New Brunswick Board of Commissioners of Public Utilities

In the Matter of an application by the NBP Distribution & Customer Service Corporation (DISCO) for changes to its Charges, Rates and Tolls - Revenue Requirement

Delta Hotel, Saint John, N.B.

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CHAIRMAN: Good morning, ladies and gentlemen. I'm going to call for appearances now. Mr. MacNutt, who do you have with you today?

MR. MACNUTT: I have with me today, Mr. Chairman, Doug Goss --

CHAIRMAN: I'm sorry, Mr. MacNutt. We can't hear you.

MR. MACNUTT: I have with me today, Mr. Chairman, Doug Goss, Senior Adviser and John Lawton, Adviser.

CHAIRMAN: Thank you, Mr. MacNutt. I was told not to forget Mr. MacNutt today. So that is the way I'm doing it. And for the applicant?

MR. RUBY: Peter Ruby and Clare Roughneen, counsel. And we are joined by Dr. Bridger Mitchell and Tony O'Hara from Disco.

CHAIRMAN: Thank you, Mr. Ruby. The CME is not here. They are having a press conference in Fredericton. Conservation Council of New Brunswick? Eastern Wind? Enbridge Gas? The Irving Group of companies? Jolly Farmer? Mr. Gillis? Rogers Cable?

MS. MILTON: Leslie Milton, counsel. And I have with me the same group as yesterday, Clinton Lawrence, John Armstrong, Christiane Vaillancourt, Roger Ware and Don Ford.

CHAIRMAN: Thank you, Ms. Milton. Any self-represented individuals here today? Public Intervenor? Sorry, I should have called on the Municipals. Mr Gorman?

MR. GORMAN: Good morning, Mr. Chairman and Commissioners. Raymond Gorman appearing for the Municipal Utilities. This morning I have Richard Burpee, Dana Young, Darren Lamont, Bob Bernard and Dan Dionne with me.

CHAIRMAN: Thanks, Mr. Gorman. Vibrant Communities here today? Want to get on the record? There is a mike right behind you.

MR. MERCIER: Same as yesterday. Sylvain Mercier from Hydro Quebec.

CHAIRMAN: And from Hydro Quebec. Okay. And the Public Intervenor?

MS. YOUNG: Just Theresa Young, your honor.

CHAIRMAN: Okay. Thank you, Ms. Young. Before we get going, Mr. Ruby, I have not read the CRTC's decision 99-13. But in that decision how do they handle joint use poles?

MR. RUBY: That is an excellent question, Mr. Chair. I'm not sure though it is one that we can answer quickly. In a nutshell the CRTC set a rate for joint use poles owned by power companies. In this case it was particular Ontario power companies.

And it set a rate using a set of costs that were available at the time. They didn't have a data set as is available in New Brunswick. And they used a cost allocation methodology very similar to the one proposed by Rogers in this proceeding.

And of course the decision of the CRTC you have referred to, 99-13, is the exact decision that was overturned first by the Federal Court of Appeal and then the Supreme Court of Canada on jurisdictional grounds.

I can elaborate on it for quite a long time probably.

But I'm not sure if there is any particular area you are interested in.

CHAIRMAN: No. In other words they did not handle things as the OEB did wherein they said the tariff item is applicable to all attachments except for joint use poles, as I understand it.

MR. RUBY: I'm sorry. I'm not sure I understand the question, Mr. Chair?

CHAIRMAN: Well, my recollection of the OEB decision was that they set a rate but that it was not applicable to a customer who was in a joint use or attachment with an electric company or a telephone company.

MS. MILTON: Maybe I can help you. You are correct on that, as between the telephone company and the power company it would be the negotiated joint use arrangement.

And that is what we are expecting here as well as between Aliant and Disco. It would be their negotiated arrangement. What the OEB did set was then a rate for third party tenant attachers.

CHAIRMAN: Do you know -- the CRTC, that decision was appealed to the Federal Court and on to the Federal Court of Appeal I think. Anyhow -- and it was overturned on the basis that power companies were provincial jurisdiction. But as to the rate, the rate stood?

MS. MILTON: Well, the rate can have no application. Because the CRTC had no jurisdiction to order it. But the court -- neither the Federal Court of Appeal nor the Supreme Court of Canada considered in any way the methodology used by the CRTC to establish the rate.

CHAIRMAN: Okay.

MR. RUBY: That is quite correct. And I had the pleasure of representing the power utilities in that case, from the CRTC up through the Supreme Court of Canada. And the rate was overturned as a consequence of the CRTC not having jurisdiction.

The courts were never -- it never ended up turning their minds one way or the other to the rates. Because they found the CRTC didn't have jurisdiction to address the issue in the first place.

CHAIRMAN: Okay. Thank you. Now I believe your witnesses can go on the stand.

Mr. Sollows just points out on the -- why it's there I don't know -- but on the panels and their possible days, et cetera it has Confidential stamped on the top of it. Is someone paranoid? On the top of the witness panel sheet it says Confidential.

MS. MILTON: Is that the one that was circulated yesterday by --

CHAIRMAN: Yes.

MS. MILTON: -- Mr. Hashey?

MR. SOLLOWS: It is not on pink paper.

CHAIRMAN: It is not on pink paper though.

MR. HASHEY: No. There was no reason for that to remain.

CHAIRMAN: No.

MR. HASHEY: That was there for the discussion purposes. But as a result of the agreement it was settled. It was circulated thoroughly.

CHAIRMAN: Good. Thank you, Mr. Hashey.

MS. MILTON: Mr. Chairman, while we are waiting for the witness to take his seat, I just wonder if I can get a sense from you when you would be looking to take the morning break, just in terms of timing? I will try to --

CHAIRMAN: It depends on how counsel behaves.

MS. MILTON: I'm trying to be on my best behavior.

CHAIRMAN: No, normally I would look to taking a break between 10:30 and quarter to 11:00, somewhere in that vicinity.

MS. MILTON: Okay. I will try to monitor my time. Now please interrupt if I get overly enthusiastic.

CHAIRMAN: Don't worry. I will remind you, madam.

MS. MILTON: Thank you.

CHAIRMAN: Okay. Would you like to call your witness back?

MR. RUBY: Thank you, Mr. Chair. Mr. O'Hara has already come to the stand. And has been sworn yesterday.

CHAIRMAN: Go ahead, Ms. Milton.

MS. MILTON: Good morning, Mr. O'Hara.

MR. O'HARA: Good morning.

Q.348 - I wonder if we could just go back to a couple of things that we discussed yesterday.

And to begin could we go back to appendix K in RCC-1. And if we could go to page I-26 which shows the formula that we discussed yesterday.

A. I need a copy of that.

MR. O'HARA: Good morning.

