considering that there was an arbitration  
6 process set to address any disputes, and, to my knowledge,  
7 all the information that may result from any kind of  
8 arbitration, none of this is public. So it's all private  
9 information.

10 DR. WARE: Could I just add something to your original  
11 question, which is just to point out that just because  
12 Public Mobile has succeeded in launching a service not  
13 obviously using a DAScom network attached to hydro poles,  
14 doesn't mean they did so at least cost. It doesn't -- or  
15 in the most efficient configuration. In fact, their  
16 evidence suggests that they were not -- they would have  
17 preferred to construct a DAScom network attached to hydro  
18 poles. That's what they proposed to do, I believe they  
19 have an agreement with Toronto Hydro to do that, and that  
20 is why we're here in this hearing.

21 The evidence suggests that that is a preferred  
22 procedure for them; presumably a less costly, more  
23 efficient network. I would add at this point, the point  
24 that it's -- even though there may be buildings to attach -  
25 - to which they are currently attached, that doesn't mean  
26 that when they move out or wish to expand to some of these  
27 suburban networks -- sorry, suburban neighbourhoods, sorry,  
28 there are no tall buildings.

1           So then the hydro networks become an even more ideal  
2 point of attachment for those wireless networks.

3           DR. YATCHEW: So do I understand correctly that the  
4 rules for access to sites, however we want to describe this  
5 -- the management system for the siting market, that was a  
6 necessary condition to correct market imperfections in  
7 order for the spectrum launch to be successful to begin  
8 with?

9           MS. LEMAY: Obviously, the rules were set before the  
10 auction, and there were two rules, one on tower sharing,  
11 mandated tower sharing, and mandated national roaming. And  
12 so I think the government or Industry Canada decided, based  
13 on the consultations it had conducted before that, that  
14 these rules were necessary in addition to the set-aside of  
15 spectrum that they did to have new entrants.

16           And I think that's the essence of their policy  
17 framework for that auction.

18           DR. YATCHEW: Thank you. Those are my questions.

19           **QUESTIONS BY MR. STARKEY**

20           MR. STARKEY: And I just have a short list here,  
21 starting with Dr. Ware.

22           This will reference CANDAS' response to OEB Staff  
23 Question 1 in the most recent -- what do you call that?  
24 Supplemental evidence? What's the best way to refer to  
25 that? Reply evidence.

26           First question to OEB Staff response.

27           DR. WARE: Question 1, OEB's -- Board Staff. Yes, I  
28 have it.

1           MR. STARKEY: In your response, you talk about the  
2 public interest and what can be done to pursue the public  
3 interest. Let me ask this question first.

4           Would you consider wireless spectrum to be a public  
5 good?

6           DR. WARE: Yes, I think I would. That's why it's  
7 regulated and, you know, carefully controlled.

8           MR. STARKEY: Does -- do you think the public interest  
9 is served by the current method of auctioning spectrum?

10          DR. WARE: That's a question to which I have not given  
11 a lot of thought, but I know many people have and I do not  
12 -- I can't think of a reason why it would not serve the  
13 public interest. I mean, there are issues -- let me just  
14 qualify that.

15          There are clear issues about incumbency that the  
16 spectrum auction in Canada of 2008 attempted to redress.  
17 There are clear issues, you know, there's a standard  
18 theorem or proposition in industrial organization which  
19 says that an incumbent monopolist will always be willing to  
20 pay more for an addition to their market than will a new  
21 entrant. Why? Because they preserve their monopoly,  
22 that's why.

23          So in my mind, that's the reason that Industry Canada  
24 undertook these set-asides in the 2008 spectrum auctions.

25          So I think the issue is a little more complicated than  
26 just to say that does the method of auctioning serve the  
27 public interest. The problem is, as you know, these  
28 auctions are very, very sophisticated sets of arrangements,

1 and they vary from jurisdiction to jurisdiction and so  
2 there are a lot of considerations.

3 MR. STARKEY: Thank you. To the extent the auction  
4 process has deficiencies from the perspective of maximizing  
5 the public interest, in your opinion, would any of those be  
6 solved by simply offering spectrum on a first-come, first-  
7 served basis?

8 MS. NEWLAND: Mr. Starkey, could you explain how this  
9 line of questioning fits into this application, how it's  
10 relevant?

11 MR. STARKEY: I'm trying to understand Dr. Ware's  
12 description of a public good and the public interest, using  
13 a good or a resource that is pertinent to the industry in  
14 question to try to probe that.

15 MS. SONG: This procedure is about access to poles,  
16 not access to wireless spectrum. So we'll listen to your  
17 next question, but we're not inclined to let you continue  
18 too long on this line. Thanks.

19 MR. STARKEY: I think the question I just posed, I  
20 think, is my last one on that.

21 MR. RODGER: And it is rooted in his evidence.

22 MS. NEWLAND: Have we completely confused you now, Dr.  
23 Ware? Maybe you'd like to --

24 DR. WARE: What concerns me a bit here is I haven't  
25 given an opinion on this issue, and I don't claim to be an  
26 expert on design of spectrum auctions. Although I do know  
27 enough about it to know that it's an extremely  
28 sophisticated science.

1           So it's -- I don't think it's really fair to ask me to  
2   kind of tell you what a good auction design would be and  
3   what a bad auction design would be, sitting here at this  
4   table. I just don't think that makes sense.

5           MR. STARKEY: Okay. Understood, and fair enough. I  
6   guess let me just ask it a different way.

7           What I'm really trying to get at is my understanding  
8   of at least the fundamental basis of a public auction for  
9   spectrum is that the spectrum has value. It has value not  
10   only to the private party who achieves the result of  
11   getting it for its use, but also to the public.

12          Is that -- would you understand that to be the case,  
13   as well?

14          DR. WARE: I have no disagreement with that.

15          MR. STARKEY: And one of the ways to maximize that  
16   value to the public is that the auction process, in a way,  
17   provides a market price; is that fair?

18          DR. WARE: Well, in a trivial sense, yes, because  
19   every auction provides a market price. An auction for a  
20   Picasso provides a market price.

21          But I do not see why that would translate to anything  
22   interesting about that has to do with power poles.

23          MR. STARKEY: Earlier in response to Dr. Yatchew's  
24   question, you talked about the significant capacity  
25   available on a utility pole, presumably for attachments.  
26   Though potentially substantial in your opinion, would you  
27   agree that it is finite?

28          DR. WARE: Well, sure. A pole is a pole.

1           MR. STARKEY: In reference, CANDAS' response to OEB  
2 Staff Question 8.

3           DR. WARE: Sorry, 8?

4           MR. STARKEY: 8, particularly sub-part (b). OEB  
5 Staff 8 to the reply evidence.

6           DR. WARE: Yeah, I have it.

7           MR. STARKEY: Your reply to question (b) is to see  
8 8(a), and I wasn't sure I understood your answer, so I  
9 wanted to sort of ask you (b) again.

10           We have agreed that there's finite space on a  
11 communications -- there's finite space on a pole. Given  
12 the option of 1, 2 or 3 there, or an option of your own  
13 choosing, what would you describe as the best way to  
14 allocate that finite space?

15           DR. WARE: Well, I don't see the limits on capacity as  
16 being met in any finite time, because the -- for example,  
17 the DAS network that we're talking about here occupies --  
18 the antennas occupy, my understanding is, 2 percent of the  
19 poles. So suppose you had 10 carriers who wanted to apply  
20 for space on that pole, then you would be up to 20 percent.  
21 You're still not exerting a significant constraint on  
22 capacity, and we're not, in fact, going to get 10 carriers  
23 applying for space on the pole.

24           MR. STARKEY: If I understand your answer correctly,  
25 is it that there's no reason to choose a particular way to  
26 allocate the finite communication space because it's not  
27 finite enough to require that?

28           DR. WARE: It's not a relevant consideration, I would

1 say.

2 MR. STARKEY: In your evidence, you cited to the CCTA  
3 decision, and therein ensues a discussion of the central  
4 facility.

5 Is it your reading of the CCTA decision that it would  
6 require the attachment, that THESL would be obligated to  
7 provide attachments without bound to Canadian carriers? Or  
8 is there some limit to what can and can't be attached?

9 DR. WARE: Well, obviously I'm not a lawyer, so I  
10 can't give you an expert opinion on legally what that  
11 decision says, but that is broadly my interpretation of  
12 what it says, yes.

13 MS. SEBALJ: Do you have any idea how much longer we  
14 are going to be? I'm hearing stomach grumbles from the  
15 audience.

16 MR. STARKEY: I have six more questions.

17 MS. NEWLAND: We're coming back, anyway.

18 MS. SEBALJ: Are you okay with me breaking your train  
19 of thought?

20 MR. STARKEY: Absolutely.

21 MS. SEBALJ: Why don't we take a break? Am I going to  
22 be completely unpopular if I say come back by 1:30? Yes?  
23 Okay, 1:45? So let's come back by 1:45, please, and  
24 resume. Thanks.

25 --- Lunch recess at 12:40 p.m.

26 --- On resuming at 1:46 p.m.

27 MS. SEBALJ: If everybody is ready, why don't we get  
28 started, returning to THESL's questions of this panel.

1           MR. STARKEY: And I just had a couple more, this one  
2 for Dr. Ware, if I can reference CANDAS' response to Energy  
3 Probe Interrogatory No. 2.

4           DR. WARE: Yes, I have it.

5           MR. STARKEY: Right. And in the first paragraph there  
6 in your response, you state that, based on your  
7 understanding of Mr. Larsen and Ms. Lemay's testimony,  
8 that:

9                   "Femtocells and WiFi are not a substitute for DAS  
10                   at all in providing full mobile coverage on a  
11                   network."

12          Can you tell me what you meant by "full mobile  
13 coverage on a network" in that response?

14          DR. WARE: Yes. Because I'm not an engineer, you  
15 wouldn't want to hire me to build a network, but -- so  
16 there is evidence from -- on the record from people who are  
17 experts in this.

18          So my understanding is that the femtocells and wifi  
19 are ways of filling in gaps, ways of filling in spaces  
20 inside buildings, or if there is a hole in coverage for  
21 some reason, you can enhance -- you can enhance your  
22 coverage if you want to -- if you have a place where you  
23 think you have a capacity shortage because of a lot of data  
24 traffic, you can install femtocells, wifi, in order to try  
25 to offload some of that data traffic onto those devices.

26          But what you can't do with those devices is you can't  
27 build a network, a mobile network, where I can drive in my  
28 car, which of course I would have Bluetooth, a hands-free



1 device, and be on the same phone call driving through a  
2 whole sequence of cells. That is what you can't do.

3 That's my understanding.

4 MR. STARKEY: So that's what you meant when you  
5 referred to them in that context as substitutes?

6 DR. WARE: I think I refer to them as complements.

7 MR. STARKEY: Well, not a substitute, I think is what  
8 you said.

9 DR. WARE: Yes.

10 MR. STARKEY: Thank you.

11 Ms. Lemay, at THESL Interrogatory Response Nos. 29 and  
12 30 -- I don't necessarily think you have to reference it.  
13 I'm not going to ask you anything specific about it. But  
14 you describe the issue of the extent to which ExteNet would  
15 have to go through the public consultation process is  
16 discussed there.

17 MS. LEMAY: Is that in the reply evidence or the  
18 original evidence?

19 MR. STARKEY: It is specifically your response or  
20 CANDAS' response to THSEL Interrogatory No. 29 and 30 in  
21 the reply evidence.

22 The topic there is, at least in part, the public  
23 consultation process. I wasn't sure from your answer or  
24 not -- I wasn't sure from your answer the extent to which  
25 you believe that the DAS equipment, as ExteNet at least  
26 intended to place it on the Toronto Hydro poles, would be  
27 required to undergo either a City of Toronto or Industry  
28 Canada public consultation process.

1 MS. LEMAY: Yes. I have the responses here.

2 I mentioned that, actually. It's a reference to a  
3 circular of Industry Canada, where they defined the  
4 procedures to deal with land use authorities. And because  
5 I was asked to provide a definition of what -- the tower  
6 would be.

7 So they state in that procedure that if the height at  
8 which the antenna is attached is less than 15 metres from  
9 the ground, that you don't need to have a public  
10 consultation.

11 So I'm not a lawyer. I don't have a legal opinion on  
12 this, but that's what they say.

13 But we also note, I think in reference to another  
14 interrogatory response, that, I guess as you know, DAScom  
15 has an agreement with the city. So obviously there were  
16 agreements and consultations with the city. So I wouldn't  
17 be able to comment on the type of consultations that -- or  
18 the details of their agreement, but certainly it doesn't  
19 say that DAScom would have installed its antennas without  
20 consulting the city. They have an agreement with the city.

21 MR. STARKEY: Make sure I understand. So is that yes,  
22 they would have to go through -- when I talk about the  
23 public consultation process with Industry Canada, you're  
24 familiar with that process?

25 MS. LEMAY: Yes.

26 MR. STARKEY: Is it your opinion in the way in which  
27 Mr. Larsen has described the attachments to THESL poles as  
28 ExteNet planned them, that they would have go through that

1 process or not? Is that -- what's your --

2 MS. LEMAY: I think the Industry Canada circular says  
3 that there's no consultation required, public consultation  
4 required.

5 I am not sure, because I think it can vary, that there  
6 might be some municipalities that will want a consultation  
7 anyway, because you also have to deal with the local land-  
8 use authorities. And so I'm not an expert in who has  
9 overall jurisdiction in these issues.

10 MR. STARKEY: Okay. Thank you.

11 MS. LEMAY: That would be my answer. That's why we  
12 answered that way.

13 MR. STARKEY: Understood. In reference to your  
14 response to THESL Interrogatory No. 33 - again, reply  
15 evidence - you have a caveat - my words, not yours - a  
16 caveat in your response that basically says whenever you're  
17 discussing third-party attachment opportunities or  
18 alternatives, that you were talking only about what I would  
19 describe as commercial attachment companies, that you're  
20 not discussing or considering attachments to third-party  
21 providers more generally, including building owners, condo  
22 associations, those kinds of things; is that fair?

23 MS. LEMAY: You are referring to the second paragraph  
24 in the answer? It says:

25 "Note that the term 'third party' as used in  
26 the..."

27 MR. STARKEY: Yes.

28 MS. LEMAY: Okay. Yes, because I think -- this is a

1 quote from the final report of the Telecom Policy Review  
2 Panel report in 2006. And they talk about towers, and in  
3 the context, they really talk that towers typically are  
4 owned by the three incumbents, and typically some towers  
5 may be owned by third parties, but more often than not when  
6 they are -- you know, the third parties were the rooftops,  
7 and not the towers.

8 So that's why I added that comment.

9 MR. STARKEY: So when you describe in your evidence  
10 the alternatives that exist and the lack thereof, if I  
11 understand your evidence correctly, you're not including in  
12 that discussion parties other than the sort of commercial  
13 attachment alternatives? You are not describing individual  
14 building owners or that type of thing; is that fair? You  
15 sort excluded them from that description, I think, if I  
16 understand this portion of your response.

17 MS. LEMAY: Because we were discussing mostly towers,  
18 so standalone towers as opposed to rooftops.

19 I'm not sure that I understand quite where the  
20 question is.

21 MR. STARKEY: I'm not sure I understand the response,  
22 because the question asks for evidence that implies that  
23 there are very few third-party entities who lease towers,  
24 rooftops and/or other locations.

25 The reason I ask is your answer, you give an answer  
26 but then you say you're limiting it only to the first of  
27 those, towers, and in that circumstance only to towers by  
28 these specific folks.

1           Is your answer just limited to those, or is it more  
2   general?

3           MS. LEMAY:   Okay.   The answer is that I had no  
4   information in my possession regarding the location of the  
5   antenna sites of Public Mobile, because that's, I guess,  
6   what was being asked.

7           And we have the information in the Spectrum Direct  
8   database.   It has no information on the owners of the sites  
9   per se, so I can't tell you that.

10          Also I just wanted to comment on the fact that when we  
11   said the evidence implies that there are very few third-  
12   party entities who lease towers, rooftops and other  
13   locations, that the sentence that was used, the quote that  
14   was used in my report referred to towers.   Now, we know  
15   that on rooftops, there are a number of owners who lease  
16   their sites.

17          MR. STARKEY:   Maybe I can make it a better question.

18          Do you have any information regarding the number of  
19   sites that are used for wireless attachments in Toronto by  
20   parties other than those you list here?

21          MS. LEMAY:   I don't have it with me.   We're talking  
22   hundreds of thousands of sites that are being used by the  
23   mobile carriers.

24          MR. STARKEY:   And you generally do have information  
25   about those sites or don't?

26          MS. LEMAY:   What do you mean by generally?   I can get  
27   access to the location of these sites in the Spectrum  
28   Direct database.   I do not have information as to the

1 ownership of those sites.

2 MR. STARKEY: The question was -- as I understood your  
3 evidence, it was there were very few of those; am I  
4 mistaken?

5 MS. LEMAY: Very few of what?

6 MR. STARKEY: There are very few of those third  
7 parties that provide opportunities for attachment. Was  
8 that an unfair reading of your evidence?

9 MS. LEMAY: I think, yes, because what it says is,  
10 when it comes to towers, most of the towers are owned by  
11 the carriers, and I think the whole thing was in the  
12 context of that's why the government had to intervene, to  
13 mandate access to these towers, because it was a way to  
14 block entry for the new entrants when it comes to towers.

15 When it comes to rooftops, without having information  
16 on specific rooftops, it's I think clear that there are  
17 many owners of rooftops. So the government's intervention  
18 at that time was to actually make sure that carriers could  
19 not sign exclusive agreements for rooftops, so that they  
20 could not block access to others.

21 MR. STARKEY: Thank you. I don't have any further  
22 questions.

23 **QUESTIONS BY MR. RODGER**

24 MR. RODGER: I have one area for Dr. Ware, and it's  
25 your response to Toronto Hydro's Interrogatory 18, and  
26 that's page 25 and page 26.

27 DR. WARE: Yes, I have it.

28 MR. RODGER: This interrogatory asked about a specific

1 element of your CV that you filed, Dr. Ware. And the broad  
2 thing we were trying to raise here was: Do concerns arise  
3 by having you, as a serving member of the Market  
4 Surveillance Panel, at the same time give appear as a  
5 witness before another panel of this Board?

6 And we -- and just so we're clear, the theme here we  
7 are flagging, of course, is could there be a bias or  
8 perception of bias to have one panel member give expert  
9 testimony before another panel of this Board.

10 MS. NEWLAND: So you are focussing on bias as opposed  
11 to conflict, Mark?

12 MR. RODGER: I think it could be both. So what I want  
13 to understand is some of the answers you provided us here,  
14 and -- but I take it that's right? Just to confirm, you  
15 are serving -- a current serving member of the Market  
16 Surveillance Panel?

17 DR. WARE: That is correct.

18 MR. RODGER: You referenced in your answer,  
19 particularly in (i), that the Board's code of conduct and  
20 conflict of interest policies provide a complete  
21 explanation of the applicable rules. I take it you've read  
22 the Board's code of conduct?

23 DR. WARE: Yes, I have.

24 MR. RODGER: I take it you're aware that -- and this  
25 is some materials, just so you would have it for ease of  
26 reference, that I sent to your counsel yesterday. I don't  
27 know whether you received that material I sent out  
28 yesterday?

1 MS. NEWLAND: We'll see where we are going to go with  
2 these questions, Mark. Mark and I have had an off-the-  
3 record discussion about the propriety of these questions in  
4 the context of a technical conference. So to the extent he  
5 has some factual inquiries about Dr. Ware's position on the  
6 Market Surveillance Panel, that's fine, but Dr. Ware is not  
7 a lawyer obviously, and these may be issues that need to be  
8 debated in front of the Hearing Panel and not at a  
9 technical conference.

10 My suggestion, Mark, is let's take the questions one  
11 by one and we'll see how far we can go.

12 MR. RODGER: Let me lay it out for you first, then,  
13 Dr. Ware, and then perhaps you can fill in some of the  
14 details or parts you didn't answer in Interrogatory 18.

15 So what we have, we have an addendum to the Energy  
16 Board's code of conduct, and I'll just read a couple of  
17 sections to lay it out. Section 1.1.1 says:

18 "Members and employees shall at all times abide  
19 by requirements set forth in this Code. It shall  
20 be a term and condition of each member's  
21 appointment and each employee's appointment that  
22 he or she is required to comply with the Code."

23 Then in the same document, section 1.4.1, it says the  
24 term "Members" with a capital M:

25 "... in this Code includes the members of the  
26 Market Surveillance Panel of this Board."

27 And then section 2.1 says -- and this is a section  
28 entitled "Avoidance of Breaches of this Code and Disclosure



1 of Any Breaches":

2 "Each member and employee shall endeavour to  
3 avoid actual or apparent breaches of this Code  
4 and shall immediately report in writing any  
5 actual or apparent breaches of this Code."

6 So that was adopted by the Board. Then I also sent  
7 out a letter from the Board dated August 28th, 2008, and  
8 this was to all stakeholders, entitled "New Conflict of  
9 Interest Rules". The second paragraph reads as follows:

10 "The Public Service of Ontario Act sets out the  
11 ethical framework for all public servants,  
12 including those in public bodies. The Board is  
13 designated as a public body and all Board members  
14 and employees are included in the term 'public  
15 servants'."

16 Then it goes on in the fourth paragraph to say:

17 "Therefore as of August 20th, 2008, all Board  
18 members and employees must follow the conflict of  
19 interest rules set out in Ontario Regulation  
20 381/07, conflict of interest rules for public  
21 servants and former public servants (the  
22 'Regulation')."

23 And that regulation, I won't take you through 381/07,  
24 but it talks about avoiding pecuniary interests where the  
25 client may have an advantage through your role in this  
26 capacity, and that kind of thing.

27 So we laid all these questions for you and we asked  
28 you in (i) of Interrogatory 18 about: Did you consult the

1 Board about compliance with this code of conduct and  
2 conflict of interest policies before you filed your  
3 evidence of behalf of CANDAS?

4 And your answer was:

5 "The Board's code of contact and conflict of  
6 interest policies provide a complete explanation  
7 of the applicable rules. Therefore, consultation  
8 with the Board is unnecessary."

9 So my first question is - you didn't really answer the  
10 question - did you actually speak to anybody at the Board  
11 about what I've just taken you through?

12 DR. WARE: No. The answer is no, for the reasons I  
13 gave in the answer to the interrogatory.

14 MR. STARKEY: The reasons that you gave, I take it  
15 that's (g), that, "I am not a member of the Ontario Energy  
16 Board"?

17 DR. WARE: No. The answer that you just read to me,  
18 the answer to (i) is the answer to your question. I read  
19 those policies. I was not in a conflict. I didn't see any  
20 reason to consult the Board.

21 MR. RODGER: So, again, we put the question to you.  
22 This is a quasi-judicial tribunal. The Board has  
23 established clear conflict of interest policies which apply  
24 to the Market Surveillance Panel. Does CANDAS - and  
25 perhaps this is to your counsel - have any concern there  
26 could be a perception of bias by having one panel member  
27 appear as an expert witness before another panel of the  
28 Board?

1 MS. NEWLAND: You're right, Mark, it's not a question  
2 for Dr. Ware. And our answer is no.

3 MR. RODGER: We'll take that answer and we'll see what  
4 goes from here. Thank you. Those are my questions. Thank  
5 you, panel.

6 MS. SEBALJ: So according to my list -- THESL is done  
7 with this witness. Okay. According to my list, the next  
8 is EDA. Does EDA have any questions?

9 MS. KILBY: We have no questions.

10 MS. SEBALJ: Energy Probe? And perhaps I should just  
11 give everyone a warning right now, because it is five after  
12 2:00. There is a time constraint, which I believe Helen  
13 mentioned to everybody at the outset, with respect to her  
14 team and asking questions of the THESL panel.

15 So to the extent that questions of this panel look  
16 like they are potentially encroaching on the time where the  
17 member of her team has to leave, we may have to  
18 unfortunately switch the panels up and have her ask her  
19 questions, and then switch them back.

20 So if I interrupt anyone in the middle of their  
21 questions, I apologize in advance.

22 MS. NEWLAND: Kristi, could you just do a quick time  
23 check in terms of what's left for this panel?

24 DR. SCHWARTZ: Energy Probe has one question.

25 MS. SEBALJ: It probably took longer to... VECC?

26 MR. JANIGAN: Fifteen minutes.

27 MS. GIRVAN: And I don't have any questions.

28 MS. SEBALJ: And Board Staff? Three questions, 90

1 seconds. Wow, I'll hold you to that.

2 **QUESTIONS BY DR. SCHWARZ**

3 DR. SCHWARTZ: To Professor Ware: Energy Probe put  
4 its questions up on the Board website last night, so  
5 perhaps you've seen it. The question I was going to ask  
6 you, it's Question 4, relating to market power, and it  
7 relates to your reply evidence, paragraph 23, and plus at  
8 page 13, Energy Probe's Interrogatories 2 and 3 and CANDAS'  
9 responses to interrogatories of Energy Probe.

10 Without turning to those documents, I think it may not  
11 be necessary. Do you believe as - and this is my take - as  
12 apparently Mr. Starkey and Professor Yatchew do, that:

13 "Functional equivalence is a sufficient basis for  
14 including products or technologies in the same  
15 product market under the Competition Bureau's  
16 guidelines."

17 And may I just add one thing? The guidelines refer --  
18 use the phrase "functional interchangeability", not  
19 "functional equivalence" so I think it's a small  
20 distinction, but you might want to take that into account.

21 DR. WARE: Yes. Well, the answer is no. I don't  
22 believe that functional equivalence is a particularly  
23 precise way of defining product markets.

24 As Dr. Schwartz knows at least as well as I do, it has  
25 a long history in competition policy and competition  
26 economics. And so the idea of functional equivalence is to  
27 say: Well, instead of a DAS network, surely you could use  
28 picocells and femtocells, couldn't you?

1           And the answer is yes or no, and if the answer is yes,  
2   then we'd define them in this same product market. It's  
3   not a completely -- it's not an inappropriate question.  
4   The problem is it's just not a very precise -- can't give  
5   it a very precise answer.

6           DR. SCHWARTZ: Let me refer you back to the question  
7   for more precision. It says:

8                   "Do you believe that functional equivalence is a  
9                   sufficient basis for including products or  
10                  technologies in the same product market under the  
11                  Competition Bureau's merger guidelines?"

12          So I'm asking you, in effect, about your understanding  
13   of the Competition Bureau's merger guidelines as they may  
14   or may not address functional equivalence or  
15   interchangeability.

16          DR. WARE: You know, I would want to preface my answer  
17   by saying what's the context, why were we talking about the  
18   Competition Bureau's merger guidelines, but --

19          DR. SCHWARTZ: Because - because, as I say, sir, Mr.  
20   Starkey, certainly, and I think perhaps Professor Yatchew  
21   by inference, referred to them.

22          DR. WARE: Okay. Well, the problem here is the issue  
23   here is it can be useful to define product markets. And in  
24   this case, there's been some discussion of that. I don't  
25   think we really got to a very precise definition of which  
26   product markets are at issue here, actually. People have  
27   talked about the siting market, the wireless attachments;  
28   they've talked about the wireless competition market, which

1 of course is a downstream market. They've talked about  
2 lots of different markets.

3 My basic answer to your question is there's nothing  
4 wrong with asking the functional equivalence method, but  
5 no, it's not sufficient, because what one should ask is  
6 something like a hypothetical monopolist test, where one  
7 should ask is: If you were to increase the price of, let's  
8 say, the market for attachment to hydro poles by some  
9 significant non-transitory amount - let's say five percent,  
10 10 percent, something like that - would that be profitable  
11 for whoever owned those poles?

12 That's the kind of question that you would want to  
13 ask.

14 DR. SCHWARTZ: And you are referring to the  
15 hypothetical monopolist test --

16 DR. WARE: I am.

17 DR. SCHWARTZ: -- here because that's the part of  
18 the Competition Bureau's merger guidelines?

19 MR. WARE: It is.

20 DR. SCHWARTZ: All right. If you would just excuse me  
21 for a moment? That's fine. Thank you very much.

22 MS. SEBALJ: Thank you. Mr. Janigan?

23 **QUESTIONS BY MR. JANIGAN**

24 MR. JANIGAN: I wanted to deal with the issue of the  
25 use of the terms "public interest" and "public good" that  
26 appear both in the context of the application and the  
27 response of THESL in relation to the application.

28 And I guess principally because my organization is the

1 Public Interest Advocacy Centre, I have an interest in what  
2 exactly we're talking about in relation to public interest  
3 or public good.

4 And I wonder, panel, if you agree with me that this  
5 seems to be used in three contexts? One in relation to  
6 issues associated with competition -- dealing with there's  
7 market failure or market dominance in that area. Secondly,  
8 in relation to the fact that we're dealing with a public  
9 utility here, and that public utility assets should be used  
10 for the public good. And thirdly, in relation to the  
11 position of THESL that, in fact, the market is sufficiently  
12 competitive that we should forbear, because it's  
13 competitive enough to protect the public interest.

14 Those are the three sort of general areas of public  
15 interest that I've identified. Is that -- does the panel  
16 agree with me?

17 DR. WARE: First of all, I don't think we're talking  
18 about forbearance. So I'm happy to address the first two.

19 So yes, in terms of public utility. The first one,  
20 you said issues of competition. I'm not quite sure what  
21 you mean.

22 MR. JANIGAN: Well, as I understand the position of --

23 DR. WARE: Competition is good and monopolies are bad?  
24 I mean, market power, we --

25 MR. JANIGAN: I understand the position of your client  
26 essentially is that there is market dominance in the  
27 product market, that is such that will lead to market  
28 failure, presumably in the wireless mobile market, and that

1 in effect, the request is based on the idea that the Board  
2 will, in effect, set conditions that will enable a much  
3 more competitive market to exist.

4 Am I correct on that, in my summation of the position  
5 of -- I know that's not your only position, but effectively  
6 with respect to issues of competition, your position is  
7 that THESL is market-dominant in the position of pole  
8 attachment, and that leaving it to the market to deal with  
9 in relation to the poles attachments would as a result have  
10 an anti-competitive or market failure result?

11 DR. WARE: Yeah. I think that's consistent with my  
12 position, yes.

13 MR. JANIGAN: In looking at -- and I just want to  
14 cover some ground that Dr. Schwartz covered here. In  
15 looking at that, in looking at dominance in the market,  
16 what is the product market, you think, that THESL is  
17 dominant in?

18 DR. WARE: Well, that's a question that I would want  
19 to give some thought to. But I think --

20 MR. JANIGAN: Would you be happy with an undertaking  
21 on that? No?

22 DR. WARE: I'm not sure. I'm happy to give some  
23 thought to it right now if you give me a chance.

24 MR. JANIGAN: Okay. Well, that's fine. That's fine.

25 DR. WARE: I think it's certainly true to say that if  
26 one were to -- if it were possible to define a market for  
27 attachment to hydro poles -- and I don't know if that's a  
28 well-defined product market or not. I suspect it is, but



1 no one has done the analysis and we don't know the answer  
2 to that. But if it is, then I think it's clear that THESL  
3 is dominant in that market.

4 So I guess that would be my answer.

5 MR. JANIGAN: Exploring this theme with Dr. Yatchew,  
6 as well, I assume that in reading the evidence that's been  
7 put forward, that his definition of a product market is  
8 substantially larger than yours is.

9 DR. WARE: Well, I don't think that's a very precise  
10 question, if you'll forgive me, because you would have to  
11 ask him what his definition of product market is. But I  
12 believe he relates in his evidence to a market for wireless  
13 siting attachments, and if you comparing that with the one  
14 that I just described, then yes, it's broader. Yes.

15 MR. JANIGAN: I believe Dr. Yatchew defines the  
16 geographic market as being the franchise area of THESL.

17 Would you agree that that's the appropriate geographic  
18 market?

19 DR. WARE: I'm not sure, actually. I mean, I think  
20 that depends on what the jurisdiction of the Board is in  
21 this proceeding and if -- for example, if it's possible to  
22 be broader than that, then -- the issues here are not  
23 something that pertain only to the set of poles that are  
24 covered by THESL.

25 So I'm not sure that that is a well-defined geographic  
26 market.

27 MR. JANIGAN: Let me deal with another part of this,  
28 the competition issues. As I understand it, THESL defines

1 the pole attachments as a scarce resource, but not as an  
2 essential facility. CANDAS defines the pole attachment as  
3 an essential facility, but not necessarily a scarce  
4 resource. Am I correct on that?

5 DR. WARE: Firstly, I don't think I can speak to what  
6 THESL defines pole attachments. Certainly their experts  
7 certainly, I don't think, believe that pole attachments are  
8 not an essential facility, yes. I think that's correct.

9 Now, sorry, you said that CANDAS regards them as  
10 being -- sorry, can you repeat the second part?

11 MR. JANIGAN: As an essential facility. But as I  
12 understand your answers to questions this morning, that you  
13 would not necessarily regard them as a scarce resource.

14 DR. WARE: Well, I certainly didn't in my evidence  
15 refer to them as an essential facility. I don't know  
16 whether that appears somewhere else in CANDAS's evidence,  
17 but it certainly doesn't appear in mine.

18 MR. JANIGAN: It appears in the application,  
19 certainly, on page 33 of the application. But be that as  
20 it may, did you regard the pole attachments that are being  
21 sought here as an essential facility - access is required  
22 because they are essential - or not?

23 DR. WARE: My view is the view that I expressed in my  
24 report, which is that this pole network is a public good,  
25 which is regulated, and it's regulated in the public  
26 interest. It's in the rate base. As a public good, which  
27 is regulated, access is desirable to -- because it's  
28 efficient, and, above all, to avoid the duplication of pole

1 networks that would happen if carriers tried to build their  
2 own pole networks.

3 MR. JANIGAN: You're leaking into my second area from  
4 the competitive area, Doctor. I take it from your answer,  
5 though, that effectively the aspect of the whole essential  
6 facilities doctrine is not one you would evoke in relation  
7 to the reason why the OEB should grant this application?

8 DR. WARE: That's correct, yes.

9 MR. JANIGAN: In the public utility section,  
10 effectively, these are facilities that have been purchased  
11 through public -- through rates that have been levied  
12 against ratepayers, and they should be used for the public  
13 good, and this is effectively how the public interest  
14 enters into this equation in the strongest fashion?

15 DR. WARE: I would agree with that, yes.

16 MR. JANIGAN: Can you enlighten us further -- and I  
17 have to say this is the question we struggle with, is that,  
18 in relation to the public good, how do you set up the  
19 interests of the ratepayer, of Toronto Hydro, and the  
20 interests of the consumers in general that may profit from  
21 the provision of wireless mobile service at a more  
22 competitive rate?

23 DR. WARE: Of course in many cases these would be the  
24 same people. They are not necessarily different people.  
25 But as a general matter, I think the ratepayer will  
26 obviously benefit from a rate for attachment. If  
27 attachment were granted and there were to be attachment,  
28 then the ratepayer is going to be better off because -- so

1 I don't -- I don't really see a conflict, actually. I  
2 don't see why there would be a conflict.

3 MR. JANIGAN: I notice you haven't filed any material  
4 with respect to forbearance, and my issue was with the  
5 second part of the forbearance equation, whether or not --  
6 what's the test for public interest that you see?

7 If you haven't touched upon that issue, you need not  
8 answer that question, but if you have any particular  
9 thoughts of what the public interest should be considered  
10 in relation to what should be protected when you are  
11 looking at this question, I would be happy to hear it.

12 MS. NEWLAND: I was just going to clarify, Michael, of  
13 course the Board has ruled that the forbearance issue is  
14 not part of the scope of this particular proceeding.

15 MR. JANIGAN: I'm curious what happens after. Are we  
16 hearing the whole thing or are we hearing your issues, and  
17 then their issues?

18 MS. NEWLAND: I think the jury is out on that. I  
19 think what the Board said is that we will proceed in this -  
20 in this particular proceeding, we will hear the CANDAS  
21 application. With respect to the THESL motion, the Board  
22 will decide after it hears and determines this motion.

23 MR. JANIGAN: Was that Toronto Hydro's understanding,  
24 as well?

25 MR. RODGER: I believe so. The options before the  
26 Board is that if the Board decided, for example, the CCTA  
27 decision doesn't apply, then it's all over. If the Board  
28 decides the CCTA decision does apply, then we could proceed

1 to our motion. The Board could then still decide to  
2 forebear, and then not do anything about this.

3 MR. JANIGAN: Just so long as -- on this issue of  
4 forbearance, I don't want suddenly to have a decision on  
5 this at the end of the day where we haven't --

6 MS. NEWLAND: I think Mark and I are agreed it's not  
7 an issue in this case.

8 MR. JANIGAN: That's fine. Then I'll leave it. Thank  
9 you very much. Those are my questions for the panel.

10 MS. SEBALJ: Thanks.

11 **QUESTIONS BY MS. ZARNETT**

12 MS. ZARNETT: I have three questions, and I have  
13 undertaken to take 90 seconds. So they all stem from Board  
14 Staff interrogatories on your evidence, Dr. Ware.

15 First, with respect to question number 1, you say -  
16 sorry, I'm using time - that ratepayers will be better off  
17 as a result of an attachment decision and a stream of  
18 revenue from that. Would it be fair to say that that is  
19 the case only if all incremental costs associated with the  
20 attachment are recovered from the attacher?

21 DR. WARE: Yes, I would agree with that. I can't  
22 imagine that that wouldn't be true.

23 MS. ZARNETT: Okay. Following from Question No. 2,  
24 you say:

25 "There is no difference between the public  
26 interest on whose behalf the OEB was acting in  
27 the CCTA decision and the public interest to  
28 which I refer in my evidence."

1           Would you say that there's any difference between the  
2 public interest referred to in your evidence and the public  
3 interest on whose behalf the OEB makes decisions on rates  
4 and charges and revenue requirement for distributors?

5           DR. WARE: So it's a bit of a long question. You're  
6 saying -- are you saying there's no difference between the  
7 public interest that I refer to and the public interest  
8 that the OEB --

9           MS. ZARNETT: Okay. I'm making a distinction between  
10 the two public interest that's you identified, the public  
11 interest in the CCTA decision and this case, and what I'm  
12 asking you about is the public interest in this case and  
13 the public interest that is safeguarded by the Board in  
14 rate decisions for distributors.

15          DR. WARE: I can't see any reason why they would be  
16 different. I mean, the point is if you're using -- not all  
17 decisions of the Board may be made in the public interest.  
18 Some may be made in the interest of some group of parties,  
19 you know, a negotiation. So -- but if we're going to use  
20 the phrase "in the public interest" I don't see why it  
21 would have a different meaning in a different context.

22          MS. ZARNETT: Thank you.

23          And the third follows from Board Staff Question No. 6,  
24 and agreeing that you haven't actually carried out any  
25 quantitative analysis, in general as a principle would you  
26 say that it's discriminatory or non-discriminatory for  
27 different users of a facility to be charged different rates  
28 if they impose different costs in using the facility?

1 DR. WARE: As a general matter -- and I want to  
2 preface my answer by saying I'm not in a position to give  
3 an opinion on calculating, computing a rate.

4 MS. ZARNETT: Absolutely.

5 DR. WARE: Because no one has asked me to.

6 But as a general matter, if you are saying should  
7 differential costs be taken into account in computing  
8 rates --

9 MS. ZARNETT: Yes.

10 DR. WARE: -- the answer is yes.

11 MS. ZARNETT: Yes. At a very high level of  
12 generalization.

13 DR. WARE: A high level of generality, yes.

14 MS. ZARNETT: Excellent. I'm finished.

15 MS. SEBALJ: Anyone else in the room have any  
16 questions? All right.

17 Thank you very much, Ms. Lemay, Dr. Ware. I think  
18 you're free to go, for now.

19 I know we're time-constrained, but given that we have  
20 to do a -- I guess we're just moving to this side of the  
21 room, though, aren't we? There's no actual physical  
22 shuffle that needs to happen?

23 Okay. Then let's just carry on.

24 MR. RODGER: Just while we're getting seated, I'll  
25 introduce the panel.

26 Starting at the far end, from Toronto Hydro, Ms. Mary  
27 Byrne. Next to Ms. Byrne, Ivano Labricciosa. Then Mr.  
28 Colin McLorg. And of course, Dr. Yatchew and Mr. Starkey.

1 TORONTO HYDRO ELECTRIC SYSTEM LTD. - PANEL 1

2 Mary Byrne

3 Ivano Labricciosa

4 Colin McLorg

5 Adonis Yatchew

6 Michael Starkey

7 MS. SEBALJ: I think we can just go ahead, then, and  
8 start.

9 QUESTIONS BY MS. SONG

10 MS. SONG: Hello, panel. I'm Monica Song. I'm  
11 appearing on behalf of CANDAS, the Applicant. I'll have a  
12 few questions for you this afternoon.

13 Ms. Byrne, I would like you to turn up THESL's  
14 response to CANDAS' Byrne 1(c). This question asked that  
15 you describe in detail the technical and any other  
16 information that THESL requires to be provided in support  
17 of an application for an attachment permit.

18 Do you remember this question?

19 And we asked that the question -- that the answer be  
20 responsive to the case of both non-fibre and fibre  
21 components of a wireless telecommunications pole  
22 installation.

23 And in your answer, if you go over to page 2, you  
24 refer back to your paragraph 18(a) and (c) of your  
25 affidavit. Do you see that?

26 MS. BYRNE: [Witness nods head]

27 MS. SONG: When I look at paragraph 18(a) and (c) of  
28 your affidavit, you refer in the preamble to paragraph 18



1 to the regulation and guidelines; correct?

2 MS. BYRNE: Correct.

3 MS. SONG: And by the "Regulation" you mean the  
4 Electrical Distribution Safety Regulation O.Reg. 149/05?

5 MS. BYRNE: No. That is not correct.

6 MS. SONG: Which regulation do you mean?

7 MS. BYRNE: Ontario Regulation 22/04.

8 MS. SONG: Is that -- okay. Is that attached as  
9 Exhibit E to your affidavit?

10 MS. BYRNE: That is correct, Exhibit E.

11 MS. SONG: Can you just help me? Does this regulation  
12 apply to both non-distribution attachments as well as to  
13 distribution attachments?

14 MS. BYRNE: Correct.

15 MS. SONG: Is there a specific part of this regulation  
16 that applies to non-distribution attachments?

17 MS. BYRNE: The entire regulation applies to all of  
18 the ways in which an electric distribution system is used.

19 MS. SONG: Is there anything in this regulation that  
20 you can show me that limits the communication space to two  
21 feet?

22 MS. BYRNE: This regulation does not speak to the  
23 limitation of space on a pole to communications.

24 MS. SONG: Is there anything in this regulation that  
25 says that the antenna cannot go on top of the pole?

26 MS. BYRNE: This regulation does not set out that kind  
27 of detail.

28 MS. SONG: Okay. So I'm just going to take you back

1 to paragraph 18. The preamble also refers to a guideline?

2 MS. BYRNE: Correct.

3 MS. SONG: The guideline that you are referring to is  
4 the Electrical Safety Authority Guideline for Third Party  
5 Attachments?

6 MS. BYRNE: Correct.

7 MS. SONG: And that is attached to your affidavit at  
8 Exhibit F?

9 MS. BYRNE: Yes, that is correct.

10 MS. SONG: Can you describe for me generally what the  
11 purpose of this guideline is?

12 MS. BYRNE: This guideline gives advice and sets out  
13 criteria for distribution companies in Ontario, so that  
14 they can ensure themselves that the attachments to their  
15 poles will meet all of the safety requirements set out in  
16 O.Reg. 22/04.

17 MS. SONG: We're talking about electrical safety here,  
18 as opposed to radio communications and radio frequency  
19 safety?

20 MS. BYRNE: Electrical safety, correct.

21 MS. SONG: Is there anything in this guideline that,  
22 in your view, limits the communication space to two feet?

23 MS. BYRNE: I do not believe that this guideline deals  
24 with that kind of detail about space on a pole.

25 MS. SONG: Are you saying that this Guideline is  
26 silent as to what the communication space may be?

27 MS. BYRNE: To my understanding this guideline does  
28 not delineate space on the pole in that manner in any way.

1 MS. SONG: Can you please turn to page 17 of 24 of  
2 this guideline?

3 MS. BYRNE: Yes, I'm there.

4 MS. SONG: Can you tell me what this diagram -- I see  
5 a diagram. Are you looking had a diagram, as well?

6 MS. BYRNE: Correct. I'm looking at the diagram  
7 called "The Bell Canada Work Instruction No. 1".

8 MS. SONG: The top left-hand corner of the diagram  
9 also has the notation "Net X Tangent Pole Profile", and  
10 then underneath that I see "Orientation", "Hydro Supply  
11 Space", "Neutral Space" and "Communication Space". Do you  
12 see that?

13 MS. BYRNE: I do.

14 MS. SONG: There appears to be a diagram of a pole on  
15 this page. Is that what you see?

16 MS. BYRNE: Correct.

17 MS. SONG: Am I interpreting that correctly?

18 MS. BYRNE: Correct.

19 MS. SONG: It divides up the pole into three zones, as  
20 far as I can tell?

21 MS. BYRNE: The diagram does, yes.

22 MS. SONG: The top zone, which represents probably  
23 about a fifth of the pole, corresponds to hydro supply  
24 space. Is that your understanding?

25 MS. BYRNE: That is how the diagram is labelled, yes.

26 MS. SONG: Then there is a slightly larger space  
27 called the "Neutral Space" right under there?

28 MS. BYRNE: That is the term that Bell has given to

1 this diagram, correct.

2 MS. SONG: The space between the bottom of the neutral  
3 space all the way to the ground is labelled the  
4 "Communication Space"?

5 MS. BYRNE: No, I do not believe that is the correct  
6 interpretation of this Bell diagram.

7 MS. SONG: How do you interpret this diagram?

8 MS. BYRNE: What this diagram is showing is that  
9 communications are set out below the power space.

10 MS. SONG: What part of this diagram corresponds to  
11 the communication space?

12 MS. BYRNE: So the communication space is some point  
13 below the hydro space, with a clearance in between that  
14 Bell has called the neutral space.

15 MS. SONG: But it doesn't correspond to the bottom  
16 two-thirds of this pole; that's your interpretation of this  
17 diagram? I'm talking about the communication space that  
18 seems to correspond to the bottom two-thirds. That's not  
19 your interpretation of this diagram?