Q.349 - I wonder if we could just go back to a couple of things that we discussed yesterday. And to begin, could we go back to Appendix K in RCC-1? And if we could go to page I-26 which shows the formula that we discussed yesterday.

A. I need a copy of that.

Q.350 - Have you got it?

A. Yes, I do.

Q.351 - I think you indicated yesterday that you considered that there was a typo in the formula specified at the top of page I-26, is that correct?

A. Yes, that's correct.

Q.352 - Now is this the version of the joint use agreement that was signed by NB Power and NBTel?

A. Yes, it is. And subsequent to its signing a new page was issued for this -- to replace this one.

Q.353 - So it's your understanding that that page was corrected in a subsequent version?

A. Yes, that's correct.

Q.354 - Is that corrected version contained in your joint use manual?

A. Yes, it is. I have a copy of the joint use manual right here with the correct page in it.

Q.355 - All right. It wasn't in the copy provided by Rogers. We weren't actually provided with a copy when it was filed with the Board. We will check that later.

CHAIRMAN: Well the copy that we have here does not reflect the changes that the witness testified to yesterday.

MS. MILTON: All right. So your copy presumably is similar to mine.

Q.356 - Are you aware that if we add up the $8.33 -- we are looking at the total at the bottom of that list of items, and if you add up the $8.33 plus the $4.48, and then if we subtract the $3.21 for strand allowance, we get an amount of $9.60? Are you aware of that, Mr. O'Hara?

A. I have never bothered to do that calculation because

these numbers aren't relevant. They are incorrect.

Q.357 - So you haven't done that calculation?

A. The numbers that are incorrect on this page are irrelevant and the joint use manual that we are currently operating with has that information updated. I believe what has occurred is simply issued the original manual and in doing so there was -- we missed issuing the addendum that corrected this page with it.

Q.358 - All right. Would you be surprised to hear that if I add up the $2.60 which is the capital recovery amount for telephone, plus the $3.53 which is the capital recovery amount for power, I get an amount of $6.22, and that $2.67 which is the telco amount, would be 43 percent of $6.22, and the $3.53 would be 57 percent of that capital recovery amount? Would you be surprised to hear that? I assume you haven't done that calculation. Have you done the calculation?

A. No, I have never bothered to do that calculation.

Q.359 - Would you agree with me that this formula was a fairly significant aspect of this agreement?

A. Actually this formula is a very small aspect of the overall joint use agreement.

Q.360 - But this subagreement was just a subagreement with respect to third party attachments, is that correct?

A. Pardon me? What was the question?

Q.361 - Maybe we could go to the first page of this appendix or -- well that's our title page. Perhaps we could go to second page which is the first page of this subagreement. It's page I-24.

A. Yes.

Q.362 - Would you agree with me the title is Joint Subagreement Support Structure Third Party Attachments?

A. Yes, that's correct.

Q.363 - Thank you. Now you also indicated yesterday I believe that the average span length on Disco poles is 60 meters, is that correct?

A. If you look at all poles across the province the average span length is in the order of 60 meters, that's correct.

Q.364 - All right. I wonder -- staying in the same binder, RCC-1, I wonder if we could go to Appendix F. And there are some page numbers in the upper right-hand corner if you put these right side up. If we could go to page 4. Now this is a copy of the presentation that you provided to Disco in July 2004, is that correct?

A. Yes, that's correct.

Q.365 - And you show on this page that the NB Power system comprises 20,000 kilometres of line, would you agree?

A. Yes, that's correct as well.

Q.366 - And you have also indicated that there are 505,000 joint use poles, is that correct?

A. Yes, that's correct.

Q.367 - Would you be surprised that if you divide 20,000 kilometres by 505,000 joint use poles you get an average span length of slightly under 40 meters?

A. That wouldn't surprise me at all, but that calculation wouldn't be reflective of what is actually in the ground either.

Q.368 - Why is that, sir?

A. The 505,000 is just joint use poles. It doesn't include the other nine joint use poles. And in order to do that appropriately you would have to include all poles. The other component of this is the 505,000 also includes poles such as service poles and whatnot which can't be taken into account when you are trying to determine what the average span length is of main line facilities. So they would have to be removed. So it's not -- you can't determine it from that data right there.

Q.369 - We are talking about joint use poles, are we not, in this proceeding?

A. Yes, we are.

Q.370 - And we are also --

A. Which includes service poles.

Q.371 - And we are also talking about service poles, correct?

A. That's correct.

Q.372 - All right.

A. The 505,000 includes service poles.

Q.373 - All right. Now I believe where we left off yesterday is that you had confirmed for me that it is your evidence that ownership of poles is a financial burden, is that correct?

A. Yes. There are significant costs associated with ownership of poles.

Q.374 - And one of the factors that you identify in your evidence as a burden is the risk of stranded assets, is that correct?

A. That is one component, that's true.

Q.375 - And in this regard you indicate that this occurs when a pole is built to accommodate communications users, but communications users do not in fact use the space for the full life of the pole, is that correct?

A. Yes, that's correct.

Q.376 - Now would you agree with me that all joint use poles are built to accommodate Aliant?

A. Yes, as they are all built to accommodate third party attachers such as Rogers.

Q.377 - All right. And Disco is compensated for its investment in communication space by getting access to Aliant poles, is that correct?

A. Yes. Through the joint use agreement there is -- the attachment to each others' poles is paid for in kind as you had indicated yesterday.

Q.378 - All right. Would you agree with me that a separation space is required as soon as you have Aliant on a joint use pole?

A. Yes. Separation space is a common factor associated with people agreeing to build to joint use standards.

Q.379 - And the separation space is established by the CSA standards, is that correct?

A. Yes, that's correct.

Q.380 - With some judgment applied by the pole owner?

A. No, the minimum standard --

Q.381 - The minimum standard --

A. -- requirements is for separation space is definitely established by the CSA, both at the pole and at mid-span.

Q.382 - But there would be some judgment that would need to be applied to determine how much sag you would be getting on your lines to determine what separation space you need on the pole to get the correct separation space mid-span, would that be correct?

A. No. That's not a judgment factor, that's an engineering issue. The manufacturers of the wire and conductor that we put in the air provide information as to what tension that is to be installed at and provide precise information as to what sag that would result in as well as what the implications of conditions such as ice load and wind load and thermal loading on those conductors. So the amount of sag under fully loaded conditions is a fairly precise calculation.

Q.383 - Would you agree with me that the amount of separation space does not vary with the number of communications users on the pole?

A. Yes, that's correct. The separation space is a function of separation between the communication space and power facilities in order to accommodate the communication workers to be able to safely work on their facilities.