20 MS. BYRNE: I believe your interpretation is  
21 incorrect. On the left-hand side of the diagram of the  
22 pole, there are dots, there are points, and those are  
23 labelled on the right-hand side of the diagram. There are  
24 dimensioning bars, and so the communication space point  
25 refers to a point below the power space.

26 It does not refer to the entire space at the bottom of  
27 the pole.

28 MS. SONG: Okay. You'll also refer to -- you kept

1 referring to this as being a Bell diagram. Is that your --  
2 is your understanding of this diagram?

3 MS. BYRNE: Yes. The title at the top is "Bell Canada  
4 Work Instruction No. 1".

5 MS. SONG: Yes, but is it a diagram of a hydro pole?

6 MS. BYRNE: Not necessarily.

7 MS. SONG: Okay. So the label "Hydro Supply Space"  
8 doesn't necessarily suggest that this is a hydro pole?

9 MS. BYRNE: Not necessarily.

10 MS. SONG: Now, what would be the typical components  
11 of telecommunications attachments, Ms. Byrne?

12 MS. BYRNE: To which IR are you referring?

13 MS. SONG: I'm actually referring to this guideline,  
14 Ms. Byrne. This guideline talks about third party  
15 attachments; correct?

16 MS. BYRNE: Correct.

17 MS. SONG: And the third parties would include  
18 telecommunications attachers under this guideline?

19 MS. BYRNE: This guideline is for third party  
20 attachments, yes.

21 MS. SONG: And "third party" would include  
22 telecommunications attachers?

23 MS. BYRNE: Yes, it would.

24 MS. SONG: So what are the types of telecommunications  
25 attachments that are contemplated or that you would  
26 normally see, Ms. Byrne?

27 MS. BYRNE: The normal type of telecommunication  
28 attachment is a wired-type attachment, as set out in the

1 CCTA decision.

2 MS. SONG: What do you mean by a wire-type attachment?

3 MS. BYRNE: A wire line.

4 MS. SONG: Sorry, are you saying the only attachments  
5 that you would be requested to be permitted to attach to  
6 one of your hydro poles is wire line cabling?

7 MS. BYRNE: No. Your question asked me what the  
8 typical attachments would be, and the typical are the wire  
9 line attachments.

10 MS. SONG: Thank you. So what other types of  
11 attachments would telecommunication attachers ask THESL to  
12 attach to their poles?

13 MS. BYRNE: Could you please repeat the question?

14 MS. SONG: Sure. I can't promise it's going to come  
15 out the same way. All I want to know is: What other  
16 pieces of equipment would a telecommunications attacher ask  
17 THESL to attach to these poles?

18 MS. BYRNE: One of the other pieces of equipment that  
19 a telecommunication attacher may ask us for permission to  
20 attach is a cable TV power supply.

21 MS. SONG: Anything else?

22 MS. BYRNE: No. I have nothing further to add.

23 MS. SONG: Can I also get clarification from you, Ms.  
24 Byrne? When you refer to CTV, are you referring to cable  
25 television?

26 MS. BYRNE: Cable television, correct.

27 MS. SONG: So in your day-to-day operations, are  
28 telecommunications synonymous with cable television? I'm

1 just asking because, in my question, I think I repeated  
2 about four times telecommunications attachments, and I  
3 noticed that in your answer you were quite specific to  
4 specify cable television power supply boxes. So I just  
5 wanted to get clarification on that.

6 MS. BYRNE: So the typical telecommunications wire  
7 line attachers that we have would be Bell phone and Rogers  
8 cable.

9 MS. SONG: Okay. And the kinds of equipment, other  
10 than wire line cabling, that they would request to attach  
11 to your poles would consist of cable television power  
12 supply boxes?

13 MS. BYRNE: Correct.

14 MS. SONG: Can I just ask you to look at page 15 of 24  
15 of this guideline? I see a heading on page 4 "Project  
16 Specific Drawing Telecom Requirements". Do you see that?

17 MS. BYRNE: I do.

18 MS. SONG: You've read this guideline before? You use  
19 this guideline?

20 MS. BYRNE: We do use this guideline, yes.

21 MS. SONG: Yes, okay. So item (d) describes the  
22 proposed telecommunication attachments to poles that the  
23 telecom attacher would have to provide to the utility.  
24 That's how I'm interpreting item 4(d). Is that generally  
25 there?

26 MS. BYRNE: Yeah, I think you're generally, correct.

27 MS. SONG: Can you just read out what item 4(d) says  
28 after "proposed telecommunication attachments to the pole"

1 in the brackets?

2 MS. BYRNE: Item 4(d) says:

3 "Proposed telecommunication attachments to the  
4 pole, (e.g. amplifiers, power supplies, antenna,  
5 Attacher electrical wiring and protection, and  
6 wire routing on the pole.)(Including information  
7 such as design data)"

8 MS. SONG: And in your experience, would you not have  
9 encountered requests for attachment of this type of  
10 telecommunications equipment on THESL poles?

11 MS. BYRNE: Yes. As I said before, the power supply -  
12 - it's also sometimes called the amplifier, for cable TV --  
13 is this type of equipment.

14 MS. SONG: What's the difference between the  
15 amplifier, which is listed first, and the power supplies  
16 that are listed second?

17 MS. BYRNE: I'm not any kind of communications expert  
18 or have knowledge in this area. I believe for the ones  
19 that we have on our system, they are either one and the  
20 same or both elements are contained in the same box.

21 So I believe the term is used interchangeably.

22 MS. SONG: Just going back to my question, my question  
23 was: In your experience, have you seen applications for  
24 permission to attach equipment other than power supplies?

25 MS. BYRNE: Do you mean including the DAS permits? Or  
26 excluding the DAS --

27 MS. SONG: I meant in general.

28 MS. BYRNE: In general. So in general, only the DAS



1 permits have been outside of my experience of cable TV  
2 power supplies.

3 MS. SONG: So just for clarification, when you are  
4 answering this question, this series of questions, you were  
5 just talking about your own personal experience? You can't  
6 speak for THESL?

7 MS. BYRNE: No, I'm speaking on behalf of Toronto  
8 Hydro.

9 MS. SONG: So your understanding is that no other  
10 telecommunications attacher has any equipment on THESL  
11 poles other than power supplies and cable wire line -- wire  
12 line cabling? Is that your...

13 MS. BYRNE: Subject to check, yes, my answer is that  
14 that's my experience.

15 MS. SONG: And you're speaking on behalf of THESL, not  
16 just your own personal experience?

17 MS. BYRNE: Correct.

18 MS. SEBALJ: Great. Is there anything in this  
19 guideline that precludes wireless carriers from attaching?

20 MS. BYRNE: I don't believe so, no.

21 MS. SONG: Is there anything in the guideline that  
22 precludes placement of an antenna?

23 MS. BYRNE: Not explicitly, other than this guideline  
24 is a way for companies to interpret how to achieve safety  
25 according to the parameters set out in the regulation.

26 MS. SONG: In paragraph 4(d) on page 15 of 24 that you  
27 just read out, the guideline seems to contemplate the  
28 possibility of antenna being proposed as an attachment;

1 correct?

2 MS. BYRNE: The word "antenna" is used; correct.

3 MS. SONG: I would like you to turn now to Exhibit A  
4 to your affidavit.

5 Can you tell me, where did this diagram come from?

6 MS. BYRNE: I believe this diagram or something very  
7 similar to it is from the CCTA decision.

8 MS. SONG: And to your knowledge, this diagram  
9 purports to represent a typical hydro pole?

10 Ms. BYRNE: Yes.

11 MS. SONG: And you would agree that this is a  
12 depiction of a pole typical of THESL?

13 MS. BYRNE: Yes, I would say that this is an example  
14 of a typical pole, in terms of a generic pole.

15 MS. SONG: I see that this diagram also divides up the  
16 pole into several different zones; correct?

17 MS. BYRNE: Yes, the diagram divides the pole into  
18 several zones.

19 MS. SONG: And the four zones are what?

20 MS. BYRNE: From the top down, the power space, the  
21 separation space, the communications and the clearance  
22 space, and the buried space.

23 MS. SONG: Is it your understanding that the  
24 communications there also refers to a space or a zone,  
25 unlike the diagram that we were looking at together in the  
26 guideline document?

27 MS. BYRNE: Unlike the previous diagram, this diagram  
28 does set out an actual space.

1 MS. SONG: And can you identify for me any objective  
2 standard that determines that the communication space is  
3 two feet?

4 MS. BYRNE: The space is limited under the CCTA  
5 decision, for the purposes of calculating rates.

6 MS. SONG: So that's the basis upon which you would --  
7 it would be your view -- your view that the communication  
8 there should be two feet?

9 MS. BYRNE: Yes.

10 MS. SONG: Can I ask you now to turn to your  
11 Exhibit G? Do you have that?

12 MS. BYRNE: I do.

13 MS. SONG: Can you just give me a general description  
14 in your own words of what this document is?

15 MS. BYRNE: Yes. This document is the Canadian  
16 Standards Association Standard called the C22.3 No. 1.

17 MS. SONG: Does THESL adopt or is it mandated to adopt  
18 this standard?

19 MS. BYRNE: Is it not mandated.

20 MS. SONG: But does it adopt it?

21 MS. BYRNE: I wouldn't use the word "adopt." We use  
22 this standard.

23 MS. SONG: Great. Now, is there anything in here, in  
24 this standard, that says that the antenna cannot go on top  
25 of the pole?

26 MS. BYRNE: This standard does not set out where an  
27 antenna would go on a pole.

28 MS. SONG: So it certainly doesn't say that the

1 antenna cannot go on top of the pole?

2 MS. BYRNE: This standard sets out clearances and  
3 separations in relation to antennae, but doesn't specify  
4 where on the pole those could go.

5 MS. SONG: And it does contemplate the placement of  
6 antennae on poles?

7 MS. BYRNE: It does, yes.

8 MS. SONG: In fact, the standard expressly  
9 contemplates wireless communication antennae above the  
10 electrical distribution plant; correct?

11 MS. BYRNE: It does, yes.

12 MS. SONG: And that's at clause 5.10.2.2?

13 MS. BYRNE: That is correct.

14 MS. SONG: And the paragraph reads:

15 "For a wireless communication antenna installed  
16 on a joint use structure above supply plant, the  
17 minimum separation between the antenna and the  
18 supply plant shall be..."

19 And then there is a series of separations that are  
20 recommended; correct?

21 MS. BYRNE: That is correct.

22 MS. SONG: And the separations specified in clause  
23 5.10.2.2 are based on the work space needed by power line  
24 workers to safely install and maintain wireless antennas  
25 without having to de-energize the power lines; correct?

26 MS. BYRNE: No, not necessarily. There's also other  
27 safety risks, such as arc flash, and that's why separation  
28 is required.

1 MS. SONG: Right. So if you could go to -- but what I  
2 just said, that the separation spaces are based on the work  
3 space needed for workers to safely install without having  
4 to de-energize the power lines is also part of the reason;  
5 correct?

6 MS. BYRNE: Could you repeat the question?

7 MS. SONG: Part of the reason, part of the basis for  
8 the work spaces that are provided for in 5.10.2.2 is to  
9 permit workers to safely install and maintain the wireless  
10 antenna without having to de-energize the power lines;  
11 correct?

12 MS. BYRNE: These criteria that are set out are not  
13 worker safety criteria.

14 MS. SONG: I would like you to look at page 99, clause  
15 A.5.10.2.2, labelled "Wireless Communication Antenna". And  
16 if you just read out what it says there?

17 MS. BYRNE: Sorry, can you repeat the clause number?

18 MS. SONG: A.5.10.2.2, page 99.

19 MS. BYRNE: A.5.10.2.2, "Wireless Communication  
20 Antenna":

21 "The separation specified in clause 5.10.2.2 are  
22 based on the work space needed by power line  
23 workers to safely install and maintain wireless  
24 antennas without having to de-energize the power  
25 lines. Occupational exposure to radiofrequency  
26 radiation from wireless communication antennas is  
27 addressed in Health Canada's safety code 6."

28 MS. SONG: This standard, as I understand it,

1 contemplates the placement of antenna on poles. It  
2 contemplates the placement of antenna on the top of poles,  
3 and it contemplates how that can be done safely for  
4 workers; correct?

5 MS. BYRNE: Can you repeat the question, please?

6 MS. SONG: Does this standard contemplate the  
7 placement of antenna on poles?

8 MS. BYRNE: Yes, it does.

9 MS. SONG: Does it contemplate the placement of  
10 antenna on top of poles?

11 MS. BYRNE: Yes.

12 MS. SONG: Does it provide for separation spaces so  
13 that workers can safely install antennas on poles without  
14 having to de-energize the power lines?

15 MS. BYRNE: I believe it's important to understand who  
16 the workers are and which workers are being contemplated in  
17 this case, whether it's --

18 MS. SONG: Could you answer the question, and then you  
19 can offer the additional information?

20 MS. BYRNE: This is a criteria that outlines criteria  
21 for worker safety.

22 MS. SONG: And the answer to the question?

23 MS. BYRNE: That this sets out criteria for worker  
24 safety?

25 MS. SONG: Yes.

26 MS. BYRNE: Yes, this sets out a criteria for worker  
27 safety.

28 MS. SONG: Thank you. Can I ask you to look at your

1 paragraph 11(b)? So your affidavit at paragraph 11(b)? My  
2 apologies, I meant -- sorry, your response to CANDAS  
3 interrogatory 11(b). My apologies.

4 So your answer to 11(b) is found on page 2 of 3. Do  
5 you see that at the top of 2 of 3?

6 MS. BYRNE: I do see it. Thank you.

7 MS. SONG: You state in this answer:

8 "THESL is authorized to create company-specific  
9 standards over and above the basic parameters."

10 And you refer to the CSA standard we have just looked  
11 at, as well as O.Reg. 22/04, which we have also just looked  
12 at.

13 My question is: Has THESL made any standards -- any  
14 additional standards that are relevant?

15 MS. BYRNE: The standards that THESL has created were  
16 provided in response to another interrogatory.

17 MS. SONG: So I just wanted to confirm that. So is it  
18 section 23?

19 MS. BYRNE: Let me add there is nothing specific in  
20 that, and so THESL has not created a standard for antennas  
21 on pole tops.

22 MS. SONG: The only standard that you have created  
23 that relates to the placement of third party attachments on  
24 your poles is this section 23 for attachment standards?

25 MS. BYRNE: Those are our standards, yes.

26 MS. SONG: And it is attached as a schedule to your  
27 response to CANDAS Interrogatory 1?

28 MS. BYRNE: I believe that is correct.

1 MS. SONG: Does that standard apply to both wire line  
2 and wireless attachments?

3 MS. BYRNE: These are existing standards and they  
4 cover broadly two categories of attachments. They cover  
5 telecommunications wired attachments, and then other  
6 attachments.

7 MS. SONG: Does it cover wireless attachments?

8 MS. BYRNE: We do not have a specific standard here  
9 for wireless. There are general parameters in this that  
10 would apply to all attachments.

11 MS. SONG: Did you use this standard when approving of  
12 the applications by DAScom for permits to attach wireless  
13 DAS nodes to THESL poles?

14 MS. BYRNE: To a degree, yes.

15 MS. SONG: Are there other types of wireless  
16 attachments that you have permitted under this standard?

17 MS. BYRNE: By "wireless", do you mean  
18 telecommunications?

19 MS. SONG: I do mean, yes, equipment that is capable  
20 of transmitting using radiofrequencies.

21 MS. BYRNE: THESL doesn't any other telecom wireless.

22 MS. SONG: Can you define for me what telecom wireless  
23 is?

24 MS. BYRNE: A telecommunications carrier that is  
25 licensed to be a telecommunications carrier.

26 MS. SONG: So my question was more general than that,  
27 because there are entities that don't necessarily provide a  
28 public mobile or fixed wireless service that still are



1 licensed to operate and use equipment that is capable of  
2 transmitting or receiving radiofrequencies.

3 So my question was actually more generak. So has  
4 THESL used this standard to approve or permit wireless  
5 attachments?

6 MS. BYRNE: Toronto Hydro, THESL, uses these standards  
7 for attachments in general, and specifically within this  
8 there are specific sections for specific types of  
9 attachments in addition to the general statements.

10 MS. SONG: Can you answer my question, though, which  
11 is: Has THESL used this standard to permit wireless  
12 attachments? I would think that it's a yes or no answer.

13 MS. BYRNE: The DAS permits that were granted.

14 MS. SONG: Anything else?

15 MS. BYRNE: That's all.

16 MS. SONG: Can you go to page -- I'm not sure if it's  
17 a page or you call these separate pages standards, but page  
18 23-3000. Do you have that?

19 MS. BYRNE: Yes.

20 MS. SONG: The third -- the numbered heading "3",  
21 "Toronto Transit Commission TTC Distribution Systems", can  
22 you read that out for me, please?

23 MS. BYRNE: Yes, "Toronto Transit Commission, TTC  
24 Distribution Systems":

25 "In the City of Toronto, it is common practice  
26 for the TTC to attach their trolley suspension  
27 cables, 600 volts DC traction feeder cables,  
28 communication transmitters, transit stop signs

1           and route schedules to Toronto Hydro poles."

2           MS. SONG: Can you just help me? The reference to  
3 communication transmitters there, do you know what kind of  
4 equipment is being referred to there?

5           MS. BYRNE: I don't specifically, but to my previous  
6 point, I don't believe it's a telecommunication equipment.

7           MS. SONG: Does that equipment operate using radio  
8 frequencies?

9           MS. BYRNE: I don't know.

10          MS. SONG: Can I get an undertaking for you to find  
11 out whether the communication transmitters that are  
12 attached to your poles operate using radio frequencies?

13          MS. BYRNE: Yes, you can.

14          MS. SEBALJ: We'll mark it JTC1.4.

15          **UNDERTAKING NO. JTC1.4: TO CONFIRM WHETHER**  
16          **COMMUNICATIONS TRANSMITTERS ATTACHED TO THESL POLES**  
17          **OPERATE USING RADIO FREQUENCIES.**

18          MS. SEBALJ: I was trying to follow, and I don't know  
19 which standard we're in anymore. Is this CSA 22.3, which  
20 is referenced in Ms. Byrne's interrogatory response?

21          MS. SONG: No, we are in THESL's -- it's got an odd  
22 name. It's called "THESL Section 23 Foreign Attachment  
23 Standards" and it is attached as schedule 1 to THESL's IR  
24 Response No. 1.

25          In the same standard, in the same THESL standard,  
26 could I ask you to turn up page -- or Standard 23-3550? Do  
27 you have that, Ms. Byrne?

28          MS. BYRNE: I do.

1 MS. SONG: This page is labelled "Typical" and you've  
2 blacked out, I presume, the name of a given carrier, "Cable  
3 Equipment"? Is that what you're seeing?

4 MS. BYRNE: Yes.

5 MS. SONG: Above this title, I see two pole diagrams;  
6 am I correct?

7 MS. BYRNE: That is correct.

8 MS. SONG: Can you tell me on this diagram -- let's  
9 take the one on the right, Ms. Byrne. It's a little bit  
10 hard to make out, but there is an area labelled "16 inches"  
11 at the very top of the pole. So there's a zone of 16  
12 inches at the very top -- sorry, is it 16 inches, or --  
13 yeah, I think that's 16 inches; correct?

14 MS. BYRNE: 16 inches, correct

15 MS. SONG: Okay. And what would that correspond to,  
16 if anything?

17 MS. BYRNE: On this diagram, it's showing it as a  
18 minimum separation between that point in the diagram and  
19 where the secondary conductors are on the pole.

20 MS. SONG: What is immediately below that 16-inch  
21 zone?

22 MS. BYRNE: It is the top of the secondary buss  
23 connection.

24 MS. SONG: I don't understand that. So what is the  
25 secondary buss?

26 MS. BYRNE: The secondary conductors are the 120-volt  
27 conductors running along the pole.

28 MS. SONG: The zone that is right underneath that 16-

1 inch zone, does it have a name?

2 MS. BYRNE: Somewhere below this is the communication  
3 space.

4 MS. SONG: What is the zone in between the 16-inch  
5 zone and the -- I guess the bandit tape?

6 MS. BYRNE: Well, if you go back to the diagram that  
7 we were looking at attached to my affidavit, typically what  
8 you'll find is that there is the separation space and then  
9 there is the communication space.

10 So probably this is a minimum of 16 inches of  
11 separation space at the top of that separation space.

12 MS. SONG: How big is the communication space on this  
13 pole?

14 MS. BYRNE: It's not explicitly identified in this  
15 diagram.

16 MS. SONG: But can you interpret this diagram for me?

17 MS. BYRNE: Yes. However, you may want to refer back  
18 to an earlier page in this section. If you turn to the  
19 standard labelled "page 23-3200" that diagram lays out the  
20 communication space in relation to the power space on the  
21 pole.

22 MS. SONG: And where would that be, Ms. Byrne, on this  
23 diagram at page 23-3200?

24 MS. BYRNE: So if you look at either the left or the  
25 right diagrams of the various types of framing from the top  
26 down, there is power space, primary and then secondary, and  
27 then there is the communication space.

28 MS. SONG: What's in the communication space in this

1 diagram?

2 MS. BYRNE: It shows telecom or joint-use connections.  
3 "Fibre optic" is one of the terms used in the diagram, near  
4 the bottom.

5 MS. SONG: Is that equipment or is that cabling?

6 MS. BYRNE: Those are cables.

7 MS. SONG: That's how I would read that, as well.

8 If we could just go back to 23-3550, there's a 16-inch  
9 space at the -- what you called, I think, the separation  
10 space, and then you indicated that the communication space  
11 is immediately below that?

12 MS. BYRNE: No, that's not correct. What this diagram  
13 is showing is that the top of where the service comes in  
14 needs to be at least 16 inches from the bottom of the  
15 secondary within that separation space.

16 MS. SONG: So where is the communication space?

17 MS. BYRNE: The communication space would be -- so you  
18 have to measure down of the separation space, and then you  
19 would get to the communication space.

20 MS. SONG: There's a lot of boxes and things, so can  
21 you just explain that to me, with reference to this  
22 diagram?

23 MS. BYRNE: So the bottom box -- now, this diagram is  
24 not to scale, so without actually having a scale on this,  
25 the bottom box is approximately the communications space.

26 MS. SONG: I see. Okay. What is it that is shown as  
27 being attached in the communications space?

28 MS. BYRNE: It's a power supply enclosure, is how it's

1 labelled.

2 MS. SONG: What is the maximum dimensions of a power  
3 supply enclosure?

4 MS. BYRNE: The dimensions as shown in this diagram  
5 are 710 millimetres high by 780 millimetres wide by 440  
6 millimetres in depth.

7 MS. SONG: Can you translate 710 millimetres for me,  
8 into inches?

9 MS. BYRNE: I believe Canada is metric.

10 [Laughter]

11 MS. BYRNE: And I'm not bilingual.

12 MS. SONG: Is it more than two feet?

13 MS. BYRNE: Two feet is approximately 60 centimetres,  
14 so I believe the height of this is more than 60.

15 MS. SONG: Can I ask you to now turn up your response  
16 to CANDAS Interrogatory 13(e)?

17 MS. BYRNE: Was that 13(e)?

18 MS. SONG: Yes, 13(e). So the question was:

19 "Does THESL permit or has THESL ever permitted  
20 attachments, including cable and equipment, in  
21 the unusable space below the communication  
22 space?"

23 And your answer is yes. And then you go on to say:

24 "THESL permits a limited number of power supply  
25 boxes for wire line telecommunications customers  
26 to be attached below the communication space."

27 Now, does the reference to "limited number of power  
28 supply boxes" refer to the quantity of such boxes permitted

1 to be attached on a single pole, or does it refer to  
2 different models and makes of power supply boxes?

3 MS. BYRNE: It refers primarily to the total number of  
4 these that exist in the system. However, the standard sets  
5 out the approved limitations of the equipment itself and  
6 where it can be on the pole.

7 MS. SONG: Are you telling me that in some cases you  
8 permit more than one power supply box, more than one CATV  
9 power supply box on a single pole?

10 MS. BYRNE: What I'm telling you is that our standard  
11 shows one. I can't speak to any historical installations  
12 that may have existed prior to the existence of these  
13 standards, or any errors that may have been made in  
14 permitting outside of our standards.

15 MS. SONG: Are there any other types of boxes for  
16 communications carriers that are currently permitted to be  
17 attached below the communication space?

18 MS. BYRNE: No, not to our knowledge.

19 MS. SONG: What about boxes that contain electronic  
20 equipment that amplify the communications signal, so-called  
21 amplifiers? Do you permit those?

22 MS. BYRNE: Yes. So as I said before, the cable TV  
23 amplifiers, power supplies, correct. Those are included  
24 in our standards as allowed.

25 MS. SONG: So you equate power supply boxes with the  
26 equipment that actually amplifies the electronics in a  
27 cable TV system?

28 MS. BYRNE: Without actually having knowledge of how

1 those systems work, my understanding is that's what they  
2 are for.

3 MS. SONG: What about rectifiers?

4 MS. BYRNE: A rectifier is not a communications  
5 device.

6 MS. SONG: You don't consider that to be a  
7 communication device?

8 MS. BYRNE: It is not a communication device.

9 MS. SONG: What is it, then?

10 MS. BYRNE: It is for cathodic protection of the  
11 underground pipeline system.

12 MS. SONG: It is for what kind of protection?

13 MS. BYRNE: Cathodic protection. It prevents  
14 corrosion.

15 MS. SONG: Is it part of the cable carriers' or the  
16 broadcasting carriers' network?

17 MS. BYRNE: No, it is not related to communications  
18 equipment.

19 MS. SONG: So whose equipment is that?

20 MS. BYRNE: It may be confidential information.  
21 However, it is equipment pertaining to the natural gas  
22 system that happens to be in Toronto.

23 MS. SONG: Where are the rectifiers installed on a  
24 pole?

25 MS. BYRNE: I'll go back to our standard diagram for  
26 an example of a typical location. So that standard  
27 labelled 23-3900.

28 MS. SONG: On this diagram at 23-3900, it is shown



1 just above the 12-foot line from the ground?

2 MS. BYRNE: Yes, there are multiple dimensions on this  
3 diagram.

4 MS. SONG: And it is about 660 millimetres in height?  
5 That's the maximum permitted size per rectifier?

6 MS. BYRNE: 660 as labelled on the diagram; correct.

7 MS. SONG: Can I ask you to now look at paragraph 16  
8 of your affidavit? You state here at paragraph 16 that  
9 non-distribution attachments fall into two broad  
10 categories: (a) communication attachments; and (b) non-  
11 communication attachments. I just want to make sure I  
12 understand what the THESL categorizes as communication  
13 attachments on the one hand and non-communication  
14 attachments on the other.

15 So I think at question 15(d) -- so CANDAS 15(d), if  
16 you could also have that open in front of you. So THESL  
17 response to CANDAS interrogatory 15(d).

18 MS. BYRNE: Is that Byrne 15?

19 MS. SONG: Yes.

20 MS. SONG: The question asked:

21 "CCTV carriers install power suppliers in the  
22 unused portion of the pole, the communication  
23 space and the separation space. Does THESL  
24 categorize these types of power supplies as  
25 communication or non-communications NDAs?"

26 And the answer you have provided is that THESL does  
27 not consider power supplies to be communications NDAs; is  
28 that correct?

1 MS. BYRNE: That's what this interrogatory says;  
2 correct.

3 MS. SONG: And I guess the same goes for amplifiers;  
4 correct? They are all considered not to be communication  
5 NDAs?

6 MS. BYRNE: That's what this -- sorry, this question  
7 says CCTV, not CATV.

8 MS. SONG: What's the difference?

9 MS. BYRNE: CC is closed-circuit television and CATV  
10 is cable television.

11 MS. SONG: Would the answer be different if the  
12 question said CATV?

13 MS. BYRNE: Yes, the answer would be different.

14 MS. SONG: What would the answer be if the question  
15 asked about CATV power supplies?

16 MS. BYRNE: Yes, I believe they are considered to be  
17 communications.

18 MS. SONG: Do you have any closed-circuit TV equipment  
19 on your poles?

20 MS. BYRNE: We know of locations of police cameras  
21 that are in the system, and so they might be considered to  
22 be CCTV.

23 MS. SONG: And they are on your poles?

24 MS. BYRNE: We have some knowledge of existing  
25 cameras, and we don't have details of exactly where they  
26 are, whether they are THESI or THESL.

27 MS. SONG: Same goes for CATV amplifiers? They would  
28 be considered to be communications equipment?

1 MS. BYRNE: Yes.

2 MS. SONG: Obviously the coaxial cable or the fibre  
3 optic cabling would be considered communications equipment?

4 MS. BYRNE: Yes, especially if it is owned by a  
5 communications carrier.

6 MS. SONG: Could I ask you to go back to your  
7 interrogatory response at 8(c)? So this is THESL response  
8 to interrogatory -- CANDAS interrogatory 8(c), which is on  
9 page 2 of 2. You refer to THESL standard 23-3200, which we  
10 were just looking at, and you state that it allows for up  
11 to three telecommunications attachments in the  
12 communications space.

13 And I just wanted your help in showing me where in  
14 standard 23-3200 it says that there is a limitation of up  
15 to three communication attachments.

16 MS. BYRNE: So the diagram 23-3200 shows the allowance  
17 for three telecommunication cables.

18 MS. SONG: And we already established that that's just  
19 the fibre optic cabling or the coax wire line?

20 MS. BYRNE: Wire line.

21 MS. SONG: So the other types of communications  
22 equipment, the amplifier and the power supply boxes, are  
23 not shown in this diagram; correct? They are not included  
24 in the up to three?

25 MS. BYRNE: That's correct. This diagram is for the  
26 wire line, and I will also point to clause 4.1 in standard  
27 23-3100 that limits the number of attachments to three.

28 MS. SONG: What is the communication messenger at page

1 23-3100, page 1 of 3?

2 MS. BYRNE: The communications messenger is the wire  
3 that gives the wire its strength, and it may be separate  
4 from the actual cable. So fibre optic cable, to my  
5 understanding, is made out of glass and doesn't have a lot  
6 of inherent strength. So to assist it in being able to be  
7 held up from pole to pole, it will have a messenger cable.

8 MS. SONG: Is this considered to be a communication  
9 attachment?

10 MS. BYRNE: It's integral; it's part of. Sometimes  
11 they are within the same cable, and you wouldn't know to  
12 look at it that it was two different things, and sometimes  
13 one is wrapped around the other.

14 MS. SONG: So it's not considered to be a separate  
15 attachment? It is a communication attachment but it's not  
16 a separate attachment, or it is a separate attachment?

17 MS. BYRNE: It's essentially the same attachment.

18 MS. SONG: So you treat it as one?

19 MS. BYRNE: Yes.

20 MS. SONG: At section 4 there is a reference to  
21 attachments; I think it's referring to just the wire  
22 attachments, but could you just confirm that? What are the  
23 attachments being referred to at section 4?

24 MS. BYRNE: Yes. So the title of this standard is  
25 "Standard Practices for the Installation of Communication  
26 Wires on Toronto Hydro Poles."

27 MS. SONG: So at section 4, you are simply referring  
28 to the wires?

1 MS. BYRNE: Correct.

2 MS. SONG: Those are the wires that are depicted in  
3 23-3200; correct?

4 MS. BYRNE: Correct.

5 MS. SONG: If you go over to page 2 of 3 of this  
6 standard for communication wires on THESL poles, there is a  
7 heading called "Power Supplies." Do you see that?

8 MS. BYRNE: Yes.

9 MS. SONG: Where on the pole would the power supply be  
10 installed?

11 MS. BYRNE: So in 8.2, it says that:

12 "Power supply units and attachments are to be  
13 installed 300 millimetres below the messenger on  
14 the same side as the messenger."

15 MS. SONG: Where is the messenger, again?

16 MS. BYRNE: The messenger and/or the cable are  
17 coincident with each other, depending on the type of cable  
18 being used, or wire line. It goes by --

19 MS. SONG: It is generally the lowest fibre or wire to  
20 which the messenger is attached?

21 MS. BYRNE: They may each have their own messenger.

22 MS. SONG: Okay. And those three wires are in the  
23 communications space?

24 MS. BYRNE: Correct.

25 MS. SONG: And the power supply has to be installed  
26 300 metres below, I guess, the lowest messenger?

27 MS. BYRNE: Millimetres.

28 MS. SONG: 300 millimetres below the lowest messenger?

1 MS. BYRNE: Correct.

2 MS. SONG: All right. Can I ask you to turn up your  
3 response to CANDAS No. 3? Do you have that?

4 MS. BYRNE: Yes.

5 MS. SONG: The question 3(b) asked whether the  
6 standards governing construction, operation and maintenance  
7 of THESL applies to THESI. Do you see that?

8 MS. BYRNE: Yes, I see that.

9 MS. SONG: And the answer is no.

10 MS. BYRNE: The answer is no.

11 MS. SONG: You say that there's a separate set of  
12 standards applicable to street lighting?

13 MS. BYRNE: That is correct.

14 MS. SONG: And can you provide a copy of same?

15 MR. RODGER: No, we won't. THESI is not part of this  
16 proceeding, and we're not prepared to produce anything with  
17 respect to that company.

18 MS. SONG: Is the street lighting standard on the  
19 record?

20 MS. BYRNE: No, it is not

21 MS. SONG: I'll note that refusal.

22 Can I ask you to turn up your response to CANDAS 15,  
23 at question 15(g)?

24 So this question asks for a list of all wireless  
25 attachments used in conjunction with electricity  
26 distribution, such as SCADA antennas or other SCADA  
27 equipment. Do you see that?

28 MS. BYRNE: Yes, I do.

1 MS. SONG: Can you just explain for the benefit of all  
2 of us in the room what SCADA equipment is?

3 MS. BYRNE: Yes. SCADA, it's an acronym that stands  
4 for "supervisory control and data acquisition" and it's  
5 used in the operation of the system itself. A typical  
6 example would be the opening and closing of switches.

7 MS. SONG: And it operates using radio frequencies?

8 MS. BYRNE: Yes.

9 MS. SONG: And some are hardwired; not all are radio  
10 frequency.

11 MS. SONG: What do you mean by "hardwired"?

12 MS. BYRNE: They would have a wire that links back  
13 to -- like a traditional telephone.

14 MS. SONG: Like a DAS system?

15 MS. BYRNE: No. No.

16 MS. SONG: Why? Because the wire is copper?

17 MS. BYRNE: No, because it's wired, and there wouldn't  
18 be an antenna in that case. So some SCADA has no antenna  
19 because is it wired.

20 MS. SONG: Is some SCADA equipment attached to THESL  
21 poles?

22 MS. BYRNE: Yes.

23 MS. SONG: What are the components of the SCADA  
24 equipment?

25 MS. BYRNE: The components of the SCADA would be the  
26 switch that it's operating, and typically some sort of  
27 control box, and there may or may not be an antenna,  
28 depending on whether or not it's that type of equipment or

1 not.

2 MS. SONG: So switch, control box and antenna, and  
3 possibly a wire?

4 MS. BYRNE: Yes. Sorry, do you mean an electricity  
5 feed or do you mean a communications cable?

6 MS. SONG: I need you to help me. Maybe both, yeah.

7 MS. BYRNE: What there is in a typical SCADA is the  
8 switch that controls the electricity system. There is some  
9 sort of a control box. There may be an antenna. And it  
10 may be fed with a lower-voltage power.

11 MS. SONG: So power cabling? In the case of a SCADA  
12 deployment with an antenna, is there never any wire line  
13 connectivity between the transmitter and some central hub  
14 or location?

15 MS. BYRNE: To our knowledge, there are basically two  
16 types. There are the wired type that would have a wired  
17 communication-type cable, and then there would be the ones  
18 with antennas that would have no wired component.

19 MS. SONG: What are the weights and dimensions of each  
20 of the components of the SCADA equipment?

21 MS. BYRNE: I'm not certain as to the answer.

22 MS. SONG: Can I get an undertaking from you to find  
23 out and come back?

24 MR. RODGER: I think we're wondering what's the  
25 relevance of this question. This is Toronto Hydro  
26 equipment used for their distribution purposes.

27 MS. SONG: One of the -- the relevance is that the  
28 reason for the objection to the wireless equipment was that



1 it takes up too much room and it's not safe to install it,  
2 and so we would like to understand what other similar types  
3 of equipment are already attached to THESL poles.

4 And we note that we did ask this question at  
5 Interrogatory 15, but that the answer provided was --  
6 simply ignored that part of the question.

7 So we're taking this opportunity to ask for it again.

8 MS. SEBALJ: Sorry, Ms. Song, which sub-part of 15,  
9 please?

10 MS. SONG: If you look at 15(g) sub (4).

11 MR. RODGER: Toronto Hydro is not going to produce  
12 this. The company is taking the position that non-  
13 communications attachments, as I say, including anything  
14 that's related to the distribution system, are not relevant  
15 comparators to the communications attachments you've been  
16 asking about.

17 MS. SONG: Where on the pole is each component  
18 attached to the pole, Ms. Byrne?

19 MS. BYRNE: So the switch part is in the power space,  
20 because it's part of the power system. And the controller  
21 parts are below, and they would be communication space or  
22 below communication space if they can't be fit into the  
23 existing communication space, if the communication space is  
24 already full.

25 MS. SONG: And the antenna?

26 MS. BYRNE: The antenna is communication space or just  
27 below.

28 MS. SONG: Which is below what?

1 MS. BYRNE: It would be -- let's take a look at that  
2 diagram again. So it's communication space or below the  
3 communication space, immediately below in the clearance  
4 space.

5 MS. SONG: So just so I get this right, you think or  
6 you know that the antenna in a SCADA system would be  
7 installed either in the communication space or below the  
8 communication space?

9 MS. BYRNE: Correct.

10 MS. SONG: Why would you put it in the communication  
11 space?

12 MS. BYRNE: Because we don't want it in the power  
13 space.

14 MS. SONG: So there's room in the communication space  
15 for your antenna and for your cable TV wire and your Bell  
16 Telephone company wire, and perhaps some other wire, plus  
17 your antenna?

18 MS. BYRNE: There may be. There may not be, in which  
19 case it would be as close to below it as we can.

20 MS. SONG: So you are flexible? If there is space,  
21 you put it there. If there is no space, you put it  
22 somewhere else?

23 MS. BYRNE: Toronto Hydro understands the point of the  
24 communication is to host telecommunications, and Toronto  
25 Hydro places its own equipment on the pole, where it needs  
26 to, for safety and operational reasons.

27 MS. SONG: But SCADA equipment is not communications  
28 equipment; correct?

1 MS. BYRNE: It's electricity distribution equipment.

2 MS. SONG: And the power cabling would run the whole  
3 length of the pole or part of the pole?

4 MS. BYRNE: No, not the whole length of the pole. If  
5 the box needed power, it would be run from the box to  
6 wherever the point of supply was.

7 MS. SONG: You said the control box was also in  
8 communication space; correct?

9 MS. BYRNE: Correct.

10 MS. SONG: What is the attachment method of this  
11 equipment, all this equipment, all these components?

12 MR. RODGER: Which equipment are you referring to?

13 MS. SONG: Still talking about SCADA.

14 MR. RODGER: Just SCADA?

15 MS. BYRNE: My understanding is that our standard sets  
16 out banding as the method of attachment.

17 MS. SONG: Do you use other methods that are not  
18 provided in your standard?

19 MS. BYRNE: To the best of my knowledge.

20 MS. SONG: Your answer to 15(g) also refers to radio  
21 equipment, and you've provided a very lengthy attachment,  
22 about 11 pages of very small font, that appears to identify  
23 the location of hundreds, perhaps thousands, of radio  
24 communication transmitter receivers.

25 Am I correctly interpreting this attachment to your  
26 response?

27 MS. BYRNE: Yes. Attachment 2 to that interrogatory  
28 is our list of radio equipment.

1 MS. SONG: What kind of radio equipment is this?

2 MS. BYRNE: This is equipment that is used within the  
3 distribution system for a variety of functions, radio  
4 communications and electricity distribution needs.

5 MS. SONG: So each represent an antenna or correspond  
6 to the placement of antenna on a pole.

7 MS. BYRNE: Can you repeat the question, please?

8 MS. SONG: So each of the locations that appear on  
9 attachment 2 corresponds to the placement of an antenna on  
10 a pole?

11 MS. BYRNE: Yes, that's my understanding.

12 MS. SONG: Just to save time, I have the same  
13 questions, then, about this radio equipment. So I would  
14 like to know: What are the components of this radio  
15 equipment, what are the weights and dimensions - ranges are  
16 fine - of each of the components of this radio equipment,  
17 and where on the poles is each component attached to the  
18 pole, and obviously what is the attachment method?

19 MR. RODGER: Same objection as before.

20 MS. SONG: So counsel's objection is noted. There is  
21 an awful lot of information already on this record with  
22 respect to this, both the SCADA and the other types of  
23 radio equipment that THESL apparently has on its poles, but  
24 we'll take it up in another forum.

25 If I could ask you to turn up 29, so your response to  
26 interrogatory -- CANDAS interrogatory 29, Ms. Byrne. At  
27 29(f), the question is:

28 "Does THESL's no wireless policy pertain to

1           wireless attachments of the Cogeco One Zone and  
2           the TTC?"

3           And your response contains a reference back to the  
4 THESL third party attachments standard, and then it goes on  
5 to say:

6           "The TTC attachments are not telecommunication  
7           attachments and therefore different  
8           considerations apply."

9           So I just want to understand, first of all, what you  
10 mean by "not telecommunications attachments". Are you  
11 saying that they don't use radio communication frequencies?

12          MS. BYRNE: No. What I'm saying is that they are not  
13 communications carriers. They are not -- so they are not  
14 part of what we consider to be communications attachments  
15 under the CCTA decision.

16          MS. SONG: So what matters to THESL above all is the  
17 identity or the status of the requesting attacher?

18          MR. MCLORG: Or you could say the attachability of  
19 CCTA decision.

20          MS. SONG: On what basis is TTC, then, which is not a  
21 Canadian carrier, allowed to attach to your poles.

22          MR. MCLORG: Ms. Song, THESL permits in its discretion  
23 attachments of various sorts. Not all of those attachments  
24 are pursuant to the CCTA decision, and we think the  
25 distinction is significant.

26          MS. SONG: On what basis is TTC permitted to attach?  
27 I understand that it's not the CCTA order so...

28          MR. MCLORG: I don't understand what you are asking,

1 then, by the basis.

2 MS. SONG: What criteria apply to the exercise of  
3 THESL's discretion?

4 MR. McLORG: A combination of considerations apply,  
5 Ms. Song. Commercial arrangements will be a negotiated  
6 with various attachers, and of course, THESL always has to  
7 observe its own standards and all the other regulations  
8 that apply to pole attachments.

9 MS. SONG: Is it driven by commercial considerations  
10 primarily, or is it driven by some other public interest?

11 MR. McLORG: It's driven by a combination.

12 MS. SONG: Can you tell me on what basis TTC was  
13 permitted to attach on it? I'm asking you for the third  
14 time.

15 MR. McLORG: Asked and answered.

16 MS. SEBALJ: Also it pertains to a private contract,  
17 which is outside the scope of this proceeding.

18 MS. SONG: What are the different considerations that  
19 apply as referred to in your answer to 29(f)?

20 MS. BYRNE: The different considerations could be  
21 technical, and they can also be commercial.

22 MS. SONG: So different considerations driving at  
23 what? I just don't understand what these considerations  
24 relate to. I just need to understand what -- your help in  
25 interpreting what you have stated at 29(f).

26 MR. RODGER: I think you already have your answer, Ms.  
27 Song.

28 MS. SONG: You are referring to the basis upon which

1 THESL permitted TTC to attach? Those are the  
2 considerations you are talking about at 29(f)?

3 MR. RODGER: That's right.

4 MS. SONG: But you're not able to specify for me what  
5 the basis is for TTC being permitted to attach?

6 MR. RODGER: I think you have our answer on this from  
7 Mr. McLorg.

8 MS. SONG: I'll take it up in another form.

9 So could I ask you, Ms. Byrne, for a copy of the  
10 contract between TTC and THESL?

11 MR. RODGER: No. I'll say it again, that we're not  
12 going to produce private agreements between Toronto Hydro  
13 and third parties.

14 MS. SONG: I just need to get it on the record. You  
15 understand that, Mr. Rodger.

16 We would accept a redacted copy, Mr. Rodger, if that  
17 helps.

18 MR. RODGER: No.

19 MS. SONG: Finally, Ms. Byrne, if I could ask you to  
20 turn up your response to CANDAS 31; also your affidavit at  
21 paragraphs 40 to 46.

22 Now, my understanding of your affidavit at paragraphs  
23 40 to 46 is that it is a description of the issues, Ms.  
24 Byrne, that you feel arise when considering wireless  
25 attachments; correct?

26 MS. BYRNE: Correct.

27 MS. SONG: Is that correct? Sorry, I didn't hear your  
28 answer.

1 MS. BYRNE: I didn't hear a question.

2 MS. SONG: Okay. Are paragraphs 40 to 46 of your  
3 affidavit a description of the issues that you feel arise  
4 when considering wireless attachments?

5 MS. BYRNE: Wireless attachments and attachments in  
6 general.

7 MS. SONG: So these issues also arise when considering  
8 non-distribution attachments in general?

9 MS. BYRNE: So there is wording in this that is  
10 specific to wireless, and then there is wording that is  
11 more general.

12 MS. SONG: But the issues that you have said arise  
13 with respect to wireless attachments, are you saying that  
14 those are unique to wireless, or that they may also arise  
15 in relation to wire line or non-wireless not -- NDA?

16 MS. BYRNE: There are some considerations that are  
17 unique to wireless.

18 MS. SONG: So I've been asked to make one final  
19 request of you, Ms. Byrne. I would like to ask you for  
20 copies of all contracts between THESL and its third party  
21 attachers.

22 MR. RODGER: Refused.

23 MS. SONG: And redacted copies are fine, if that  
24 helps.

25 MR. RODGER: Refused.

26 MS. SONG: Thank you.

27 MS. SEBALJ: Thank you.

28 I imagine people want a break, but can I just quickly



1 before we go -- because it's going to be tight for a Friday  
2 afternoon -- do my canvassing?

3 Energy Probe?

4 MR. ENGLEBERG: Energy Probe has -- I believe it's  
5 three questions as handed out, and an additional one. So  
6 four questions, some of which are multipart.

7 MS. SEBALJ: Okay.

8 MR. JANIGAN: Fifteen minutes.

9 MS. SEBALJ: Julie?

10 MS. GIRVAN: I just have one question.

11 MS. SONG: I do have questions for Mr. Starkey and Dr.  
12 Yatchew. So I have about a half an hour with the other  
13 members.