Q.384 - All right. I wonder if we could go to a response to interrogatory in exhibit A-68, and it's Disco Rogers IR-4. If we could go to the second element of your response there. You say that all Disco's joint use poles have been constructed to include two feet of communication space. Is that correct?

A. Yes, that is correct.

Q.385 - And you continue, no thought has ever been given to

constructing joint use poles with a communications space of less than two feet. Is that correct?

A. Yes, that is correct because they are all built in order to accommodate not just Aliant, but other third party attachers who would want to attach to that pole.

Q.386 - All right. I would like to go to the joint use manual now. We have prepared some excerpts of the pages that we will be referring to since the panel members did not have a copy of the joint use manual. So I just ask to have those circulated now.

CHAIRMAN: It's my understanding that the joint use manual itself has been filed with the Board, but just the one copy.

MS. MILTON: That is my understanding as well, Mr. Chairman.

CHAIRMAN: All right. And that has -- does it form part of an exhibit at present?

MS. MILTON: Yes, I verified that yesterday morning. Apparently it was included in a revised version of exhibit A-68, which was Disco's response to interrogatories.

CHAIRMAN: Okay. That's good enough. So these are excerpts from A-68?

MS. MILTON: Yes.

CHAIRMAN: Good. Thank you.

Q.387 - Now I wonder if we could go to page 212. These are

excerpts but they hopefully are in order. Three pages in, I think, to page 212. As I understand this, Mr. O'Hara, this is a diagram indicating how you would determine the height of a joint use pole. Is that correct?

A. Yes. That is used in the preliminary stages to determine what the approximate average height of poles will be for over the distance of a new job, yes.

Q.388 - All right. And if we look down the diagram on page 212, we have an area marked NBTel. And an area marked NBTel sag. Is that correct?

A. Yes, that's correct.

Q.389 - And then if we slip over to the next page of this document, we have page 213. And it is entitled "Guidelines for Completing the Form". And if we go down to number 3, it is titled "NBTel Space". And it reads "depends on type of construction to be supplied by NBTel." And then number 4 is NBTel sag. And it says "depends on span length and weight of cable to be supplied by NBTel." Is that correct?

A. Yes, that is what is stated in that guideline.

Q.390 - Would you agree with me that there is no reference to any third party other than NBTel in this diagram in the guidelines for completing the form?

A. No, not on the form or in the guidelines. But

Aliant -- or NBTel at the time agreed that all communication space would be 2 feet on all poles.

Q.391 - And in fact if we go down to the note on that page, and we look at the last line of that note, it says "Consider only the known present and future NB Power and NBTel requirements when completing this form." Is that correct?

A. I'm sorry. I do not see where you are reading that.

Q.392 - There is a note at the bottom of the page. Do you see that, Mr. O'Hara?

A. Yes, sorry.

Q.393 - And in the second sentence of that note, it begins consider. And it says "Consider only the known present and future NB Power and NBTel requirements when completing this form." Is that correct?

A. Yes, that is correct. And in the context of where NBTel is used on here, it is in reference to the communication space on the whole.

Q.394 - When was the last time the joint use manual was revised, Mr. O'Hara?

A. The last full revision would have been 1996.

Q.395 - All right. Now would you agree with me that if additional capital expenditures are required to accommodate a third party tenant like Rogers on one of

your poles, then Rogers must pay all of the costs up front as a non-recurring charge? Is that correct?

A. Would you be referring to the make ready costs?

Q.396 - Yes, I am.

A. Yes, that is standard practice with all agreements, including the agreement that Rogers would currently have with Aliant and as outlined in CRTC's 2000-13 as far as their terms and conditions, that if a third party is required to attach to a pole, and there is a requirement for that pole to be upgraded, in order to facilitate that, then the third party requesting for that work to be done would in fact pay for that work.

I would like to note, however, that in the province of New Brunswick, as a result of Disco and NBTel, now Aliant, constructing all poles to joint use standards, including 2 feet of communication space, that the make ready costs associated with pole replacements is negligible.

Q.397 - But any additional costs, capital costs that is required in order to make the pole suitable for Rogers must be paid by Rogers in the form of a make-ready fee. Is that correct?

A. That is the standard practice. In the province of New Brunswick that cost being passed over to Disco is less than $10,000 a year.

Q.398 - In 1967, who was on Disco poles other than Aliant?
A. Aliant wasn't on Disco poles in 1967.
Q.399 - In 1968, following the completion of your joint use agreement, who was on your joint use poles?
A. NBTel and any third parties that would have been in the province at the time.
Q.400 - Can you identify any such third parties?
A. No, I cannot.
Q.401 - Was there a cable company on your poles?
A. Pardon me?
Q.402 - Do you know if there were cable companies using any of your poles at that time?
A. I'm not certain of that. No, I do know that cable was within Canada in the 1950s and was beginning to progress throughout. I'm not sure if cable was in New Brunswick in 1967 or not. But we certainly were aware that it was something that was in the country and was heading our way.
Q.403 - Was there any indication at that time whether or not cable would succeed?
A. I have no opinion on that.
Q.404 - All right. Thank you. Now I wonder if we could turn for a moment to the issue of pole costs. And perhaps it would be easiest -- well no, I am going to try to limit how much I turn up documents. Can you confirm for me that

the pole cost data that Disco has filed in this proceeding for the purposes of establishing a pole rental rate includes the capitalized costs of easements?

A. You are referring to Appendix C in our --

Q.405 - Let's go to Appendix Q of exhibit A-68.

CHAIRMAN: You had better read that to us, Ms. Milton. I can't read it.

Q.406 - If we go over to column K, Mr. O'Hara, it says capital easement. It's my understanding that would be the capitalized cost to Disco of obtaining easements, is that correct?

A. Yes, that's correct.

Q.407 - And that L is entitled capital clearing and it's my understanding that would be the capitalized cost associated with clearing an area in order to install the pole, is that correct?

A. Yes, that's correct.

Q.408 - Now would your engineering design costs be included in your capitalized cost of your poles?

A. The resources doing the field design work, yes, charge to the capital projects to replace poles.

Q.409 - Thank you. And would you agree with me that both Rogers and Disco are proposing that Disco's annual maintenance costs be included in the calculation of the

annual pole rental rate? Subject to discussion of what the number is would you agree with me that the concept both parties are agreed that we should look at annual maintenance costs?

A. I'm sorry. Could you repeat the question?

Q.410 - Would you agree with me that both Rogers and Disco have proposed that the pole rental rate should consider the annual maintenance cost to Disco of poles?

A. Yes, that's correct.

Q.411 - Thank you. Now I believe you suggest in your evidence that there are advantages to being a tenant, is that correct?