14 MS. SEBALJ: All right, then. I think we need to  
15 discuss -- unless people have an appetite for being here  
16 until 6:00 o'clock on a Friday afternoon, because that's  
17 what it's looking like, I think we need to talk about how  
18 to get this information -- I guess we can finish all the  
19 other parties, and then...

20 MS. NEWLAND: Ms. Song will be back at around 4:30, so  
21 if the other parties take us to 4:40, then Ms. Song can  
22 take us to 5:00, or a little bit after that. So that seems  
23 reasonable.

24 MS. SEBALJ: We can give it a shot, except that I  
25 don't think that I can keep these people in the room -- I  
26 think we need a break, an afternoon break.

27 MS. NEWLAND: Have a break now, and then the other  
28 parties can address their questions and then Ms. Song can

1 finish off. Would that work?

2 MS. SEBALJ: Sure. At the risk of sounding draconian,  
3 can we be back here at five after, 10 after at the latest?  
4 Five after. Okay.

5 --- Recess taken at 3:54 p.m.

6 --- On resuming at 4:07 p.m.

7 MS. SEBALJ: In the interests of time, I know not  
8 everyone is back in the room, but why don't we get started  
9 with Energy Probe while others trickle in?

10 **QUESTIONS BY DR. SCHWARTZ**

11 DR. SCHWARTZ: Thank you very much. My questions --  
12 my first couple of questions will -- I'm not sure who they  
13 should be directed to. They won't be to your experts. So  
14 I'll just ask the question, and then you can decide who is  
15 best able to answer. These are also the questions that we  
16 sent out last night, so perhaps you've had a chance to look  
17 at them.

18 Question 1 is on THESL's -- or THESL's - and I put it  
19 in quotes - no wireless policy, because I'm not trying to  
20 make an assumption that you have one or not, but that's the  
21 question.

22 So I have three questions which are separate that  
23 relate to this question. And the first question relates to  
24 the THESL letter to the Energy Board dated August 13th,  
25 2010 provided in CANDAS's application at tab 3, page 75.

26 Now, I'm looking at it here, and the first paragraph  
27 says:

28 "With this letter, THESL wishes to inform the

1           Board that in light of many safety and  
2           operational concerns about the attachment of  
3           wireless communications equipment to its pole  
4           infrastructure that are set out in this letter  
5           and in its appendix, THESL has adopted a policy  
6           not to attach such equipment to its poles."

7           That statement may be clear to some, but it's not  
8           necessarily clear to me. Is the policy that is being  
9           referred to a policy relating to what THESL refers to as  
10          safety and operational concerns?

11          MR. MCLORG: Well, sir, I think you are correct in not  
12          making an assumption about whether we have a no wireless  
13          policy or not. So let me try to clarify that.

14          DR. SCHWARTZ: I'm sorry, this is why I asked if we  
15          could go through the questions (a), (b) and (c) separately,  
16          so if you could answer that question? In other words, does  
17          this letter refer to a so-called policy premised solely on  
18          safety and operational concerns? Is that the concern of  
19          this letter?

20          MR. MCLORG: Well, I'm afraid I can't quite accept the  
21          premise of the question.

22          DR. SCHWARTZ: I'm sorry, I asked the question. If  
23          you don't understand it, that's okay. In other words,  
24          where it says "THESL has adopted a policy", is that policy,  
25          so-called, strictly related to concerns about safety and  
26          operational concerns?

27          MR. MCLORG: We don't have such a policy.

28          DR. SCHWARTZ: Well, it says here you do. It says

1 here you have a policy. So if the policy is not a response  
2 by THESL to safety and operational concerns about the  
3 attachment of wireless telecommunications, then I guess the  
4 answer to question (a) is no.

5 Now, question (b) is: Does the THESL letter indicate  
6 that THESL refuses to attach any and all wireless  
7 equipment, I guess, as a matter of policy?

8 MR. MCLORG: No, sir, the letter indicates that  
9 THESL's position is that neither THESL nor other Ontario  
10 distributors - but I'll confine my comments to THESL - is  
11 obligated to attach wireless communications equipment  
12 pursuant to the CCTA decision.

13 DR. SCHWARTZ: Can you tell me where it says that in  
14 your letter, please?

15 MR. MCLORG: Well, it may have been one of those cases  
16 where we knew what we meant and assumed too much that  
17 others would. But I think that the immediately following  
18 paragraph that indicates that there's no conflict with the  
19 CCTA decision and the whole tone of the letter is  
20 indicative of our position that it's the obligation, the  
21 purported obligation, of THESL to attach such equipment  
22 pursuant to the CCTA that we reject.

23 DR. SCHWARTZ: I'm not trying to deal with legal  
24 issues or interpreting what the -- what the Board's order  
25 means. I'm just asking -- and maybe the best way to do  
26 that is now to refer to the THESL response to the CANDAS  
27 Interrogatory No. 3, which I've referred to in  
28 interrogatory responses of THESL at tab 5-3, schedule 3.

1 And here, you'll see that you are essentially -- that THESL  
2 says, in response to CANDAS's interrogatories, there is no  
3 wireless policy. Question (a): Prior to adopting and  
4 implementing the, quote, no wireless policy, did THESL  
5 request any input from the Board?

6 And your response is, "Please refer to tab 5-3,  
7 schedule 1" -- sorry, am I at the right question? It's  
8 whichever question that says you have not adopted a  
9 wireless policy.

10 MR. MCCLORG: Well, I think that would be tab 5-3,  
11 schedule 1.

12 DR. SCHWARTZ: So then let's go to the third question.  
13 You can give me the fuller answer that you wanted to  
14 before. Does THESL have a no wireless policy at all?

15 MR. MCCLORG: I'll just repeat that THESL's policy or  
16 position is that it's not obligated to attach wireless  
17 equipment pursuant to the CCTA decision. We don't think  
18 the CCTA decision applies to this. So if THESL were to  
19 decide to attach such equipment in its sole discretion,  
20 then it would not be pursuant to the CCTA decision.

21 DR. SCHWARTZ: All right. I think I understand that.  
22 So you say you have a no -- THESL says it has a no wireless  
23 policy, because it is not mandated to do so and that it has  
24 a right to refuse wireless attachments, and, if it did so,  
25 it would want to make such attachments outside of the  
26 order?

27 MR. MCCLORG: To be clear, THESL does not have a no  
28 wireless policy, which I think was part of --

1 DR. SCHWARTZ: Then I go back to the first question,  
2 then, which is about your letter. It says:

3 "THESL has adopted a policy not to attach such  
4 equipment to its poles."

5 MR. MCCLORG: Yes. If that were misunderstood by any  
6 parties, THESL regrets that, but I think, as I said before,  
7 that the policy position that is set out in the letter is  
8 clearly one that is hinged off the CCTA decision and the  
9 non-applicability of that.

10 DR. SCHWARTZ: As I read this, since you want to  
11 discuss it -- as I read the CCTA decision - and I'm not a  
12 lawyer - it doesn't require you to make those attachments  
13 in your reading. That's what it says.

14 So if you said we're following the policy in the CCTA  
15 decision, what you are in fact saying is we accept that we  
16 are not required to attach pursuant to that decision, which  
17 is somewhat different from saying we have or do not have a  
18 no wireless policy.

19 MR. RODGER: Just to clarify, since you are talking  
20 about the decision specifically, our view - and we've laid  
21 that clearly out in our supporting materials - is that the  
22 panel that dealt with the CCTA decision never even  
23 contemplated wireless. So it doesn't form part of the  
24 decision at all.

25 MR. MCCLORG: It was an area in which we considered the  
26 decision to be silent. Different parties had a different  
27 view. We took the initiative of informing the Board, by  
28 way of our August 13th, 2010 letter, of our position, and

1 we requested that the Board notify us if it had any  
2 concerns about the position that we were taking.

3 DR. SCHWARTZ: There's no point in having an argument  
4 about this. It seems to me if I take your statement at  
5 face value that you don't have a wireless policy, I just  
6 can't reconcile it with the first paragraph of your letter  
7 of August 2010.

8 Now, it had been my understanding that possibly the  
9 policy was limited to safety and operational concerns,  
10 which I could understand. You could well have a policy,  
11 because of safety and operational concerns, not to attach  
12 certain kinds of equipment, perhaps wireless.

13 That to me is -- you know, could be a sensible policy.  
14 You have just said that is not your policy, that you don't  
15 have a policy. Why don't we just leave that, because maybe  
16 someone else can make it clear?

17 Another general question for THESL, which, I'm sorry,  
18 I just thought about after submitting my questions last  
19 night, relates to pole costs and a very fulsome discussion  
20 by THESL in its interrogatory responses, tab 6,  
21 schedule 15. It's Interrogatory Response to Question 15 of  
22 the CCC, which is Consumers Council of Canada.

23 So I would just like to deal with that for a bit.

24 MR. McLORG: We have that.

25 DR. SCHWARTZ: You do and I don't. Let me, then, try  
26 to go from my notes.

27 There is reference there to the hosting costs driven  
28 by wireless, and I wonder what that means. I mean, I

1 thought I knew what it meant. But when we talk about the  
2 hosting costs driven by wireless, I presume what that means  
3 is if THESL added wireless attachments to a pole, there  
4 would be costs to THESL driven by that decision, by that  
5 attachment.

6 MR. McLORG: That's correct.

7 DR. SCHWARTZ: Presumably, if you added a wire line  
8 attachment to a pole of any kind, that would also -- or  
9 would it? Would it, then, drive hosting costs?

10 MR. McLORG: Yes, it would.

11 DR. SCHWARTZ: The interrogatory -- and let me just  
12 say I thought that this interrogatory response was very  
13 complete. I just don't understand it in parts, because I'm  
14 not a specialist in this area.

15 I'm interested in the use of the term "non-incremental  
16 asset and carrying costs" related to existing poles, which  
17 the interrogatory response indicates is what the Board  
18 means by indirect costs.

19 Am I correct that such costs -- I'm sorry. Then you  
20 also say -- and just to confirm it -- indirect or non-  
21 incremental costs are those which do not materially vary  
22 with the presence of wireless attachments. I think that's  
23 what -- that's what you say.

24 So what, then, is the principle? What is it that  
25 THESL is trying to say about these non-incremental asset  
26 and carrying costs related to existing poles, if they are  
27 not related to the presence of wireless attachments?

28 I think rather than me suggesting what my



1 interpretation is, perhaps you could explain that.

2 MR. McLORG: Let me try to summarize the interrogatory  
3 response.

4 The CCTA decision had as a conceptual basis the notion  
5 that an occupant of a pole other than the hosting utility  
6 should share some of the carrying costs of having that pole  
7 in place.

8 So there's a concept of a sharing of costs that exists  
9 right now. Of course, there would be no sharing if there  
10 were no attachments, but in the presence of attachments,  
11 the CCTA decision, in our understanding, provided that  
12 there would be a sharing of those asset carrying costs and  
13 the maintenance costs related to the poles.

14 In addition to those non-incremental costs, there are  
15 incremental costs involved in --

16 DR. SCHWARTZ: Could we just wait on that? I was  
17 going to get to that. Thank you.

18 So the principle, then, is that THESL would seek a  
19 sharing of the costs but not a recovery of those costs,  
20 because there are no incremental costs of this indirect  
21 type.

22 MR. McLORG: Well, the --

23 DR. SCHWARTZ: You are talking about the sharing of  
24 existing costs if an attacher comes along, maybe spreading  
25 out your costs over a wider base?

26 MR. McLORG: Let me try to retrace what you said.

27 The first thing I was going to respond to is that the  
28 22.35 that was provided for in the CCTA decision is

1 intended to be -- a recovery, so to speak, was the word you  
2 used, of costs that were shared.

3 Now, I do want to underline that by talking about the  
4 wireless attachments in connection with the CCTA decision,  
5 we don't accept that it applies and we don't accept that  
6 the 22.35 applies, but I'm just trying to outline what we  
7 felt was the underpinning of the CCTA decision.

8 The recovery of the amount of costs that is to be  
9 shared by a pole occupant is conceptually provided for in  
10 the CCTA decision.

11 DR. SCHWARTZ: Thank you. And I think you've picked  
12 up what I didn't articulate very well.

13 But the point here that I was interested in was that  
14 since there are -- by the interrogatory statement, that are  
15 no increased or materially increased indirect or  
16 incremental costs if you add a wireless attachment, that  
17 we're only talking about the sharing of existing costs.

18 MR. McLORG: That's not what is said in the  
19 interrogatory, sir.

20 DR. SCHWARTZ: But then you said: Well, what we're  
21 interested in doing is recovering a share of the existing  
22 costs from the new entrant, from the new attacher.

23 MR. McLORG: That was the one category of costs that I  
24 was beginning to explain in my summary of the interrogatory  
25 response, and then you stopped me before I got to the  
26 incremental cost portion.

27 DR. SCHWARTZ: And I meant to stop you, because I want  
28 to get to that, but I see now that you and I are using the

1 word recovery in somewhat different sense.

2 To me, if you make an attachment or if there is a cost  
3 that should be recovered because it arises from making an  
4 attachment, then what --

5 MR. McLORG: That's an incremental costs.

6 DR. SCHWARTZ: That would be an incremental cost.

7 MR. McLORG: That's right.

8 DR. SCHWARTZ: But here, we're not talking about  
9 incremental costs; we're talking about the sharing of  
10 existing costs, even though they don't rise when you make a  
11 wireless attachment.

12 MR. McLORG: I think with respect to the non-  
13 incremental costs, we're agreed. And I think that we're  
14 also agreed there are both non-incremental and incremental  
15 costs.

16 DR. SCHWARTZ: And I would like just to spend a moment  
17 on that.

18 MR. McLORG: Okay.

19 DR. SCHWARTZ: I believe you say in the interrogatory  
20 response that \$1.92 per pole is what covers the direct or  
21 incremental costs.

22 Do I understand that to mean that if a new wire line  
23 attacher came along and wanted an attachment to a pole,  
24 that of the \$22 and some odd, \$1.92 would be charged to  
25 recover direct or incremental costs to THESL?

26 MR. McLORG: Well, that was the notional or deemed or  
27 proxy amount set out in the CCTA decision for that category  
28 of costs.

1 DR. SCHWARTZ: And from your point of view, that only  
2 applies to wire line attachments?

3 MR. McLORG: Correct.

4 DR. SCHWARTZ: All right. Do you have any sense as to  
5 its adequacy or its accuracy as a measure of direct costs  
6 imposed on you?

7 MR. McLORG: Well, the formula that was used in the  
8 CCTA decision was meant to be generic, and I don't think  
9 that there is any pretense in that decision that it would  
10 be an accurate reflection of an individual utility's costs,  
11 necessarily.

12 As far as THESL is concerned, the same interrogatory  
13 response goes on at some length to indicate that we don't  
14 believe that the incremental costs are being recovered;  
15 that is to say the incremental costs of hosting wireless  
16 attachments.

17 DR. SCHWARTZ: But you don't have an issue as far as  
18 wire line attachments?

19 MR. McLORG: Well, I think that THESL probably does  
20 have an issue there, but it's not in scope of this  
21 proceeding.

22 DR. SCHWARTZ: I appreciate that.

23 One of the things you mention as far as these direct  
24 or incremental costs are concerned is that, as I understand  
25 it, you would recover make-ready work from the attacher.  
26 So it's not really part of the direct incremental costs  
27 that THESL actually bears, or -- because it recovers it  
28 directly from the attacher?

1           MR. McLORG: I think that's fair. It is certainly a  
2 direct incremental cost, but the make-ready costs are  
3 recovered directly from the attacher.

4           DR. SCHWARTZ: So the balance of the cost that you  
5 would want to recover, if you did make that attachment of a  
6 wireless and you had the scope for doing so, would be, I  
7 believe -- the reference is to application costs?

8           MR. McLORG: There are really two categories of  
9 incremental costs.

10          DR. SCHWARTZ: Application processing costs, I should  
11 have said. Sorry.

12          MR. McLORG: Yeah. So if you -- it's unfortunate you  
13 don't have the interrogatory before you, unless you do now.

14          DR. SCHWARTZ: Fair enough. I will -- yeah, I have it  
15 here.

16          MR. McLORG: Okay. Well, then, on page 4 you can see  
17 we've produced a table there, and it's a two-by-two matrix,  
18 essentially.

19           And in the "Incremental Costs" column, there are two  
20 categories, ongoing costs and one-time costs.

21           Now, of the one-time costs, application processing is  
22 incremental and -- they are not the same as make-ready  
23 costs, which are recovered directly from the attacher.

24           There are also ongoing incremental costs, which  
25 involve recordkeeping, billing and payment processing and  
26 what I've termed pool management here.

27          DR. SCHWARTZ: Would you at some point be able to  
28 quantify those costs as they relate to an incremental wire

1 line versus an incremental wireless attachment?

2 MR. MCLORG: That would involve a very extensive and  
3 intricate analysis that we haven't been able to construct.

4 DR. SCHWARTZ: Do you have a sense whether they would  
5 be wildly different?

6 MR. MCLORG: Sorry, the costs as between wire line and  
7 wireless?

8 DR. SCHWARTZ: Speaking of these one-time incremental  
9 costs that you would continue to bear; that is, the  
10 application processing cost?

11 MR. MCLORG: We have stated in our interrogatory  
12 responses that the wireless applications that have been  
13 processed so far have tended to be significantly more  
14 complex than the traditional wire line applications, which  
15 are relatively standardized and don't require on-site  
16 inspections of the poles, and so on, in order to determine  
17 whether a particular pole that is requested for access can  
18 in fact host the ancillary equipment involved with wireless  
19 attachments.

20 DR. SCHWARTZ: If we turn to the next table on your  
21 response, do I read it correctly that in 2010 the shortfall  
22 in revenue, based on the \$95 per pole administration  
23 charge, leaves you --

24 MR. MCLORG: About \$600,000 short.

25 DR. SCHWARTZ: Yes, I was going to say \$600,000.  
26 That's a lot of money.

27 MR. MCLORG: That's our view, as well.

28 DR. SCHWARTZ: Why should there be such a shortfall,

1 but only for wireless? You said this. Could you give me a  
2 concrete instance?

3 MR. MCLORG: Let me try to clarify the record a little  
4 bit. The table that you referred to and the figures for  
5 2010 are figures that are the aggregate for all types of  
6 communication attachments, wire line and wireless.

7 DR. SCHWARTZ: Oh, I didn't understand that.

8 MR. MCLORG: The reason they have to be combined is  
9 that THESL had at the time, and still to our knowledge, has  
10 not tracked wireless and wire line costs separately, and,  
11 in fact, in some instances it's unknown to us whether a  
12 particular application is actually related to wireless or a  
13 DAS-type network, or whether it's related to conventional  
14 or traditional wire line attachments.

15 DR. SCHWARTZ: Is the \$95 application charge related  
16 only to wireless?

17 MR. MCLORG: No, it is not.

18 DR. SCHWARTZ: All right, fine. So, in other words,  
19 what this table really shows is that the revenue you are  
20 getting, I take it, in respect of application costs or  
21 applications for both wire line and wireless, significantly  
22 understates the cost that of your staff to process the  
23 relevant permits?

24 MR. MCLORG: Yes. And the notable change over about  
25 the past two years has been the introduction of a  
26 significantly increased number of applications related to  
27 DAS-type networks. And of course that includes a wire line  
28 component plus the ancillary equipment.

1 DR. SCHWARTZ: And it isn't possible to break out, you  
2 say. Presumably the revenue you could, the cost, you  
3 couldn't say this is due to the increase in wireless  
4 applications and this is due to increase in wire line  
5 applications?

6 MR. MCLORG: We're not able to disaggregate it.

7 DR. SCHWARTZ: I appreciate that. When we look at the  
8 figure for 2010 staff cost to process permits, \$695,798,  
9 can you, without going into too much detail -- or do you  
10 distinguish between fixed costs and variable costs in that  
11 number?

12 MS. BYRNE: The costs in this table are essentially  
13 the basic staff costs, the salary payroll costs of the  
14 staff, to process the permits.

15 DR. SCHWARTZ: And those vary with the number of  
16 applications?

17 MS. BYRNE: It did, because we had to increase staff  
18 over time.

19 DR. SCHWARTZ: How much of that would be, say,  
20 management overhead, if any?

21 MS. BYRNE: Oh, none of that is management.

22 DR. SCHWARTZ: That is what I was wondering.

23 MS. BYRNE: That's the direct staff that were doing  
24 the work, and then the staff added to do the additional  
25 work.

26 DR. SCHWARTZ: So we're not attributing to staff costs  
27 anything other than direct salary?

28 MS. BYRNE: This is just direct salary.



1 DR. SCHWARTZ: That's fine. Thank you very much.  
2 That's very clear, as is the entire answer, now that I  
3 understand it. Thank you very much.

4 I have a couple of questions for the experts. Mr.  
5 Starkey, question 2, you discussed in your report barriers  
6 to entry on page 21 and 22 of your affidavit. I would like  
7 to explore that a bit, because I'm not entirely sure what  
8 is being said, what your affidavit says at that point.

9 Is your point that a system -- and when you come and  
10 break it all down, a system of hydro poles constitutes a  
11 natural monopoly, the regulation of which precludes entry  
12 by other pole systems in the same geographic area, and is  
13 therefore an entry barrier? Is that your point, when you  
14 kind of strip it away?

15 MR. STARKEY: I don't think so, no.

16 DR. SCHWARTZ: Could you explain, please?

17 MR. STARKEY: That section of my testimony is  
18 described at section 3, which is describing why I believe  
19 power poles are not essential facilities for wireless  
20 services. I think when I go back to the CCTA decision and  
21 understand the analysis associated with essential  
22 facilities, one of the key characteristics was the extent  
23 to which there are alternatives available.

24 It would be difficult to claim something was an  
25 essential facility if there were numerous alternatives to  
26 which you could take advantage, besides that particular  
27 facility.

28 So whenever I was describing barriers to entry, I was

1 discussing the extent to which there were alternative  
2 facilities to Toronto Hydro poles for the purposes of  
3 attaching wireless equipment, and then perhaps, more  
4 importantly, in the context of barriers to entry, the  
5 extent to which, if there are not today, there exists  
6 economic prohibitions to those facilities making themselves  
7 available in the near future.

8 DR. SCHWARTZ: Well, I specifically avoided the  
9 essential facilities, because I wanted to know about entry  
10 barriers, and it would seem to me that the big entry  
11 barrier is that these poles are a natural monopoly and that  
12 we regulate them and deny entry through regulatory means,  
13 because it would be inefficient to have competing poles  
14 going up and down the same street.

15 That I could see as an entry barrier, being the legal  
16 or regulatory barrier, which may have a basis -- which does  
17 have a basis in efficiency.

18 MR. STARKEY: I think you and I may just be coming at  
19 this from a different direction. I think whenever I talk  
20 about an entry barrier, I guess we need to make sure we're  
21 talking the same language. We have to talk about: Entry  
22 to what? What is it we're discussing an entry barrier to?

23 My testimony, my evidence, was describing the extent  
24 to which there is a barrier to entry for providing  
25 alternative siting -- alternative siting locations for  
26 wireless equipment.

27 DR. SCHWARTZ: In that sense, you are not using entry  
28 barriers in the same sense as perhaps Professor Yatchew

1 might use the term in his academic economics? You are  
2 using it more colloquially?

3 MR. STARKEY: I don't know that I'm using it more or  
4 less colloquially, though I'll let Dr. Yatchew discuss  
5 that.

6 DR. SCHWARTZ: I don't know if I have asked him that.

7 Let's go on to the next one. At page 23, footnote 1  
8 of your affidavit, you state that reproduction costs, among  
9 other things, increased the relative barriers to entry  
10 associated with the market for utility attachments.

11 Could you explain that better, or restate it in a way  
12 that -- I have difficulty understanding it.

13 MR. STARKEY: As I was saying earlier, one of the, I  
14 think, considerations that must be made is - I think in our  
15 -- in my affidavit or my testimony, I lay out the extent to  
16 which I think there are alternatives beyond THESL utility  
17 poles to attaching this type of equipment.

18 That being said, I think another consideration is even  
19 if there weren't, is the market structured in such a way  
20 that they could become available if demand was there for  
21 the market to respond to? In other words, are there  
22 barriers to entry from additional alternatives to THESL  
23 poles?

24 One of the considerations with respect to whether more  
25 facilities might make themselves available is the extent to  
26 which those facilities have substantial costs of  
27 production.

28 DR. SCHWARTZ: The cost to build a new set of poles?

1 It would be very, very high.

2 MR. STARKEY: Or the cost to make the side of a  
3 building available for purposes of attaching a wireless  
4 antenna, or a signage of some other sort, say a street sign  
5 or a street light.

6 Those are the types of cost that's would have to be  
7 considered sort of -- and here I really am stepping out of  
8 my purview and would give it to Dr. Yatchew, but sort of a  
9 contestable market theory. Are there barriers to entry in  
10 terms of costs that would preclude the provision of  
11 additional alternatives?

12 DR. SCHWARTZ: Thank you. Maybe I'll just skip  
13 question (c), because I think you've essentially addressed  
14 that.

15 At page 22 and 23 -- it's typed wrong -- of your  
16 affidavit, you refer to the necessity of product and  
17 geographic market definition. Are you relying in that  
18 statement solely on the evidence of Professor Yatchew? Or  
19 have you independently assessed the relevant product and  
20 geographic markets?

21 MR. STARKEY: I think I would say that I am relying  
22 upon the evidence of Dr. Yatchew in that regard. I  
23 certainly have analyzed it and have opinions, but I think  
24 for that purposes of THESL's position, I think Dr. Yatchew  
25 is probably the more qualified to provide those.

26 DR. SCHWARTZ: All right. Thank you.

27 And the next question, then, is at page 24 and  
28 footnote 23 thereon. You refer to the Energy Board's NGEIR

1 decision as follows from your report:

2 "I understand that the Board has already  
3 prescribed the framework for which an essential  
4 facility 'may be evaluated based upon the  
5 potential for market power and the resultant  
6 level of competition necessary to protect the  
7 public interest.'"

8 Is it your understanding that the NGEIR decision  
9 defined essential facilities?

10 MR. STARKEY: It doesn't specifically. What I was  
11 referring to was -- clearly I'm not as familiar with the  
12 Canadian history of assessing market power as I would be in  
13 the United States, and so whenever I came into the case, I  
14 asked for -- I asked counsel and my colleagues for sources  
15 that would describe to me what those standards were.

16 One of those that they provided to me was NGEIR. When  
17 I read NGEIR, it does an evaluation of how you should  
18 assess market power associated with various production  
19 facilities and assets.

20 That was what I was referring to in my review of that.  
21 That's what I was referring to in terms of a framework  
22 around which essential facilities could be evaluated,  
23 because market power certainly is a component of essential  
24 facilities.

25 DR. SCHWARTZ: But specifically, then, I hear you to  
26 say your take on the NGEIR decision is not that it defines  
27 a framework around which an essential facility can be  
28 evaluated; it's just a framework for evaluating market

1 power?

2 MR. STARKEY: I think that's a fair characterization.

3 DR. SCHWARTZ: Fine. So next question, (f), do you  
4 adopt -- I think you so, but let me ask you -- do you adopt  
5 or find value in the framework for evaluating market power  
6 in the NGEIR report? Because you make a statement, I  
7 believe, to that -- now, are you saying that because that's  
8 your understanding? Or are you simply telling the Board  
9 your understanding of what the Board did?

10 MR. STARKEY: I found value in it.

11 DR. SCHWARTZ: Fine. That's a complete answer.

12 And the final question, then, is: In your response to  
13 Energy Probe Interrogatory 3(a), you refer with approval to  
14 the framework for analyzing market power in the Competition  
15 Bureau's merger guidelines. Does your response to Energy  
16 Probe Interrogatory 3(b) follow the Bureau's approach to  
17 market definition?

18 MR. STARKEY: Let me just take a quick look there.

19 DR. SCHWARTZ: I have photocopied and will distribute  
20 a portion of the merger guidelines of the Bureau dealing  
21 with product market definition. We could distribute them.  
22 Maybe that will help you.

23 MS. SEBALJ: While that is happening, Dr. Schwartz,  
24 you've been referencing this document that Energy Probe  
25 filed last night, and I wonder if we might mark it.  
26 Because while you've read some of your questions into the  
27 record, I think others haven't been read into record.

28 So for completeness, we might want to mark it, and...

1 DR. SCHWARTZ: That's fine, although I'd include the  
2 question that I added, which I addressed to them, the  
3 second question, which is not on the list.

4 MS. SEBALJ: But you did that orally? I just want to  
5 mark this. So it will be KTC1.1.

6 **EXHIBIT NO. KTC1.1: TECHNICAL CONFERENCE QUESTIONS OF**  
7 **ENERGY PROBE RESEARCH FOUNDATION, NOVEMBER 4TH, 2011.**

8 DR. SCHWARTZ: Thank you.

9 MS. SEBALJ: Just for the record, it's Technical  
10 Conference questions of Energy Probe Research Foundation,  
11 provided on November 4th, 2011.

12 Unfortunately I don't think I got a copy, but let's  
13 mark what you've just distributed, as well, which is an  
14 excerpt from the Competition Bureau's Merger Guidelines.  
15 Is that what it was? And we'll mark it as KTC1.2. Thanks.

16 **EXHIBIT NO. KTC1.2: EXCERPT FROM THE COMPETITION**  
17 **BUREAU'S MERGER GUIDELINES.**

18 MR. STARKEY: I think the answer to your question is  
19 yes.

20 DR. SCHWARTZ: Okay. When I read your report, it  
21 seemed to me that in many ways what you were doing -- and  
22 this is just to summarize it, so please feel free to tell  
23 me if I've got it wrong -- is that you were delineating the  
24 markets for products based on the different technologies  
25 that are available, the different siting locations that are  
26 available. And it might be said that your framework, what  
27 you did do was rely on what I've referred to in Professor  
28 Ware's questioning earlier as functional interchangeability

1 or functional equivalence.

2 Would you say that's your approach? You've looked at,  
3 say, outdoor DAS systems and you've looked at femto and  
4 pico and you've said these are all in some ways similar and  
5 functionally equivalent.

6 So on that basis, you are putting them into the same  
7 market?

8 MR. STARKEY: There was a lot there, so let me see if  
9 I can just state it the way I sort of approached it, which  
10 is I think what you are asking me.

11 DR. SCHWARTZ: Is that what you did in your report?  
12 That's what I'm taking from your report, and if I'm wrong,  
13 I'm wrong.

14 MR. STARKEY: I think generally it's true, but I would  
15 say the following. And I was thinking this when you were  
16 asking Dr. Ware the questions earlier, and it's on this  
17 issue of functional equivalence. Is that what --

18 DR. SCHWARTZ: Yeah, or interchangeability.

19 MR. STARKEY: Interchangeability.

20 And what I was thinking is exactly what it says in the  
21 product market definition at 4.10 that you just handed out,  
22 which is it's not necessary the extent to which I think a  
23 particular product has functional interchangeability or  
24 functional equivalence. It's the extent to which  
25 purchasers and buyers in the marketplace think so and act  
26 upon those, to the extent that they substitute them in  
27 their consumption, which is what I've described in response  
28 to Interrogatory 3(b), where I've said that consumers don't



1 care for the most part whether their service is being  
2 provide by DAS, femto, macro. All they care about is their  
3 call works at a certain level of quality, and their ability  
4 to make data transmissions as an example.

5 So again, I think the key is that it comes down to  
6 buyers' willingness to substitute them in the marketplace.

7 DR. SCHWARTZ: And here, we're also, I suggest, we're  
8 also talking about the CANDAS group making choices between  
9 the different kinds of technologies they are going to use  
10 and come up with ODAS, when there were these other things  
11 available to them. And I think a good portion of some of  
12 the technical evidence in this hearing is devoted toward  
13 showing that there are other technologies could be attached  
14 in a somewhat different way, and deliver the same thing to  
15 the consumer, the end consumer, the cell phone user.

16 MR. STARKEY: That's exactly right. I think the  
17 corollary is that in order to determine under these product  
18 market definition standards -- to determine whether  
19 something was in the same market or not, you wouldn't look  
20 at an individual consumer and say, Does that individual  
21 consumers consume them in a substitute? You would look at  
22 the market in general, whether buyers in general see them  
23 as alternatives in the marketplace.

24 The way I sort of see the CANDAS case or position in  
25 this is that they see Toronto Hydro poles to be very  
26 different and preferable for their particular technology,  
27 ignoring the fact that other buyers in that marketplace,  
28 macrocell providers and other providers, have used other

1 alternatives.

2 So that's I think the corollary that I sort of was  
3 building upon.

4 DR. SCHWARTZ: I like your distinction, because we're  
5 talking about buyers as intermediate buyers, like CANDAS,  
6 versus other people may be making choices between competing  
7 technologies. That's kind of what I am thinking about here  
8 in terms of defining the market.

9 Would you look, please, at paragraph 4.14? I'll just  
10 read it. It says:

11 "Various functional indicators help to determine  
12 what products are considered substitutes,  
13 including end use physical and technical  
14 characteristics, price relationships and relative  
15 price levels, as well as buyer switching costs as  
16 discussed below. Buyers may not view products  
17 purchased for similar end uses as institutes.  
18 Therefore, functional interchangeability is not  
19 sufficient to warrant the inclusion of two  
20 products in the same relevant market. In  
21 general, when buyers place a high value on the  
22 actual or perceived unique physical or technical  
23 characteristics of a product, including  
24 warranties, post-sale service or turnaround, it  
25 may be necessary to define distinct relevant  
26 markets based on these characteristics."

27 Now, the purpose of this question is not to have an  
28 argument with you, but, rather, to say this is in the

1 merger guidelines. Is this something that you've taken  
2 into consideration when you delineate your market or the  
3 market as you see it, or perhaps you are relying on  
4 Professor Yatchew? I'm not entirely sure, because there is  
5 a certain amount of cross-reliance between the two of you.

6 MR. STARKEY: Let me answer that last part first.  
7 What I would describe I am relying on Dr. Yatchew and his  
8 description of the marketplace. However, do I have  
9 opinions? Having looked at it, I think they comport what  
10 Dr. Yatchew has said. I don't think we have any  
11 disagreement there. I don't think you and I would have an  
12 argument about what this portion of the product market  
13 definition says, because it basically describes what we  
14 just talked about, which is the degree of functional  
15 interchangeability is really determined, for purposes of  
16 product market selection, based onto actions of buyers;  
17 that you and I might agree that something is functionally  
18 interchangeable, and we might be very excited about the  
19 fact that we think that we think that puts it in the  
20 market.

21 But if in the marketplace most other people don't  
22 agree with us, then, frankly, our opinions don't really  
23 matter that much. It's the activity in the marketplace that  
24 determines whether something is in one product market or  
25 another.

26 And it's more than a single buyer or more than a small  
27 group of buyers. It's the inclination of the market as a  
28 whole. Let's leave that to Dr. Yatchew.

1 DR. SCHWARTZ: Thank you. So we don't have to argue  
2 about that now. But your general view is that you have  
3 effectively applied the market definition approach in the  
4 Competition Bureau's merger guidelines to the issue of  
5 delineating product markets in your report?

6 MR. STARKEY: I rely on Dr. Yatchew to do the formal  
7 delineation of product market. The section of my testimony  
8 that you that were referring to that started this line of  
9 questions was I was providing some background with regard  
10 to essential facilitates so that I could describe what I  
11 thought were the factual basis for differentiating between  
12 the CCTA decision and wireless attachments.

13 So I don't adopt these or really even try to implement  
14 them. I tried to make sure that as I described what I was  
15 doing, they were consistent.

16 DR. SCHWARTZ: Let's not pursue it now, but if you  
17 have a moment between now and the time the hearing starts,  
18 if there is going to be one, you might look at the  
19 questions (f) and (g) that we've just described and perhaps  
20 we can pursue the issues at some other time.

21 I have a question for Professor Yatchew. And I'm a  
22 little bit -- thank you very much. If I could ask --  
23 maybe, Professor Yatchew, you can correct me if I'm wrong,  
24 but are you relying on Mr. Starkey's affidavit in whole or  
25 in part?

26 DR. YATCHEW: There are portions of Mr. Starkey's  
27 affidavit that I do rely upon, but not in its entirety, for  
28 the simple reason I don't need all of the assertions or

1 position that he takes in order to make the points I need  
2 to make in order to establish the points. It doesn't imply  
3 I disagree with the other points, but I may not need to  
4 rely upon them.

5 DR. SCHWARTZ: Okay. Now, going to your response to  
6 Energy Probe Interrogatory 5(a), which I'll ask my  
7 colleague to pull up, because I asked you a question, I  
8 believe, about the conceptual basis of the essential  
9 facilities doctrine, and your response, beginning at  
10 line 15, is that:

11 "The essential facilities doctrine is regulatory  
12 and legal concept rooted in economic reasoning.  
13 I understand from my discussions with counsel  
14 that..."

15 And then it appears you have provided an extract from  
16 a document, and I wonder if you could give me the citation  
17 for that?

18 MR. RODGER: Perhaps I can help you with that.  
19 Because this was a legal regulatory question, we felt it  
20 was better to have an answer from counsel, so we prepared  
21 that answer and included it in the interrogatory.

22 So there is no other report. It just is the answer we  
23 created to try and be helpful to you.

24 DR. SCHWARTZ: Well, then who is responsible for the  
25 portion of that answer beginning at line 8 toward the end  
26 of -- it's on page 3 of 4 of that interrogatory response.  
27 It begins:

28 "First whereas in this case with THESL there was

1           no vertical integration. The draft guidelines  
2           explain..."

3           And then there are other references in the following  
4 paragraph to the evidence put forth by CANDAS.

5           MR. RODGER: This is all part of the legal position,  
6 so this is all from counsel.

7           DR. SCHWARTZ: So, in other words, Professor Yatchew,  
8 you're going to tell me that that's not part of your  
9 answer. That's not your answer as an economist. Your  
10 lawyers have put that into your answers?

11          DR. YATCHEW: It was prepared in consultation with  
12 counsel. And if I could just flag one -- what appears to  
13 be a typo at line 9 of the page you are referring to, that  
14 lines begins with "Draft guidelines explain that simply  
15 charging a market price". It should actually read "simply  
16 charging a monopoly price for access to a facility."

17          DR. SCHWARTZ: Is that your correction of what your  
18 lawyers gave you or is that that the lawyers have found a  
19 mistake and they have asked you to reflect it in the  
20 record?

21          DR. YATCHEW: The contents of this quote is available  
22 on the web, and, in effect, we both confirmed that this was  
23 an error.

24          DR. SCHWARTZ: It's neither your answer nor your  
25 lawyer's answer?

26          MR. RODGER: What is the point of this line?

27          DR. SCHWARTZ: Where does it come from? Can you  
28 explain that? What is the web address for this?

1 MR. RODGER: You asked for what was the source of the  
2 answer, and we've explained that because it was a legal  
3 question, it was answered by counsel.

4 DR. SCHWARTZ: That's correct. Now, if there's a web  
5 citation, can you give me the source?

6 DR. YATCHEW: I can, through an undertaking if you  
7 will.

8 DR. SCHWARTZ: Okay.

9 DR. YATCHEW: But that's only for certain portions of  
10 this response.

11 DR. SCHWARTZ: A number for the undertaking, ma'am?

12 MS. SEBALJ: To clarify, is the undertaking to produce  
13 a web link associated with the draft guidelines that are  
14 referenced at line 8 of page 3 of 4 of tab 4, schedule 5?

15 DR. SCHWARTZ: I suppose it is. Professor Yatchew  
16 will know. It is just whatever he is citing that comes  
17 from a website in the answer.

18 DR. YATCHEW: Yes, I can provide you with that link.

19 MS. SEBALJ: We will provide the undertaking.

20 DR. SCHWARTZ: The reference to draft guideline is  
21 what?

22 MR. RODGER: This is a part of the draft guidelines on  
23 the -- at the Bureau's website.

24 DR. SCHWARTZ: What draft guidelines are these about?

25 DR. YATCHEW: These are guidelines on the abuse of  
26 dominance --

27 DR. SCHWARTZ: Ah. That's what I wanted to know.  
28 Thank you very much.

1 DR. RODGER: That's at line 17 and 18 of page 2 of 4.

2 MS. SEBALJ: Am I marking this as an undertaking, or  
3 does that satisfy you? Are you able to find it, Dr.  
4 Schwartz?

5 DR. SCHWARTZ: I can find it. I'm a familiar with the  
6 abuse of dominance draft guidelines.

7 Now, to clarify your response to Energy Probe  
8 Interrogatory 5(b), I'll just ask the question.

9 I smiled when I read your answer. You seem to think,  
10 I think, that it had something to do with the costs of  
11 trains. So I've tried to reword my question.

12 Do you believe that it is economically justified for  
13 the U.S. court, in this case, the major case in this area  
14 in the States, to mandate access to the monopoly train  
15 station for excluded railroad companies, even though it was  
16 or may have been possible for those companies to  
17 successfully build and operate their own stations at  
18 prevailing costs and prices?

19 DR. YATCHEW: I believe that there important economic  
20 arguments and considerations involved in coming to that  
21 decision.

22 So when you say "economically justified" I need to  
23 have a better understanding of what you believe  
24 "economically justified" means.

25 DR. SCHWARTZ: Well, you're the expert. Why don't you  
26 tell me what you think it means?

27 What does it mean if I say to an economist: Is it  
28 economically justified? What would you say?



1 DR. YATCHEW: If you allow me to jump ahead to part  
2 (c) of your question, you state:

3 "To clarify Professor Yatchew's response to  
4 Energy Probe Interrogatory No. 5 (c), does he  
5 believe that economic efficiency is a criterion  
6 for evaluating whether access to a facility  
7 should be mandated?"

8 If that's, for example, part of what you mean by  
9 economically or perhaps even precisely what you mean by  
10 economically, then I would say economic efficiency is one  
11 of the considerations.

12 If you allow me to speak of economic efficiency in the  
13 more encompassing terms, we have to deal with static  
14 efficiency versus dynamic efficiency.

15 For example, if I want to be statically efficient,  
16 minimize costs of getting wireless out there, for example,  
17 there are ways to do that.

18 There are also ways to improve the static efficiency  
19 of drug costs; just announce today that all patents are  
20 void. That would not be dynamically efficient.

21 So when an economist speaks of efficiency, there are  
22 various elements to that picture, including economic  
23 efficiency in the short run, what we think of as static  
24 efficiency, economic efficiency in the long run, which we  
25 think more as dynamic efficiency, efficiency from the point  
26 of view how markets evolve, efficiency from the point of  
27 view -- is a regulator -- are regulatory resources being  
28 spent efficiently?

1           So there are a number of economic, general economic  
2   criteria that one could embed. And some of those are  
3   discussed in my testimony at page 22, where the question  
4   that is asked is:

5                    "Is there a risk of regulatory failure if the OEB  
6                    were to intervene?"

7           There, I discuss various kinds of economic arguments,  
8   and that's why I'm a little reluctant just to use the word  
9   efficiency, because for some, it has a very narrow meaning,  
10   and for economists it can actually have a very broad  
11   meaning.

12          DR. SCHWARTZ: I appreciate that.

13          MS. SEBALJ: Gentlemen, can I just interrupt for a  
14   moment? These questions have obviously taken a lot longer  
15   than anticipated.

16          I have a hard stop right now at 5:00 o'clock. So I  
17   just want to put a couple of options on the table.

18          One is that I leave and everyone who wants to stay  
19   stays. I have not consulted with the court reporter. She  
20   may need a break, depending on how long this goes, but I  
21   would leave you in the capable hands of Gona, and we would  
22   have to put some stop on it so that we weren't all here  
23   until 7:00 or 8:00 tonight.

24          Another option is we do have this room on Monday, and  
25   we were going to meet on Monday originally. I don't know.  
26   That would really be up to Mark and whether witnesses are  
27   available. I'm seeing him shaking his head.

28          Another option would be to resume on the morning of

1 the now-postponed settlement conference, which is the 28th,  
2 have a court reporter come in on that morning for an hour  
3 or so to finish up.

4 MS. NEWLAND: What was the third option?

5 MS. SEBALJ: The 28th, so the first day of the  
6 settlement conference, to spend an hour getting anything  
7 that wasn't dealt with today on the record. Not unusual  
8 for us to do that when there are lingering questions.

9 Obviously you don't have as much time to absorb it  
10 prior to the settlement conference.

11 But those are your options. At the risk of putting an  
12 incredible amount of pressure on you, I don't know what it  
13 -- it really is unfair to ask the court reporter to stay  
14 much longer than 5:30 or maybe 6:00 o'clock, if your  
15 schedule even allows that.

16 Julie? Julie wants to vote.

17 MS. NEWLAND: I guess maybe it's time to do another  
18 time check, a realistic one.

19 MS. SEBALJ: Unfortunately knows haven't been very  
20 helpful throughout the day, but to the extent that you'd  
21 like me to do another one, my best guess is that there's at  
22 least another hour.

23 MS. NEWLAND: I think that's fair.

24 MS. SEBALJ: When you include -- I think we would have  
25 to give the court reporter, if she was willing to stay, a  
26 nice 10- or 15-minute break.

27 So you are looking at 6:30-ish, before you are out of  
28 here.

1 MS. NEWLAND: Due to how busy the regulatory calendar  
2 is right now for THESL, we would prefer to continue through  
3 today. In fact, our panel has advised that they are  
4 willing to stay to the end of questioning.

5 We do have a challenge of scheduling for the next  
6 several weeks, and we of course understand that the  
7 intervenors as well as the Applicant would want to get all  
8 their questions on the record of our panel.

9 MR. RODGER: Dr. Yatchew just advised that he has to  
10 leave by 6:00 sharp, so if there is a way we could order,  
11 if we do continue tonight, which would be our preference,  
12 perhaps Dr. Yatchew could have his questions asked first.

13 And then we can stay for the balance, if that suits  
14 everybody.

15 DR. SCHWARTZ: It's fine with me. I only have one  
16 other question for Professor Yatchew.

17 MS. NEWLAND: How long will it take?

18 DR. SCHWARTZ: I think it depends on the length of his  
19 answer.

20 MS. SEBALJ: The only other option, which I had  
21 mentioned to Paula and then forgot, is to put any further  
22 questions in writing.

23 Of course, you don't have the dynamic nature of having  
24 someone in front of you to do any follow-up questions when  
25 you do that, as you all know.