A. Yes, there are in fact advantages to being a tenant.

Q.412 - And I think one of the points you make is that Rogers makes virtually no capital investment in poles, is that correct?

A. The capital investment in poles that Rogers would make in this province is very minimal.

Q.413 - All right. But I think you have just agreed with me that the capitalized pole costs are all included in your pole cost data which we are all using for the purposes of establishing a rate, is that correct, Mr. O'Hara?

A. Yes. Obviously the capitalized costs of setting poles is included in our financial information.

Q.414 - All right. And would you agree with me that both Rogers and Disco are proposing in this proceeding that the pole rental rate include a contribution to those capital costs?

A. Yes, the pole rental rate does include a contribution towards those capital costs.

Q.415 - All right. So to the extent that that is included in the pole rental rate would you agree with me that Rogers is contributing to the capital costs of Disco's poles?

A. Rogers would be contributing such an insignificant amount to the capital cost of Disco's poles that it is negligible.

Q.416 - Do you consider 30 percent to be negligible?

A. No, I do not.

Q.417 - All right. Now I think you also make the point that Rogers only has to attach where there is demand for Rogers services while Disco has an obligation to serve, is that correct?

A. Yes. Disco has an obligation to serve throughout the province wherever anybody requests service, whereas Rogers does not have that similar obligation. Rogers will provide service where a business case makes sense for them to do it.

Q.418 - And I think you agreed with me yesterday that Rogers

has nothing to do with your obligation to serve, is that correct?

A. Yes. No, Rogers has nothing to do with our mandate to serve.

Q.419 - So Disco would have to incur the costs associated with its obligation to serve regardless of whether or not Rogers is present on its poles?

A. The fact that Rogers is on those poles does increase the cost of serving those customers however.

Q.420 - Well we are going to get to that. We will get to the cost data. But you would have to spend money on poles regardless of whether or not Rogers is here?

A. They would have to spend some amount on poles whether Rogers was here or not, that's correct.

Q.421 - And in fact when Rogers pays a contribution to your capital cost it reduces your costs of meeting your obligation to serve, would that be correct?

A. If Rogers was making a contribution to our capital costs it doesn't necessarily reduce the cost to serve our customers, no.

Q.422 - Well I believe you said yesterday that if the rate that Disco was proposing will result in an additional $2 million in revenue to Disco and that those revenues are being considered for the purposes of establishing

electricity rates in this proceeding, is that correct, Mr. O'Hara?

A. Yes, that's correct.

Q.423 - All right. I wonder -- we have made copies of some earlier evidence that was filed in Appendix A-3, I believe, because I'm not sure that the Board would have that binder in front of it today. So we have made copies of a very short excerpt of that evidence. Does the Board have exhibit A-3 today?

CHAIRMAN: No. They are with the other 27 back in the office.

MS. MILTON: All right. So we will just circulate this excerpt if we could. This is as I said is from exhibit A-3. It was the direct evidence of Lori Clark at tab 5 of that exhibit. And if I could take you to the second page of page 11 of the two pages that we have copied.

And on line 7 -- or on line 6 Ms. Clark identifies increased revenue as a result of business excellence initiatives for a total of 1.7. And then on line 7 she identifies a pole attachment fee increase of 1 million. Do you see that, Mr. O'Hara?

A. Yes.

Q.424 - Now can you reconcile for me the 2 million that you indicated was the number yesterday with this 1 million

that's in the evidence of Ms. Clark?

A. The 1 million was a year over year increase of attachment fees as a result of going through the escalation process that we had initially introduced to Rogers beginning at the fee of 18.91, escalating it to 23.50 and then to our 28.05 in April of this year.

And the 1 million simply represents the difference between one year over the next. And this would represent the difference between I believe the 03/04 and the 04/05 numbers or it's the difference between the 04/05 and the 05/06 budget.

Q.425 - All right. Thank you. Would you agree with me that if Rogers builds its own poles it would only build poles where it wished to provide service? If it could build those poles it would only build them where it was going to provide service, would you agree with that?

A. Yes. I would assume they would build their poles where they were going to provide service.

Q.426 - Thank you. Now turning to some of the cost data. I believe it's your position that the pole rental rate should reflect the physical configuration of Disco's poles and Disco's actual costs, is that correct?

A. That's correct. And could you take me to which cost data you are referring to?

Q.427 - Well we are going to get there. But are you comfortable with that general principle?

A. Yes, I am.

Q.428 - All right. Now do you still have in front of you Appendix Q that we got out a little while ago? It's Appendix Q to A-68?

A. Yes, I do.

Q.429 - Does the information in Appendix Q reflect your current investment in poles on your books at this time?

A. I believe that there is an issue here with respect to financial records and operational records.

Q.430 - What records are these, Mr. O'Hara?

A. This is a combination of both.

Q.431 - All right. So I understand that you are proposing that the pole rental rate should be based on a sub-set of the cost data that are shown on Appendix Q, is that correct?

A. It should be based on a data set comprised of 32 years of information.

Q.432 - Now does Disco own and use poles that are older than 32 years?

A. Excuse me?

Q.433 - Does Disco continue to own and use poles that are older than 32 years?

A. There is a possibility that some poles could last more than 32 years, yes. Just as --

Q.434 - And it has some of those poles?

A. -- we know that poles last less than 32 years as well.

Q.435 - All right. Now I understand that in the OEB proceeding the CEA filed evidence indicating that Disco has 340,000 joint use poles. Is that consistent with your understanding?

A. That was the information that was filed at the time. It was based on the best estimates that we had. Based on information that we had we hadn't yet implemented our GIS system, we hadn't -- begin to have an opportunity to reconcile any of those types of numbers.

As a ballpark figure we were working with in the order of 600,000 poles in the province. We now know that that was more than what is actually in the province. And the 340,000 was simply based on 57 percent of those 600,000.

Q.436 - And who would have provided that number to the CEA? Would that have been you?

A. Our joint use co-ordinator provided that information.

Q.437 - Okay. And if we go to the bottom of column B on your Appendix Q, there is the number 339,241, is that correct?

A. Yes, that's correct.

Q.438 - And that would represent the total number of poles

shown on this table?

A. That represents the total number of poles on this table, that's correct.

Q.439 - Now I believe you have indicated that poles constructed before 1967 would not be joint use poles, is that correct?

A. Yes, that's correct.

Q.440 - And if we go up to the very top of column B again in this chart -- and I apologize for taking people through some very small numbers -- but the first three rows of that table would be the data for 1964, '65 and '66, is that correct, Mr. O'Hara?

A. Yes, that's correct.

Q.441 - And just looking at those numbers the total for those three years would be in the order of 6,500 poles, is that correct?