26 So I leave it to you. The only person who hasn't  
27 chimed, and you can -- we can go off the record for the  
28 decision about that. Let's go off the record.

1 --- Off-the-Record Discussion

2 MS. JAFF: So, Dr. Schwartz, are you ready to go?

3 DR. SCHWARTZ: Yes.

4 MS. JAFF: So let's do so.

5 DR. SCHWARTZ: Thank you, Professor Yatchew. The last  
6 question I'll ask you is (e), because you've already  
7 answered (d). So referring to Mr. Starkey's response to  
8 Energy Probe interrogatory 3(a), he refers therein with  
9 approval to the framework for analyzing market power in the  
10 competition Bureau's merger guidelines.

11 In light of, Professor Yatchew, your own analytic  
12 framework which you talk about in your report for  
13 determining sufficient competition at pages 25 and 26 of  
14 your affidavit, do you agree with Mr. Starkey in regard to  
15 his approval of the framework for analyzing market power  
16 along the lines following the merger guidelines of the  
17 Competition Bureau?

18 DR. YATCHEW: I haven't done a detailed review to be  
19 able to definitively say, yes, that I agree in all the  
20 details, but at a general level, I would say yes, simply  
21 for the reason that I've had the opportunity to review Mr.  
22 Starkey's evidence and I do not have any areas where we  
23 fundamentally disagree.

24 DR. SCHWARTZ: Well, that leads to one small question.  
25 Have you attempted to mobilize or use the merger guidelines  
26 of the Competition Bureau in your analytic framework?

27 DR. YATCHEW: Not directly.

28 DR. SCHWARTZ: Well, Mr. Starkey says, in effect, that

1 he has and he's relying on you, so I don't understand.

2 MR. STARKEY: I was just going to clarify I don't  
3 think I said that. I think I said I found them to be  
4 useful.

5 DR. SCHWARTZ: Thank you. That's all I have. Thank  
6 you very much.

7 MS. JAFF: Julie?

8 **QUESTIONS BY MS. GIRVAN**

9 MS. GIRVAN: Yes, thanks. I'm going to go ahead. I  
10 just have one or two brief questions.

11 If the witnesses could please turn to -- now of course  
12 my computer is on the fritz. CCC No. 6. These are CCC  
13 questions to Toronto Hydro. I just want to preface this  
14 by saying some of our questions are subject to a motion  
15 that we filed, but I believe Toronto has agreed they would  
16 help me with this answer. So I'll just quickly read out  
17 what I was looking for. It says:

18 "Please set out the process THESL followed in  
19 determining whether a wireless pole attachment  
20 would be granted."

21 And the answer to that was:

22 "See the affidavit of Ms. Byrne."

23 So that I've looked at that. The next question is:

24 "Does THESL have the discretion to reject an  
25 application? If so, what criteria are applied in  
26 deciding to reject an application? How many  
27 applications for wireless attachments have been  
28 rejected?"

1           So it says in that interrogatory in the answer that  
2   there have been 69 rejected. And I guess what we're trying  
3   to get a sense of is: Why were those rejected and on what  
4   basis, because we've heard evidence that there are concerns  
5   about operational activities? There are concerns about  
6   safety and concerns about costs.

7           So I would like to get a sense out of those 69, on a  
8   sort of generic basis, why those were rejected?

9           MS. BYRNE: Generically speaking, the reasons for  
10   rejection might either be more from an administrative  
11   process perspective, if there was missing documentation or  
12   missing elements in the documentation. And that would be  
13   generally covered in the steps that I've outlined in my  
14   affidavit, and this is Byrne paragraph 18, sections (a)  
15   through (g).

16          For instance, if there were things missing in that, if  
17   we didn't have the engineering approval or if there was  
18   other information missing off of the drawings, or the  
19   drawings were inaccurate, that might be a reason. But  
20   there also might be some other safety and operational  
21   reasons.

22          So, for instance, although we do not have a specific  
23   standard for wireless in our current standards book in  
24   section 23, we have sections of those standards that apply,  
25   in general, to do with -- and there's also things in the  
26   O.Reg. 22/04 about grounding. There are sections in CSA  
27   22.3 about clearance and separation, and we also have some  
28   Toronto Hydro rules about -- and some of those are

1 enumerated in section 23 about where we have things like  
2 load interrupter switches or transformer banks. So we want  
3 to keep space, for operational and safety reasons, from  
4 equipment and our equipment.

5 MS. GIRVAN: This is just a quick follow-up. Does the  
6 attacher attach the antennas, or does Toronto Hydro?

7 MS. BYRNE: The attacher is responsible for making the  
8 attachments.

9 MS. GIRVAN: One last question. It says in (b) the  
10 specific criteria provided in the agreement between THESL  
11 and the particular attacher. Is that a generic agreement?

12 MS. BYRNE: No.

13 MS. GIRVAN: Is there a template?

14 MS. BYRNE: No.

15 MS. GIRVAN: So every negotiation with every company  
16 is done separately and every agreement is different?

17 MS. BYRNE: Correct.

18 MS. GIRVAN: Why is that?

19 MS. BYRNE: In some cases, it may be the type of  
20 equipment. And so, for instance, wire line has different  
21 dimensions, and it has the CCTA rate, and it also has  
22 things like bonding and grounding that would be done  
23 differently. And those provisions wouldn't necessarily  
24 apply.

25 MS. GIRVAN: I'm just talking first here about  
26 wireless. So why wouldn't there be a common agreement, a  
27 generic agreement, for wireless attachments?

28 MS. BYRNE: We don't have a generic wireless



1 agreement.

2 MS. GIRVAN: Thanks. Those are my questions.

3 MS. JAFF: Mr. Janigan?

4 **QUESTIONS BY MR. JANIGAN**

5 MR. JANIGAN: Thanks very much. I have an initial  
6 question for Mr. McLorg or Ms. Byrne, whoever is best able  
7 to deal with it. The evidence and what we've heard today  
8 seems to indicate there are three sort of levels of pricing  
9 that we're talking about in relation to wireless  
10 attachments.

11 One is the pricing that's provided for in the CCTA  
12 agreement. The second level is that which recovers all  
13 direct costs and perhaps long-run incremental costs, or  
14 whatever cost allocation formula you use to recover costs,  
15 in general. And then, three, are the price that would be  
16 set by the marketplace.

17 Can you give me any guidance what the ratios might be  
18 between those three levels of costs, prices?

19 MS. BYRNE: So I'm going to disagree with part of the  
20 premise of your question about the pricing for wireless.  
21 Toronto Hydro's position is that the CCTA rates do not  
22 apply to wireless.

23 MR. JANIGAN: Okay. Let's, for the purpose of this  
24 question, assume that they might. So what I want to look  
25 at is the difference between the price that might be  
26 charged in the event that the applicants succeeded in their  
27 position in saying that the CCTA agreement applied, the  
28 second being the price that would be charged if all

1 appropriate regulatory costs were recovered - call that the  
2 regulated price - and then the third being the price that  
3 would be charged in the marketplace.

4 Do you have the ability to provide a ratio between  
5 those three costs?

6 MS. BYRNE: No, I don't think we can. We don't  
7 believe that the CCTA rate applies to wireless, and so  
8 therefore that part of the ratio doesn't exist. And so  
9 mathematically there would be nothing to work out.

10 However, on the other part of the ratio, if you are  
11 asking about what a market price would be, I don't think we  
12 have that knowledge at this time.

13 MR. JANIGAN: The only real figure you come up with is  
14 a regulated price?

15 MS. BYRNE: No. There is no regulated price for  
16 wireless.

17 MR. JANIGAN: I recognize that. The way I defined  
18 regulated price was one that recovered all of the direct  
19 and long-run incremental costs associated with the wireless  
20 attachment.

21 DR. YATCHEW: Mr. Janigan, depending on the outcome of  
22 this hearing, THESL may come forward with an application  
23 which would provide its evidence on that question. We  
24 haven't undertaken that study yet, and, as Ms. Byrne said,  
25 we're not in a position to comment on what a market price  
26 might be.

27 MR. JANIGAN: I was talking about the regulated price.

28 DR. YATCHEW: Yes. So I was just repeating for

1 completeness the two things that we can comment on.

2 MR. JANIGAN: Okay. But it's fair to say there is a  
3 significant difference between the CCTA costs of the  
4 agreement, the regulated price that would be arrived at by  
5 essentially looking at all of the costs and providing the  
6 cost based on your regulated costs and the market price?

7 DR. YATCHEW: Well, I think it's certainly our  
8 position that the rate of 22.35 does not even represent a  
9 cost recovery rate for THESL right now in the context of  
10 wireless attachments.

11 I think that it's certainly clear from our evidence  
12 that it doesn't recover the cost of wireless attachments,  
13 and as I indicated earlier, depending on the outcome of  
14 this hearing, we may bring an application concerning  
15 traditional wire line rates, as well.

16 But in any event, the full cost is something that  
17 we'll bring evidence on later.

18 MR. JANIGAN: I have a few questions for Dr. Yatchew,  
19 generally recapitulating what I asked Dr. Ware.

20 And I take it from your evidence, Dr. Yatchew, that  
21 you do not believe that THESL has any market dominance in  
22 relation to the market for mobile wireless attachments?

23 DR. YATCHEW: In the siting market for these antenna  
24 facilities, the answer is yes.

25 MR. JANIGAN: The siting market is what you would  
26 define as the product market; would that be correct?

27 DR. YATCHEW: One of the product markets.

28 The CANDAS application is actually a convolution

1 between two applications, as I see it.

2 There is Public Mobile, whose market is the delivery  
3 of wireless services. So we could speak of that product  
4 market, and that product market is relevant for the  
5 decisions that are -- will ultimately be made by this  
6 Board.

7 There is a second implied intermediate market, if you  
8 will, for an input, and that's the market for sites for  
9 wireless facilities.

10 So there are really two going on here.

11 MR. JANIGAN: I would assume that CANDAS would say  
12 that the market really involves the wireless attachments to  
13 hydro poles, and that the substitutes that are being  
14 included in the product market for wireless siting are not  
15 appropriate, and are not substitutes.

16 How would you respond to that?

17 DR. YATCHEW: CANDAS will have to speak for  
18 themselves.

19 MR. JANIGAN: Well, let's -- what I'm getting at is in  
20 relation to your creation of the product market, when you  
21 added --as I understand the way in which competition  
22 authorities do these kinds of things is they attempt to,  
23 first of all, put all of the alternatives to the particular  
24 product or substitutes of the product, and try to see  
25 whether or not they are genuine substitutes for the same.

26 When you did that on this case, did you run any price  
27 screens in relation to the wireless alternatives?

28 DR. YATCHEW: For which market?

1           MR. JANIGAN: Well, for the -- first, in terms of the  
2 mobile wireless attachment market.

3           DR. YATCHEW: Because I would suggest there is a  
4 threshold question prior to that that a regulator asks  
5 themselves, and that is: Does declaring a facility  
6 essential or mandating the services of that facility, how  
7 does that affect the competitiveness of an ultimate product  
8 market?

9           MR. JANIGAN: Don't you first have to find some kind  
10 of market dominance before you proceed to the question of  
11 whether or not a particular facility is essential or not?  
12 If there is no market dominance, then there is no  
13 requirement for -- to find the facility is essential.

14          DR. YATCHEW: I'm not sure I understood that question.

15          MR. JANIGAN: The only way in which the doctrine of  
16 essential facilities makes sense or is applied is if there  
17 is a particular product in the market that is dominated in  
18 some fashion that causes competitors in the market to be  
19 unable to access that facility or to reproduce it in an  
20 economic fashion, but first and foremost I would assume  
21 that you would have to have dominance in the marketplace in  
22 order to proceed ahead to looking at whether or not the  
23 alternatives that exist for -- in the market would be  
24 appropriate.

25          Perhaps I've jumped into this thing in the middle  
26 rather than at the beginning, because I think I passed too  
27 quickly over your comment concerning what was the product  
28 market that you dealt with.

1 I think two there were two answers on that,  
2 essentially, two product markets. One, the wireless siting  
3 market, and the other one being -- I don't want to misstate  
4 that. It was in relation to the Public Mobile's --

5 DR. YATCHEW: It's the market for wireless services,  
6 and that's one of the Applicant's -- that's their product  
7 market. Public Mobile's product market is wireless  
8 services.

9 So the natural question to that is: If that's the  
10 product market, does requiring access to a certain type of  
11 facility upstream or preventing access to that type of  
12 facility upstream substantially damage competition in that  
13 product market? That's actually a standard way of  
14 evaluating whether a facility is essential.

15 And if I remember correctly, the CRTC uses that kind  
16 of approach.

17 MR. JAIGAN: You've jumped ahead there to the  
18 essential facilities question. I want to leave with it the  
19 question of whether or not there is dominance in the  
20 marketplace with respect to a particular provision of  
21 services.

22 And if the product market in this case is access to  
23 hydro poles, then you could say at first blush that there  
24 is a dominance in the market with respect to mobile  
25 wireless attachment to hydro poles.

26 DR. YATCHEW: I do not quite understand the premise of  
27 your question, because you haven't specified in what way  
28 the population of poles and control over it dominates the

1 siting market. The siting market for what?

2 If you said for wire line facilities, I would say yes.  
3 Then the owners, whether it's THESL or a telecom company,  
4 when they own poles and another wire line company wants to  
5 get access to those poles, the pole owners have a dominant,  
6 perhaps an overwhelmingly dominant share of the market.

7 So we need to ask who it is that we're attaching --  
8 considering attaching to these poles. And if the attachers  
9 are wireless antennas, then the next question is: What are  
10 the alternatives and what are the facts on the ground?

11 And the facts on the ground are that there are many,  
12 many wireless sites in this city, hosting wireless  
13 antennas, other than THESL poles. In that market, THESL  
14 has a very small market share, and so it would be hard to  
15 try to argue that it is dominant.

16 MR. JANIGAN: If in fact the wireless alternatives  
17 that are available and sited throughout the region in which  
18 the Applicant operates, if in fact they provide an  
19 alternative to attachment to the wireless poles, you're  
20 correct that there's no dominance in the wireless siting  
21 market.

22 However, if there is a difference in the -- if the  
23 market itself is defined as attachment to hydro poles per  
24 se, and in fact, the other alternatives don't provide some  
25 kind of substitute, namely by way of economics or pricing,  
26 then there may be a difference.

27 DR. YATCHEW: Well, I could capriciously define my  
28 house to be the only house of value in the city, because

1 that's the house that you want, and then I am dominant. I  
2 can ask \$10 million for my house.

3 MR. JANIGAN: Then --

4 DR. YATCHEW: The definition of the market has to be  
5 done with some judiciousness, and that judiciousness arises  
6 out of: What are the alternatives? And, once again, I've  
7 tried to suggest that the very presence of literally  
8 thousands - and Mr. Starkey's evidence lists them -  
9 literally thousands of wireless sites in this city, a  
10 number of which Public Mobile obtained access to. That  
11 suggests to me that A, there is a market; and B, it's not  
12 dominated by THESL's poles.

13 MR. JANIGAN: Certainly if you extend to that point.  
14 The problem is -- and this is probably not something we  
15 should be pursuing in a technical conference. I'm here to  
16 ask questions of you, not to give my views. Let me boil it  
17 down to a question.

18 DR. YATCHEW: Mr. Janigan, if I could just briefly, I  
19 think one thing that could be relevant to this line of  
20 questioning is consideration of the circumstances that  
21 would prevail when THESL's distribution system is  
22 underground and THESL's distribution poles don't exist in  
23 the area that is to be served by some kind of wireless  
24 communication technology.

25 And I think the reason that it's relevant is that  
26 clearly wireless communication providers have found  
27 alternatives to hydro poles in cases where those hydro  
28 poles doesn't exist.



1           So even if we are just talking about pole  
2 infrastructure, I think it's clearly the case - and I'll  
3 stop here - that it would be sort of tautological to assert  
4 that hydro utilities have control over hydro poles if hydro  
5 poles are defined as poles that are owned by hydro  
6 utilities.

7           MR. JANIGAN: Let me just boil it down to one  
8 question. Was there any pricing screens run to compare the  
9 access that's the subject of this application with the  
10 access that is afforded through other mobile wireless  
11 alternatives?

12          DR. YATCHEW: Not by me.

13          MR. JANIGAN: And I believe you indicated that you  
14 believe the geographic market was the THESL franchise area?

15          DR. YATCHEW: I think for present purposes, it's  
16 sensible to define it that way, because the application is  
17 - as I understand it - THESL is present here. Maybe the  
18 application was cast much more broadly for access to poles  
19 across the province, but THESL is the one who is responding  
20 here.

21          MR. JANIGAN: I believe your evidence indicates that  
22 you believe that access to the hydro poles is a scarce  
23 resource, but certainly not an essential facility. Would  
24 that be correct?

25          DR. YATCHEW: That's correct, that I do not believe  
26 it's an essential facility for the siting of wireless  
27 attachments.

28          MR. JANIGAN: And in that a scarce resource may still

1 be able to be regulated by a competitive market and that as  
2 the price goes higher, the incentive to provide  
3 alternatives grows. Is that effectively what you have  
4 indicated?

5 DR. YATCHEW: Price increases often stimulate supply.

6 MR. JANIGAN: Notwithstanding what might occur in  
7 relation to the price for mobile wireless services that  
8 come from access to market-based attachments, that  
9 effectively you may see innovations in the market that will  
10 produce lower prices and other kinds of ways of siting  
11 mobile services. Is that effectively --

12 DR. YATCHEW: Entirely possible. There is -- I do  
13 refer in my evidence to this notion of - it's an  
14 economist's term - endogenous technological change, but  
15 essentially the idea is that necessity is the mother of  
16 invention.

17 MR. JANIGAN: Now, I want to proceed to the second  
18 area. Effectively, when you were talking about the public  
19 good or ensuring that these facilities are managed in the  
20 public good, I take it that you believe that in relation to  
21 these public utility facilities, that the public good is  
22 best maintained by obtaining the highest price for these  
23 facilities in the marketplace?

24 DR. YATCHEW: No.

25 MR. JANIGAN: No? What do you believe, then?

26 DR. YATCHEW: So where a market exists or can exist,  
27 it is reasonable to benchmark and reward resources using  
28 signals from the marketplace. If I take your statement on

1 its face, maximizing the value of the resource, then that  
2 argument would imply the cable companies should be charged  
3 the absolute monopolistic price for access to poles.

4 I don't support that, but that's because poles are  
5 truly an essential facility, and there is no real  
6 alternative market for siting wire line systems.

7 MR. JANIGAN: Where there is, for example, a  
8 requirement from telecommunications carriers, and assuming  
9 that -- we'll assume for this point that there is a common  
10 good in ensuring that there is telecommunications carriers  
11 have as broad access as possible. It's dependent upon  
12 whether or not they have access to a market which will  
13 provide them with the facilities that they need to operate,  
14 and, if they don't, then a public utility has the  
15 obligation to provide siting at a reasonable cost?

16 DR. YATCHEW: There are several steps there. The  
17 first one is -- the first question I would ask is whether  
18 the wireless telecommunications market is working  
19 reasonably effectively, if it's reasonably competitive, or  
20 whether somehow it is being stifled or strangled by the  
21 absence of some resource.

22 The second part of that reasoning would be let's  
23 suppose that there are in that industry technologies --  
24 sorry, technologies that are moderately different from the  
25 ones that are already in play, keeping in mind there are  
26 multiple technologies out there.

27 If a particular technology were to require a subsidy,  
28 it would not seem to me to be the energy regulator's

1 jurisdiction or responsibility to look after those issues  
2 prior to the telecom regulator looking after those issues.

3 MR. JANIGAN: That was another one of my questions.  
4 You indicated that it was not appropriate to see a subsidy  
5 of mobile wireless deployment. How would you define  
6 subsidy in this case?

7 DR. YATCHEW: There are two definitions of subsidy.  
8 There is the standard economic definition, and, if you want  
9 me to go there, I will, or I can --

10 MR. JANIGAN: How did you use it here?

11 DR. YATCHEW: I can define it in the language I used  
12 in the paper. Economists have a very specific notion of  
13 the idea of subsidy. The word subsidy in common parlance  
14 means that somebody is paying less for something than he  
15 would otherwise be paying for it.

16 Now, what is that otherwise? Relative to some  
17 reasonable benchmark, usually a marketplace. So, for  
18 example, if we choose to subsidize, through income  
19 transfers, electricity rates for certain individuals, that  
20 would be a subsidy. And we're fine with that socially.

21 In the energy markets, it has now become fashionable  
22 to subsidize certain technologies. Those subsidies are  
23 ordered, in effect, by this Board, by the Energy Board.  
24 Those are subsidies to the solar companies, wind companies,  
25 and so on. That's a subsidy, because the price they are  
26 receiving for their product far exceeds what they would get  
27 in the normal marketplace.

28 Market prices for energy are -- wholesale energy are 5

1 to 10 cents a kilowatt-hour, and wind and solar are getting  
2 anywhere 15 to 80 cents. That's a subsidy. That's the  
3 sense in which I'm using the word subsidy. Wherever there  
4 is a market, I would like to benchmark it against the  
5 marketplace, and prices that deviate from what are rough  
6 market prices are subsidies -- sorry, that fall below are  
7 subsidiaries as opposed to premiums.

8 MR. JANIGAN: In this case, you would say that to fail  
9 to allow THESL to negotiate a market rate for mobile  
10 wireless attachments would automatically guarantee a  
11 subsidy?

12 DR. YATCHEW: Well, let's begin where this application  
13 is. It's at -- the application is at 22 bucks and change  
14 for access to a THESL pole for a year. If somebody offered  
15 me a parking spot in front of my office for 22 bucks and 35  
16 cents for the year, I would take it, and I would be getting  
17 a subsidy, a big subsidy.

18 There are alternatives. I could be parking in the  
19 underground parking at my office, and that would be  
20 probably maybe even two orders of magnitude more. So the  
21 question is: Are there alternatives? Are there reasonable  
22 alternatives to putting these wireless -- and I mean the  
23 antenna attachments, for example, on THESL poles. Are  
24 there reasonable alternatives? Is there a market, and what  
25 kind of pricing does one get in that market?

26 I would also add that, if anything, I would expect  
27 prices to decline in that market, not to increase.

28 MR. JANIGAN: I have some questions in relation to

1 public interest and the forbearance test, but I think I  
2 will pass on them insofar as that's not an issue. And  
3 those are all my questions for the panel. Thank you very  
4 much.

5 MS. JAFF: Thank you. Ms. Song, do you think 20  
6 minutes will be adequate?

7 MS. SONG: I'll try my best.

8 **QUESTIONS BY MS. SONG**

9 MS. SONG: Mr. Starkey, can you please turn up your  
10 interrogatory response at CANDAS 2. Just a point of  
11 clarification. So question 2(a) asked you to confirm that  
12 current macrocell deployments are in all cases sufficient  
13 to meet current and future coverage and capacity needs of  
14 mobile wireless providers in terms of five listed factors.

15 And your answer is "Denied". So I just want to get  
16 clarification from you. Are you refusing to answer this  
17 question or are you confirming that, in fact, current  
18 macrocell deployments are not in all cases sufficient to  
19 meet current and future coverage and capacity needs of  
20 mobile wireless providers?