A. Yes, that's correct.

Q.442 - So roughly two percent of the total number of poles shown on this diagram -- or sorry, this table?

A. Yes. About 6,500 poles, yes.

Q.443 - Thank you.

A. I would also like to note that all of the poles existing prior to the -- prior to 1974, prior to the 32 years, comprises less than 10 percent of the number at the

bottom of the page. And dealing with records that extend over decades it's not -- wouldn't be unusual for this type of information to get a little bit inaccurate by, you know, plus/minus six, seven, eight factor. Particularly given that these poles prior to 1972 being fully depreciated, the financial people keeping the financial records, they are most focused on the financial records themselves. They wouldn't have the kind of emphasis into well, how many poles does that actually reflect?

They are more interested in, I have a million dollars worth of value of poles, and not so much interested in, does that represent 100 poles or 1,000 poles. For that -- that's what I am referring to, the difference between operational information and financial.

The financial information on this page is accurate. The operational information with respect to the quantity of poles I believe is somewhere within a range of reasonableness, but the 339,000 is high. In fact I can correlate that to the study that we conducted in 1993 with respect to the life expectancy of a pole. Within that study they specifically referred to the life expectancy of an untreated pole, which is what we put in the ground prior to 1978.

Across the industry and utilizing software and IO

curves, they determined that the life expectancy of an untreated pole was 26 to 28 years. So these untreated poles that are showing on these books that would have been installed in the 1960's are very unlikely that they are actually in the ground.

Q.444 - But you are showing in Appendix Q that you have some of those poles, is that correct?

A. The numbers are off a financial management system in this Appendix Q.

Q.445 - All right. And you told me that there could be a plus or minus on those amounts, correct?

A. I told you that some poles could last more than 32 years and some poles last less than 32 years.

Q.446 - All right. So the error could go either way, is that correct?

A. Pardon me?

Q.447 - The error could go either way, plus or minus?

A. Yes. But we do know that based on studies that the typical is 32 years.

Q.448 - But you have indicated to me you do you use poles that are more than 32 years, correct?

A. Some poles last more than 32 years. Some poles last less than 32 years.

Q.449 - All right. I wonder if we could go back to the joint

use manual, the excerpts that we circulated a few minutes ago.

If we could go to the very last page of that excerpt. It is page 4-12.

Do you have that, Mr. O'Hara, page 4-12?

A. Yes, I do.

Q.450 - And the table in the middle of the page is entitled "Prematurely replaced poles and associated age." Do you see that?

A. Yes, I do.

Q.451 - Would you agree with me that that table contemplates that poles may last as long as 59 years?

A. No, it doesn't.

Q.452 - And why not, sir?

A. This is just a table indicating that zero years would represent zero 4 years up to 55 years would represent 55 to 59 years.

Q.453 - Why would you have a table in your joint use poles about poles that would never exist? A table in your joint use manual, excuse me, about poles that you don't think would ever exist?

A. The only poles that I could think of that could potentially do that would be if we had steel -- a very small quantity poles out there that would potentially last that long.

Other than that this is just a descriptive table. It's not indicating that poles do last that long. It certainly doesn't indicate that wood poles last that long.

Q.454 - Would your steel poles be included in the cost data that you filed for the purposes of setting a pole rental rate?

A. Yes. And they would be less than a tenth of a percent of the poles that we have out there.

Q.455 - All right. But those costs are included?

A. Yes. That's correct. If they are a joint use pole.

Q.456 - All right. I wonder if we could go back to exhibit A-68. Hopefully people still have it open. And to Disco Rogers IR-10.

And you are looking at the second element of that response. So I will just give you a moment, Mr. O'Hara, to review your response in part 2 on the second page.

Have you had a chance to review it, Mr. O'Hara?

A. Yes, I have.

Q.457 - Now as I understand it, in this response you are explaining the discrepancies between your pole numbers for 2004 as you presented to Rogers in July of 2004 and the numbers that you have presented for the Board to consider in this proceeding, is that correct?

A. Yes. That's correct.

Q.458 - And as I understand your response, you are saying that 300 of the poles that were -- excuse me, 300 of the poles that you installed in 2004 were in fact retired by the time you filed your data in this proceeding, is that correct?

A. Yes. That's correct.

Q.459 - So you retired about 300 poles when they were less than two years old, is that correct?

A. Yes. That's correct. And this is an example of where poles don't last 32 years and can in fact last a very short period of time.

And this is related to the factors that I had discussed yesterday with respect to the life of a pole is impacted by a number of things besides just how long the pole will last in the ground.

And some of those factors including road shifts or required upgrades, vehicle accidents, storms, being struck by lightning, those types of things.

So over a two-year period, 300 of those poles that were installed in 2004 had to be taken off the books as a result of those kinds of issues.

Q.460 - And as I understand it, you installed about 6,355 poles in 2004, is that correct? That is the number you have in your response.

A. We typically install 6,500 to 7,000 poles per year.

Q.461 - So what you are telling me is about 5 percent of the poles that you installed in one year were retired when they were only less than two years old, is that correct?

A. Yes. That's correct.

Q.462 - All right. And when you have to take down a pole and move it because of highway work for example on a Department of Transportation highway, are you reimbursed at all by the Department of Transportation for those costs you incur in that situation?

A. Yes. There is agreement with the Department of Transportation where we recover a portion of our costs associated with that but not all costs.

Q.463 - Thank you. Now I would like to take you to an Interrogatory Response that was filed by Disco in exhibit A-19.

And I believe the Board said yesterday that it didn't have that binder. So we have made copies of the interrogatory response. And we will just circulate that now.

Q.464 - Have you had a chance to look at that, Mr. O'Hara?

A. Yes, I have.

Q.465 - And as I understand it, this is a table of estimated costs that you provided in response to a question by the

Public Intervenor, is that correct?

A. Disco would have provided this response, yes.

Q.466 - All right. And what you are showing there is that for a 30-foot class 5 pole the estimated average installed cost would be $607, is that correct?

A. That's what's showing in this table, yes.

Q.467 - And then if I go down, for example, to the last line which is a 60-foot class 2 pole, you would have an average estimated installed cost of $1,751?

A. Yes. That's correct.

Q.468 - Mr. O'Hara, have you calculated the per foot cost of the different heights of poles based on these data?

A. No, I have not.

Q.469 - Well, I calculate that the per foot cost of a 30-foot pole is in the order of $20 and the per foot cost of a 60-foot pole is in the order of $29.

Now if my calculations are correct -- and I appreciate that you are going to want to verify my numbers. But if they are correct, would you agree that the per foot costs of a 60-foot pole is roughly 50 percent higher than the per foot cost of a 30-foot pole?

A. Based on the numbers that are presented here, that's correct.

Q.470 - All right. Now I wonder if we could go back to

exhibit A-68 and Appendix J.

Do you have that, Mr. O'Hara?

A. Yes, I do.

Q.471 - And as I understand it, if we look at your first column, after the definition of the different types of poles, the first column would be the cost of a bare pole without any fixtures on it for a certain type of construction, is that correct?

A. Yes. That's correct. It's the cost of a bare pole. There is no construction on it, just for the different pole heights.

Q.472 - All right. So just looking at that first column, the cost of a 30-foot pole is $308.09, is that correct?

A. Yes. That's correct.

Q.473 - And if we go down to the bottom of the column, the cost of a 50-foot pole would be $898, is that correct?

A. Yes. That's correct.

Q.474 - Have you calculated the per foot cost of a pole of different heights based on these numbers, Mr. O'Hara?

A. No, I have not.

Q.475 - I calculate that the per foot cost of a 30-foot pole is about $10. And the per foot cost of a 60-foot pole is $18.

Now again, subject to checking my numbers, would you

agree that these numbers indicate that the per foot cost of a 60-foot pole is in the order of 80 percent more than the per-foot cost of a 30-foot pole?

A. No, I would not.

Q.476 - Why not?

A. Because a 60-foot pole isn't shown in the appendix of J.

Q.477 - Excuse me. Sorry. Good correction. For a 50-foot pole?

A. If your calculation are correct then yes, that's right.

Q.478 - Thank you.

A. I would like to point out though that there is a big difference between these chart as far as costs go.

Q.479 - Yes.

A. The one that's in IR-12 is an installed cost of these poles that would be captured in our financial system. So it includes things like travel and what not associated with getting to the work site and installing the pole. It would also include any difficulties that may have been encountered with respect to having to do traffic control or difficult weather or possibly time of the year, those kinds of things.

Whereas the numbers that are in Appendix J are a cost

associated with if you are standing at the work site what does it cost to actually install that pole? So there is a difference between these two.

MS. MILTON: Mr. Chairman, I'm going to be moving to a new area of my cross examination. I'm wondering if you would like to take a break now or if I should proceed.

CHAIRMAN: We will take a break now.

(Recess - 10:25 a.m. - 10:45 a.m.)

CHAIRMAN: Anything preliminary? Go ahead, Ms. Milton.

Q.480 - Thank you. Mr. O'Hara, just one more quick question on that revision to the joint use agreement. Can you tell me when that revision was introduced?

A. No, I'm sorry, I can't.

Q.481 - Could you undertake to find that out and provide that to the Board?

MR. RUBY: Pardon me. I'm sorry, I missed that.

MS. MILTON: Could you undertake to find out when this revision to the joint use agreement was introduced, what date?

MR. RUBY: Maybe you should ask the witness if he has any way of doing that in sort of the time frame of this hearing.

MS. MILTON: Well it's your joint use manual, I would have thought that you could find out pretty quickly when this

page was changed.

CHAIRMAN: Would you give a call to Fredericton and see if there is somebody up there --

MR. RUBY: We will certainly do our best to get that information.

MS. MILTON: Thank you.

Q.482 - I would like to talk a little bit now about space allocation on a joint use pole. Now I understand that starting from the bottom there is buried space, is that correct?

A. Yes, that's correct.

Q.483 - And the buried space varies from five feet to 7.5 feet depending on the height of the pole, is that correct?

A. Yes, that's correct. The taller pole needs to be buried in the ground deeper to make it -- ensure that it's secure.

Q.484 - All right. And then above the buried space we have what is called the clearance space, correct?

A. Yes, that's correct.

Q.485 - And for the purposes of clearance we look at the CSA standard for clearance plus an appropriate amount for sag of the cables, is that correct?

A. The CSA minimum clearance standards is a standard under fully loaded conditions, so there are a number of

factors that need to be taken into account. Sag is one of those factors, yes.

Q.486 - All right. And would sag be a function of the weight of the cable?

A. Sag is primarily a function of how -- to what tension can you instal that cable.

Q.487 - Does weight have any impact?

A. Yes, it certainly does.

Q.488 - All right. Would a cable company cable weigh the same amount as a telephone company copper wire?

A. I don't know what the weight of the various cables are that communication companies use.

Q.489 - You don't know. All right. Thank you. Now I wonder if we could go again to those excerpts from the joint use manual. And to page 261. Do you have that, Mr. O'Hara?

A. Yes, I do.

Q.490 - And if we look at the second table, the one at the bottom of the page, those are the acceptable ground clearances that have been approved by Aliant and Disco for new facilities, is that correct?

A. Which table would you be referring to?

Q.491 - The bottom one.

A. Table 22?

Q.492 - Yes. And it's below the Installation of New Services

Off Existing Lines.

A. Yes, that's correct. It's specific to new services.

Q.493 - Now as I understand it, the highest clearance standard on that table is 18 feet and that relates to cables that would go up over streets and highways and densely populated areas and over driveways to commercial or industrial property, is that correct?

A. Yes, that's correct.

Q.494 - So this would apply in respect of cable that is actually crossing those streets and highways?

A. Those are the descriptions in this abbreviated table. However, if you refer to the same data in the CSA standard, it will discuss along the edge of road right-of-way travelled by vehicles and those types of things.

Q.495 - All right. But as you describe it here, it's over streets and highways?

A. Yes. In this particular table, that's correct.

Q.496 - All right. And I believe one of the reasons you have given for why NBTel -- or I will call them Aliant now -- and Disco have agreed to a higher clearance is the fact that there is a significant snow accumulation in New Brunswick, is that correct?

A. That's certainly a component of why we construct to the level that we do. There is -- that's a factor that

the CSA has always indicated that that's a reasonably known factor that needs to be taken into account, yes.

Q.497 - And would you agree with me that most streets and highways and densely populated areas and driveways to commercial property are ploughed?

A. Yes. The street and the driveway is ploughed but that snow ends up being on the side of the street which is also underneath of the wires. And in fact the accumulation as a result of ploughing that snow to the side is much greater than what the accumulation would be if it were to just sit on the ground.

Q.498 - All right. And then if we look at the remaining rows of that table, there are lower clearance standards that range from 10.5 feet to 16 feet, is that correct?

A. Yes, that's correct.

Q.499 - And I believe you have indicated in your interrogatory responses that approximately 30 percent of your poles would be built to the highest standard, so the 18 foot standard, is that correct?

A. No. I'm not sure what you are referring to there.

Q.500 - All right. Perhaps we could go to the interrogatory response. It's A-68, and it's IR-18 -- Disco Rogers IR-18 -- or excuse me -- IR-20. And looking at the second page of that response.