21 MR. STARKEY: It's the latter of those two. I'm  
22 denying that that's my contention.

23 MS. SONG: Same goes, then, for question 2(d). So  
24 2(d) asks what, in your opinion, was the single largest  
25 impediment to the establishment of a functioning DAS market  
26 in Toronto and whether that was the City of Toronto and  
27 THESI's refusal to permit wireless attachments. So you say  
28 "denied". You are saying you disagree with the statement?

1 MR. STARKEY: Correct.

2 MS. SONG: And what, according to you, is then the  
3 single largest impediment for a functioning DAS market in  
4 the City of Toronto?

5 MR. STARKEY: I'm not sure I've thought about what the  
6 single one is. I was responding to -- you gave me one  
7 example and asked if that was it, and I didn't believe it  
8 was.

9 MS. SONG: I'm asking you: Why did you deny it?

10 MR. STARKEY: Right. I'm still answering. I don't  
11 believe -- I denied it because I don't believe that's the  
12 single largest factor. Your next question, as I understand  
13 it, is: What is the single largest factor? And I guess  
14 I'm telling you I hadn't thought about that, because it  
15 wasn't part of the question.

16 MS. SONG: What is the single largest factor? I'm  
17 asking you now.

18 MR. STARKEY: I guess I haven't really thought about  
19 it in detail. I probably could think about it, but I  
20 haven't.

21 MS. SONG: Can I ask you to turn up Interrogatory  
22 No. 9, CANDAS Interrogatory No. 9. 9(c) asks you to  
23 confirm whether you consider an attachment for purposes of  
24 providing wifi as a wireless or wire line attachment.

25 And your answer at 9(c) says that you would consider  
26 wifi antenna and supporting equipment as wireless  
27 attachment -- as a wireless attachment. Do you see that?

28 MR. STARKEY: I would. I do see that and I --

1 MS. SONG: What supporting equipment would you be  
2 referring to in your answer to 9(c)?

3 MR. STARKEY: Good question. I don't know. I think  
4 you could take that portion of the response out.

5 MS. SONG: In your revised answer, in your  
6 clarification, you're saying that just the wifi antenna is  
7 wireless?

8 MR. STARKEY: No. I think the best answer to that  
9 question is it would read as follows: Mr. Starkey would  
10 consider a wifi antenna as a wireless attachment.

11 MS. SONG: And --

12 MR. MCLORG: Sorry, can we have a minute?

13 MR. STARKEY: Mr. McLorg has suggested, and I think  
14 he's right, that the bracket that would attach a wifi  
15 antenna. As an example, a radio to the pole could probably  
16 be considered supporting. I think the question is answered  
17 effectively just as I revised it, but you could consider  
18 that stuff to be supporting equipment, as well.

19 MS. SONG: On what basis is a bracket considered  
20 wireless equipment or wireless attachment?

21 MR. STARKEY: I guess as I'm describing it to you now,  
22 my thought would be that it's because it's required to  
23 attach it to the pole.

24 MS. SONG: So it's contiguous to the wireless antenna  
25 itself?

26 MR. STARKEY: Are you asking me if a bracket is  
27 contiguous to the radio?

28 MS. SONG: Yes.



1           MR. STARKEY: A bracket that holds up a wifi radio  
2 would be contiguous. I don't know if "contiguous" is the  
3 word I would use. I think I would use it as it appends it.  
4 It is connected to and appends --

5           MS. SONG: Part of.

6           MR. STARKEY: Fair enough -- well, it's actually  
7 distinct, but connected to it. I'm not sure exactly what  
8 you are asking me but...

9           MS. SONG: I'm just trying to answer your revision --  
10 first of all, your answer, and now your revision to that  
11 answer.

12          MR. STARKEY: Let me make sure I give you the most  
13 precise answer I can in response to your question, which  
14 was, as I understood it: What supporting equipment might I  
15 have been talking about whenever I answered 9(c)?

16          I removed supporting equipment when we first began to  
17 talk about it, because I really didn't have any supporting  
18 equipment in mind when I responded to that. Mr. McLorg has  
19 suggested perhaps the bracket that holds it on could be  
20 supporting equipment. I don't disagree with that. It  
21 could be considered supporting equipment.

22          We then got into a discussion about: Is it  
23 contiguous? Is it connected? I didn't mean to mince words  
24 with you. My only suggestion was a wifi radio has a  
25 bracket. That bracket appends it to the pole.

26          MS. SONG: Would the antenna transmitters in a DAS  
27 system be considered a wireless attachment?

28          MR. STARKEY: Can I hear that again? What's the first

1 part?

2 MS. SONG: Would the antenna transmitter associated  
3 with a DAS deployment on a pole be considered a wireless  
4 attachment?

5 MR. STARKEY: As long as you are asking me about my  
6 opinion, I believe it would.

7 MS. SONG: And would you consider a wifi antenna to be  
8 a telecommunications attachment?

9 MR. STARKEY: And I know you're asking me the  
10 questions, but as opposed to what other type of attachment?

11 MS. SONG: As opposed to a non-telecommunications  
12 attachment.

13 MR. RODGER: You are asking for Mr. Starkey's legal  
14 opinion on that?

15 MS. SONG: No. I'm not asking for a legal opinion on  
16 that. I'm asking him for his opinion on that.

17 MR. RODGER: How do you define telecommunications for  
18 the purpose of the question?

19 MS. SONG: Well, do you understand what  
20 telecommunications is?

21 MR. STARKEY: In my mind, I have a present very  
22 precise understanding what telecommunications is.

23 MS. SONG: What is that understanding?

24 MR. STARKEY: Perhaps it's because I'm from the  
25 States, but it is bonded at section 153 -- 143 of the  
26 Communications Act, which describes it as transmission of  
27 information in the same form as sent by the party sending  
28 the transmission and received by the party receiving the

1 transmission, without change in form or content. Wifi in  
2 the United States is not generally considered to be  
3 telecommunications.

4 MS. SONG: Ms. Byrne, would you consider wifi to be a  
5 telecommunications attachment?

6 MS. BYRNE: Toronto Hydro considers equipment that is  
7 owned by a licensed telecommunication carrier to be  
8 communications equipment.

9 MS. SONG: So what matters to THESL is what the  
10 identity of the attacher is?

11 MS. BYRNE: So, yes, whether or not the owner is a  
12 licensed carrier and the equipment is for those purposes,  
13 yes, that matters.

14 MS. SONG: So if the wifi equipment is being requested  
15 by a telecommunications carrier, then it constitutes  
16 telecommunications equipment, but if it is being requested  
17 to be attached by, say, a company that is not a carrier,  
18 then it's not. That's your position?

19 MR. MCLORG: For what purpose would that equipment be  
20 used by the telecommunications carrier?

21 MS. SONG: wifi can be used to provide just hotspots  
22 coverage. That's exactly what its prime application is,  
23 for example.

24 MR. LABRICCIOSA: If your line of questioning is with  
25 respect to how Americans define it, you have the American  
26 version of the definition of what your question is. If you  
27 are asking us how we manage the attachments on our poles,  
28 what we define to be a telecom, we have described that

1 several times to you.

2 There is a wired attachment and it could be fibre. It  
3 could be twisted pair. It could come with an attachment  
4 that has a messenger cable. It can come at various  
5 distances, and it has different forms in terms of who owns  
6 it.

7 So I'm not sure where you are going with the  
8 questioning, but you have certainly got an American version  
9 of how it's defined in their regulations. And for our  
10 purposes and how we determine who attaches to the pole,  
11 you've got our definition.

12 MS. SONG: Thank you. Mr. Starkey, can you please  
13 turn up your response to CANDAS 11? So these questions,  
14 particularly let's start with 11(b), start off from your  
15 evidence in which you talk about the alternatives to poles,  
16 and your statements and your evidence on macrocell tower  
17 siting.

18 But I notice at 11(b) you refuse to answer a question  
19 pertaining to the process for erecting a macrocell tower.  
20 So I just want to confirm that you're refusing to answer  
21 questions with respect to the permitting and siting and  
22 construction of macrocell towers because you have not  
23 studied this, or because it's outside the scope of your  
24 evidence, or because you have no views.

25 MR. STARKEY: I think I would disagree I refused to  
26 answer it. I think what I said was Mr. Starkey has not  
27 prepared the list requested. I haven't done it.

28 MS. SONG: So it's not a refusal. You just have never

1 looked into it; correct?

2 MR. STARKEY: Certainly not to the level of detail  
3 necessary to answer this question the way I understood it.

4 MS. SONG: So it is your intention to identify  
5 macrocell towers as being an alternative in the siting  
6 market, but you have not -- it's not your intention to talk  
7 about how to go about erecting a macrocell tower?

8 MR. STARKEY: I haven't to this point described how  
9 you would erect a macrocell tower, no.

10 MS. SONG: Same for 11(f). Here we have some  
11 questions about -- the question is intended to clarify  
12 difficulties associated with the placing of DAS fibre on  
13 the sides of buildings, fibre cabling and nodes on the  
14 sides of buildings, and again you object to the question.  
15 I won't call it a refusal, but you object to the question  
16 saying it is not your purpose to redesign the network.

17 So what do you mean by redesign the network, and how  
18 do you get that from that question?

19 MR. STARKEY: When I look at the question, it makes a  
20 number of assumptions. So I took it as a hypothetical.  
21 There certainly wasn't any information provided to me that  
22 would provide the truthfulness or the accuracy of those  
23 assumptions, i.e., that there is not anything available for  
24 lease; that what might be available is not in a contiguous  
25 pattern or that we might meet significant local opposition.

26 To the extent I thought it was posing a hypothetical,  
27 I didn't -- I suggested to you in the response that I  
28 hadn't considered that hypothetical and that it wasn't my

1 intention to sort of redesign the network based upon those  
2 assumptions.

3 MS. SONG: I may come back to you, Mr. Starkey, but I  
4 have just a couple of questions for Dr. Yatchew.

5 Dr. Yatchew, could I ask you to look at your response  
6 to CANDAS 16? So in this question, CANDAS asked you to  
7 identify different siting options for DAS networks.

8 And in your answer, you repeat a statement in your  
9 affidavit at page 16, lines 9 to 14, that the siting  
10 options include private and public buildings of various  
11 kinds, street furniture, towers, flag poles and structures  
12 that are specifically erected for the purpose of  
13 accommodating wireless communications.

14 Just for clarification, are you saying that these  
15 alternatives are alternatives to the siting of DAS or  
16 alternatives to the siting of macrocells?

17 DR. YATCHEW: Give me a moment so I can review the  
18 question, please.

19 MS. SONG: No problem.

20 DR. YATCHEW: So the first page of that interrogatory  
21 at line 15, it says:

22 "Dr. Yatchew states he relies upon the LCC  
23 International Inc. report and the affidavit of  
24 Mr. Starkey filed with the Board in this matter  
25 for his conclusion that wireless facilities that  
26 are required by DAS networks have numerous  
27 alternative siting options."

28 MS. SONG: So just to clarify, your answer is these

1 are alternatives to the siting of DAS, not to the siting of  
2 macrocells?

3 DR. YATCHEW: Well, that's what the question asks, so  
4 that's my answer.

5 MS. SONG: You then go on to say that you do not  
6 expect that each site is a perfect substitute for every  
7 other site in each and every circumstance.

8 So, again, a point of clarification. Are you saying  
9 that even if a given alternative were available in a given  
10 location, that the alternative may not be a perfect  
11 substitute, or are you saying that a given alternative is  
12 not necessarily available in every circumstance? I just  
13 want to understand what you mean by that.

14 DR. YATCHEW: That a given alternative is not  
15 available? Does that mean there's not necessarily a  
16 building in every location? Is that what you are asking?  
17 When you say a given alternative, what do you mean?

18 MS. SONG: I'm asking for your help with what you say.  
19 You refer to "each site is not a perfect substitute for  
20 every other site in each and every circumstance". So you  
21 use a lot of "eaches" there. I've chosen to rephrase that  
22 as given, but if you want to say -- if you want to replace  
23 my question and put "each" in the question, that would be  
24 fine.

25 So I'm asking you: Are you saying that each  
26 alternative even if an alternative were available in a  
27 given location, that the alternative may not necessarily be  
28 a perfect substitute, or are you saying that not every

1 alternative is available in every circumstance?

2 DR. YATCHEW: First of all, I wouldn't be surprised if  
3 every alternative were not available in every circumstance,  
4 for example, a two-storey building, which would approximate  
5 the height of 30 feet, where you would want to put an  
6 antenna, for example. There's no reason for me to believe  
7 that that alternative is available at every desirable site,  
8 no matter how you conduct your search ring.

9 What I am saying is that let's say that you are  
10 searching a particular area. You might be doing a  
11 simultaneous search, because you want to place multiple  
12 antennas. You are searching for sites for your antennas,  
13 and that particular ring identifies six possible sites.

14 The statement implies that -- or states that those six  
15 sites might not be perfect substitutes for each other.  
16 They would have different characteristics.

17 MS. SONG: Are you also saying that a public building,  
18 the side of a public building, is not necessarily a perfect  
19 substitute for a flag pole?

20 DR. YATCHEW: I would not expect - and, again, it  
21 depends very much on the exact location of each - that they  
22 would be perfect substitutes for each other.

23 MS. SONG: Can you just provide me with a definition  
24 of a perfect substitute?

25 DR. YATCHEW: Perfect substitute I guess in this  
26 setting is something you would have to give me a moment to  
27 think about. There's an abstract definition in economics,  
28 but in this setting I suppose a perfect substitute would be



1 two sites where your designer would be indifferent between  
2 placing the antenna at one site or the other.

3 MS. SONG: And would goods have to be perfect  
4 substitutes in order to be placed in the same product  
5 market?

6 DR. YATCHEW: Do goods have to be perfect substitutes  
7 to be placed in the same product market? Not necessarily.

8 MS. SONG: Do they have to be close substitutes?

9 DR. YATCHEW: Generally, we think of goods as being --  
10 having sufficient similarity in order to be able to place  
11 them in the same market, yes.

12 MS. SONG: But the user would be indifferent as to  
13 which alternative is available to him?

14 DR. YATCHEW: No, not indifferent. That's perfect  
15 substitutes.

16 MS. SONG: Can you turn up Energy Probe 10, please,  
17 your answer to Energy Probe 10?

18 DR. YATCHEW: We realize we are no longer being  
19 recorded. Does this mean we can say anything we want to  
20 say?

21 MS. NEWLAND: We are being recorded.

22 MS. JAFF: Was that a joke?

23 DR. YATCHEW: Interrogatory 10 from -- I wasn't in the  
24 right place. It didn't look right.

25 MS. SONG: I am just reading from your answer to  
26 10(a). You say that:

27 "THESL should not be required to lease spare  
28 office space at other than market rent. They

1           should not be required to lease pole space at a  
2           fraction of its value."

3           So what do you mean by "value" here?

4           DR. YATCHEW: At a fraction -- so referring to the  
5 pole space, at a fraction of its market value.

6           MS. SONG: You mean market value?

7           DR. YATCHEW: Yes.

8           MS. SONG: Are cable companies, incumbent local  
9 exchange carriers that are attached to Ontario utility  
10 poles, paying a rate that represents only a fraction of  
11 this value?

12          DR. YATCHEW: Yes.

13          MS. SONG: Does this value vary -- in relation to  
14 poles vary according to the requesting attacher?

15          DR. YATCHEW: You mean does the rate for cable  
16 attachers vary -- does the value vary? Is that the  
17 question? Does the value vary across the various kinds of  
18 attachers?

19          MS. SONG: Yes.

20          DR. YATCHEW: The value of the space?

21          MS. SONG: No, the value you are talking about.

22          DR. YATCHEW: I'm talking about the value of the space  
23 here, and the value of the space probably does not, and  
24 they are paying far less than the value of that space, and  
25 for a good reason.

26          MS. SONG: In your consideration of the market for  
27 siting antenna, what other suppliers of poles have you  
28 identified?

1 DR. YATCHEW: Poles?

2 MS. SONG: Hm-hmm.

3 DR. YATCHEW: In the Toronto area?

4 MS. SONG: Hm-hmm.

5 DR. YATCHEW: I'm presuming that Toronto Hydro is the  
6 primary supplier of poles, although I've got telephone and  
7 cable poles running in my backyard and I'm not sure I would  
8 want more antennas or attachments on there either. There  
9 are some alternatives with respect to the population of  
10 poles in this city.

11 MR. LABRICCIOSA: Is the question intended to be  
12 exhaustive? Do you want an exhaustive list or suggested  
13 alternatives, because we talked about flag poles --

14 MS. SONG: I'm asking Dr. Yatchew what consideration  
15 he gave to alternative suppliers of poles in coming to his  
16 opinion about the existence of a siting market and  
17 constituent product.

18 MR. LABRICCIOSA: In respect to his response, I  
19 wouldn't expect him to be the subject expert on knowing all  
20 the pole locations located within the City of Toronto.

21 MS. SONG: I wasn't asking about locations, sir.

22 MR. LABRICCIOSA: That's why I asked you if it was an  
23 exhaustive request.

24 MS. SONG: It wasn't about locations at all.

25 DR. YATCHEW: Would you repeat the question, please,  
26 because I have a feeling I actually misunderstood the  
27 question?

28 MS. SONG: Perhaps the reporter could read it back on

1 the record. I think my question was -- and it may be a  
2 different question, but in your consideration of the siting  
3 market, have you identified any other suppliers of poles  
4 within the City of Toronto? That was my question, I think.

5 DR. YATCHEW: The answer is that I did not do any kind  
6 of market analysis to determine what other populations of  
7 poles are out there, what shares they represent and what  
8 shares of the total siting market for wireless attachments  
9 poles represent.

10 MS. SONG: Mr. Starkey, in areas where there are no  
11 poles, to what kinds of support structure would wire line  
12 carriers string their wire line facilities?

13 MS. JAFF: Sorry for the interruption. Dr. Yatchew,  
14 you had to go, I believe, at six o'clock. So if you have  
15 no more questions for him, I think we should allow for  
16 that.

17 DR. YATCHEW: The good news is they are being taken to  
18 a restaurant.

19 MS. JAFF: So you can stay. Good.

20 --- Off-the-Record Discussion

21 MR. STARKEY: Can you ask that one more time?

22 MS. SONG: In areas where there are no poles, to what  
23 support structure would wire line carriers string their  
24 wire line facilities?

25 MR. STARKEY: The reason I hesitate is because you  
26 used the word "string". In situations where there are no  
27 utility poles, where there is no aerial support structure,  
28 it's generally underground or buried.

1 MS. SONG: Anything else?

2 MR. STARKEY: I think I say -- describe in my  
3 testimony that in some rare circumstances, you'll find wire  
4 line telecommunications facilities on brackets around  
5 buildings, but it's not common.

6 MS. SONG: I think you say, in response to CANDAS  
7 Interrogatory 24(c), that it is not common or always the  
8 preferred method in reference to placing wire line  
9 facilities on alternate structures other than utility  
10 poles.

11 MR. STARKEY: Yes, that's what I said.

12 MS. SONG: Can you elaborate on why it's not the  
13 preferred option?

14 MR. STARKEY: Let me refresh myself with what the  
15 question was. The question was:

16 "Can fibre cables be strung overhead from  
17 building rooftops to towers to billboards or  
18 alternate structures on anything other than  
19 utility poles?"

20 I said:

21 "In some circumstances, yes, although it is not  
22 common or always the preferred method."

23 It's not the preferred method because aerial support,  
24 structure where it's available, is the preferred method.

25 MS. SONG: Why is stringing on buildings from rooftops  
26 to towers to billboards not the preferred method?

27 MR. STARKEY: I didn't say it isn't ever. I said it's  
28 not always. It sometimes is the preferred method.

1 MS. SONG: Why is it not the preferred method all the  
2 time?

3 MR. STARKEY: I doubt there is a preferred method that  
4 is preferred all the time. It's circumstantial, depending  
5 upon the facilities that are available.

6 MS. SONG: I just want the answer to the question why,  
7 not a different explanation or a different way of saying  
8 it's not always the preferred method? My question is: Why  
9 is it not the preferred method? What is the basis for your  
10 statement that is not always the preferred method?

11 MR. STARKEY: The basis is that sometimes brackets on  
12 buildings or others structures are preferred, because in  
13 that particular circumstance they are a better alternative.

14 MS. SONG: I think you are confusing the question.  
15 The question is not why utility poles are not the preferred  
16 method. My question is: Why is attaching -- using  
17 brackets, the sides of buildings or billboards not always  
18 the preferred method?

19 MR. STARKEY: Let me make sure I understand. The  
20 question is: Why isn't it always preferred to put them on  
21 buildings or brackets? Because in some circumstances those  
22 don't exist, because in some --

23 MS. SONG: Buildings don't exist?

24 MR. STARKEY: In some circumstances, certainly that's  
25 true. There are a lot of places where there are poles, but  
26 there are not buildings, especially outside of metro areas  
27 like Toronto. Other considerations that would make a  
28 preference to poles over buildings for wire line

1 attachments would be the contiguous nature of the  
2 availability of those attachments, as I described in my  
3 evidence.

4 MS. SONG: Anything else?

5 MR. STARKEY: Nothing comes immediately to mind.

6 MS. SONG: Your affidavit at page 22 -- at your  
7 affidavit, page 22, you talk about -- you refer to, I  
8 guess, the need in the case of wire line attachments to  
9 attach to poles.

10 MR. STARKEY: I do.

11 MS. SONG: Then I'm having a discussion with you about  
12 why attaching to buildings using brackets is not always the  
13 preferred method, and you've mentioned the contiguous  
14 nature of poles. You've mentioned that sometimes poles are  
15 not available, although I'm not sure that that's relevant.

16 Now, does economics play a factor?

17 MR. STARKEY: It certainly can, yes.

18 MS. SONG: Are there other factors that you haven't  
19 mentioned that would make poles preferred sometimes?

20 MR. STARKEY: I'm certain if I sat here long enough, I  
21 could think of some, but none come immediately to mind.

22 MS. SONG: Yet at page 22 of your affidavit, you are  
23 saying it's absolutely necessary for wire line.

24 MR. STARKEY: I don't think --

25 MS. SONG: Absolutely necessary.

26 MR. STARKEY: I don't think I did say absolutely  
27 necessary.

28 MS. SONG: You said they are essential.

1 MR. STARKEY: I did, and I describe why there.

2 MS. SONG: So it's continuous, economics?

3 MR. STARKEY: Those are the primary --

4 MS. SONG: No other factors?

5 MR. STARKEY: I'm going to have to give you the same  
6 answer I think I've given you three times now, which is I  
7 could probably sit and think of some, for example, the  
8 extent to which you might be able to bond and ground  
9 telecommunication facilities on a pole as opposed to a  
10 building. It may be easier to do that on a pole. I think  
11 almost certainly it would be.

12 I could probably think of a number of others if I sat  
13 here long enough.

14 MR. RODGER: I think three answers is enough at 20  
15 after 6:00. Thanks.

16 MS. JAFF: I'm being told by the court reporter that  
17 she has to go.

18 MS. SONG: Okay. Thank you very much.

19 MS. JAFF: Board Staff does have a few questions.  
20 However, given that -- do you think you can stay another  
21 five minutes?

22 --- Off-the-Record Discussion

23 MS. JAFF: How about we file those in writing, and  
24 then get written responses? Is that okay? Well, that  
25 concludes the technical conference for today. Thanks very  
26 much, everyone. Have a good weekend.

27 --- Whereupon the proceedings adjourned at 6:20 p.m.