A. IR-19?

Q.501 - IR-20. Sorry. And I have on my pages -- they were corrected pages. I assume others look the same. I actually have almost -- shortly before the bottom of the page I have the header repeated, Disco/Rogers IR-20, and looking at the paragraph just above that header -- do you have that, Mr. O'Hara?

A. I'm not sure which paragraph you are referring to.

Q.502 - Well it's in your response to the part two of the question and it's the third paragraph of that response. It begins, approximately 21 percent --

A. Disco Rogers IR-20, there is no --

Q.503 - Do you not -- perhaps you don't have the corrected version. Is that possible?

MR. RUBY: Mr. Chairman, with your indulgence maybe we can help the witness find the page. Thank you.

A. Okay. I have the appropriate information now.

Q.504 - You have that now. All right. And I believe it says that approximately 21 percent of Disco's total system is built over streets and highways and densely populated areas and over driveways to commercial and industrial property. So those would be the areas where the highest clearance standard is required, is that correct?

A. Those are one area where that clearance standard is

required, that's right.

Q.505 - And then you conclude greater than 30 percent of Disco's system is required to be built to the same standards, is that correct?

A. Yes, that's correct.

Q.506 - So the remaining portion of your network would be built to the lower standards that we see in that table of the joint use manual, from 10.5 feet to 16 feet, is that correct?

A. No, that's not correct.

Q.507 - Why is it not correct?

A. You are referring to the table and taking specifically the description that's there. However, when you refer to things such as, you know, rural or urban, that sort of thing, any populated area by the CSA standard must be considered as densely populated, there are people living there. So you need to build to a similar standard. The other issue is even over -- if you consider and think about people's backyards and that sort of thing, potentially you can look at that and consider, well that's an area only accessible to pedestrians. However, in this day and age, in people's backyards and whatnot they have a tendency to build their sheds, to put pools, they do different things in their backyards, which require

additional clearance as a safety -- from a safety perspective.
So if you are looking strictly at what the description is, the location versus these clearance standards, that's one aspect, but if you are looking at the reality of construction and ensuring that people can go about their activities safely, that's another component of it.
There is a piece within the CSA standards that isn't described in this abbreviated table which references lines that are built along the edge of a roadway or highway that is travelled with vehicular traffic, and that was well was built to the same standard as though it was crossing over the road. So you can't draw a direct conclusion.

Q.508 - All right. But I understood that your last sentence that we just looked at was intended to capture what you have just described, and you said greater than 30 percent of Disco's system is required to be built to the same standards. Am I misunderstanding that sentence?

A. That's correct. Greater than 30 percent, yes.

Q.509 - Would you agree with me that there are a number -- in fact probably a large number of your poles in backyards which are in fact built to these lower standards of 10.5 feet?

A. There are some. However, you can even reference

Rogers submitted photographs and see that we are using -- Rogers themselves uses a clearance considerably more than that in people's backyards. And the reasons for that are I don't think that any utility is that interested to approach the minimum standard getting down into as low as eight feet to have energized wires in somebody's backyard. There are other issues associated with meeting these clearances and that's with respect to looking at what reasonably can occur. And just for example over driveways to residences, if you look at that in the CSA standard, that is specific to residences that would have vehicles less than 2.4 meters. That's a little less than eight feet.

In this day and age there are a lot of vehicles, recreational vehicles, people putting their boats in their driveways, other things that are higher than eight feet. And it's not reasonable for us to build to that minimum standard and still be within the spirit of the CSA requirements which is to take in what is reasonably known that occur over the life of that line.

Q.510 - All right. Now I think you agreed with me yesterday that Rogers has no control over the clearance space that is ultimately determined by Disco on its poles. Does Rogers have any impact on what the clearance space is?

A. By default Rogers' facilities has an impact. We build those to the standard of the CSA to ensure that Rogers' facilities and any other individuals in the communications space can meet the minimum CSA standards.

Q.511 - If you exceed those standards does Rogers have any input into that?

A. No. Rogers does not provide input to that and in those occurrences where Disco is exceeding those standards, that's -- we have gone through a careful exercise and made a decision to spend additional monies due to some factors that we are aware of.

Q.512 - I think you agreed with me yesterday that the placement of Rogers' facilities on a pole was dictated by Disco and Aliant, is that correct?

A. The placement of Rogers' facilities on a pole is dictated firstly by the communication space. They must attach within that space.

Q.513 - But within the communication space they are told by Disco and Aliant where they can attach?

A. Within that space they are attached depending on what happens to be in that space already and what the future plans for of that space, yes.

Q.514 - All right. But they are told where to attach by Disco and Aliant, is that correct?

A. Yes. Somebody must manage that space. Otherwise -- you can't just have multiple people coming there and attaching wherever they would want to. It needs to be organized and somebody needs to -- we use the term manage, but ensure that people are doing things in an orderly fashion, yes.

Q.515 - And manage would be a judgment call, would it, Mr. O'Hara?

A. Manage based on CSA standards and other standards associated with construction.

Q.516 - And that's something that is done by Aliant, the management of the communication space, or by Disco perhaps?

A. Yes. By Aliant or by Disco, that's correct.

Q.517 - Now I think you also indicated yesterday that a significant amount of Rogers' facilities are overlashed to Aliant strand, is that correct?

A. No, that's not.

Q.518 - Some of Rogers' facilities is overlashed to Aliant's strand?

A. Yes. That's correct. Rogers says that some of their facilities are overlashed to Aliant's strand?

Q.519 - Are you aware that up until 1995 Rogers was not allowed to place its own facilities on the poles that were

managed in New Brunswick by Aliant?
A. I read that in Rogers' evidence.
Q.520 - All right. So prior to 1995, all of Rogers' facilities were actually placed on the pole by Aliant, are you aware of that?
A. I am aware of what was presented in their evidence, yes.
Q.521 - And when Aliant placed those facilities, it tended to overlash Rogers' facilities to its own strand, are you aware of that?
A. Again, that's operational communication industry business. I'm not familiar with what they did or why they did. I know based on Rogers' evidence that they have facilities that are overlashed on Aliant's facilities.
Q.522 - When Rogers' facilities are overlashed on Aliant's facilities, do Rogers' facilities use any space on your pole?
A. They require the pole to support that strand which is similarly described in many of the CRTC rulings that an attachment fee would apply to an attacher whether they were physically attached to the pole or whether they were attached to a strand that is supported by that pole.
Q.523 - Agreed. But I was asking whether they would use any space within the communication space when they are

overlashed to Aliant's strand?

A. Certainly they do.

Q.524 - When they are overlashed they use some space?

A. Absolutely.

Q.525 - How much space would they use?

A. They would use the space that the strand is attached to as well as they would require whatever space is required for the lashing tool in order to overlash. So they would use approximately a foot.

Q.526 - All right. But the strand would already be there for Aliant, is that correct?

A. Yes, that's correct.

Q.527 - All right.

A. However, you would need to use this lashing tool to overlash Rogers' facilities on it. And in order to be able to do that you need to have about a foot of space, and that's why the two foot communication space is broken up the way that it is with three attachers on either side of the pole with a foot in between those attachments to allow for the use of the lashing tool to put their cables on that strand.

Q.528 - So you are saying you could have six attachers to a joint use pole, is that correct, Mr. O'Hara?

A. Yes. Our design standards allow for three attachments

on either side -- on both sides of the pole, which is of benefit to third parties because it allows for more room to attach. If we were restricted to one side, that would create some issues.

Q.529 - So there is significant upside potential here if we get more competitors in the communications market that need to attach to your poles, is that correct?

A. No, I don't believe so.

Q.530 - You could generate revenues from a number of additional attachments on those poles?

A. All joint users on the pole would share the costs of that pole.

Q.531 - Well if we go in with a rate that is set assuming there are two users, and we don't change that rate, what would happen then?

A. The rate needs to be adjusted as the average number of attachers increases.

Q.532 - So Disco will be back asking for a rate reduction in that situation?

A. It's not a rate reduction. It's a re-spreading of the costs associated with the joint use pole.

Q.533 - The individual rate payable by each communications user would fall, would it not, Mr. O'Hara?

A. It would change, yes.

Q.534 - Now I understand above the clearance space we have the communication, is that correct?

A. Yes, that's correct.

Q.535 - And the communication space is always two feet, is that correct?

A. Yes. The standard that is accepted across Canada is two feet communication space.

Q.536 - All right. Now if we use the clearance space that was accepted by the OEB and the CRTC and that Rogers is proposing in this proceeding, you are aware that that amount is 17.25 feet, are you, Mr. O'Hara?

A. You are back to the clearance space?

Q.537 - Yes.

A. Yes. That was the number that was used.

Q.538 - All right. So if we add two feet of communication space to the 17.25 feet we would get 19.25 feet, is that correct, Mr. O'Hara?

A. Yes, that's correct.

Q.539 - So if a Rogers' cable were mounted at 19 feet would it still be in a communication space?

A. Yes, it would.

Q.540 - Thank you.

A. However, the communication space also needs to accommodate the other attachers. And you need to account

for the bottom most attacher when determining what you need for clearance space. Otherwise you are not constructing the pole in the spirit of joint use. You are constructing a pole that would allow somebody at the uppermost portion of the communication space to actually achieve the appropriate ground clearance and those below wouldn't be able to.

Q.541 - And who would be the bottom most attacher on most of your poles?

A. That's depending on where the attachments are on the pole.

Q.542 - And I think you indicated to me that sag was a function of weight, is that correct? I think we talked about this a few minutes ago, that the sag on a line was a function of the weight of the line.

A. Weight I said was one factor, yes.

Q.543 - All right. And you weren't aware of the relative weights of copper -- telephone company copper and coaxial cable that's installed by Rogers?

A. No, I'm not.

Q.544 - If the weight of the coaxial cable were less, would you agree with me there would be less sag on that cable?

A. Not necessarily.

Q.545 - Because what, of other factors?

A. Yes.

Q.546 - What other factors?

A. The tension that is able to be put on that cable or that coax, and as a result of that that drives how much sag you are going to have as well, probably moreso than the weight.

Q.547 - All right. Now if we go back up above -- we have got the communication space, then we go -- above that is the separation space, is that correct?

A. Yes, that's correct.

Q.548 - And I understand that the CSA standard requires a separation space that varies between two feet and four feet, is that correct?

A. No, that's not correct.

Q.549 - So what would be the variation in the separation space that's required by the CSA standards?

A. Separation space between main line communication facilities and NB Power's energized wires is set at a minimum of one meter, 3.28 feet.

Q.550 - How much separation space would you have on a service pole, Mr. O'Hara?

A. That's where I had indicated the main line.

Q.551 - All right. I was asking generally about all poles.

A. On all poles there is one -- there is a deviation

allowed for service drops --

Q.552 - And what would be the separation --

A. -- and in that case you can reduce the clearance to .6 meters.

Q.553 - All right. Thank you. And the amount of the separation space depends then on the voltage that is carried by the lines, is that correct?

A. Yes, that's correct. If you have higher voltage you require more separation. That's one factor.

Q.554 - All right. Now going to the top of the pole above the separation space we have this power space, is that correct?

A. Yes, that's correct.

Q.555 - And I believe that you have indicated in your evidence that Disco's power space requirements on a 40 foot pole are 4.9 feet, is that correct?

A. Our standard construction requires 4.9 feet, that's correct.

Q.556 - And would you agree with me that sometimes Disco requires much more than 4.9 feet on a pole?

A. 98 percent of what we construct out there is single phase and standard three phase construction, and both of those construction types require approximately five feet on the pole.

Q.557 - But you do have some 55 foot poles out there, don't you, Mr. O'Hara?

A. Yes, that's correct. They are less than a tenth of a percent of the poles.

Q.558 - And those poles are included in your pole cost data?

A. Yes, that's correct.

Q.559 - All right. Now suppose we are building a telephone company only pole. And as I understand it, using the space allocations that Disco believes should be used, on that telephone company only pole we would have six feet of buried space, 19 feet of clearance space and two feet of communication space, for a total of 27 feet. Would you agree with that?

A. No, I wouldn't.

Q.560 - What would that -- what would the telephone company pole look like then?

A. Well I can tell you what I have observed what they look like, but the reason why I don't agree with you is you have assumed six feet of buried space.

Q.561 - Well I'm just working with the allocations that you have proposed for a pole, and I'm working with those allocations and I'm taking the buried plus the clearance plus the communications.

A. But if you are building a communications only pole,

I'm going to assume that you are going to use a shorter pole, in which case it doesn't need to be buried in the ground as deep as a 40 foot pole.

Q.562 - All right. So it might be then lower than the 27 feet because they wouldn't need as much buried space, is that what you are saying, Mr. O'Hara?

A. What Rogers has demonstrated is they use 30 foot poles.

Q.563 - All right. Thank you. Are you aware of any situation where Rogers would require more than a 40 foot pole?

A. Yes.

Q.564 - And where would that be?

A. That could be at river crossings or crossing large gullies or depending on other factors, terrain.

Q.565 - And how many would you estimate in your pole data base -- how many of those poles would there be?

A. Again, that's a small percentage of the poles.

Q.566 - All right. And sometimes there is power facilities that do require in excess of 4.9 feet, is that correct?

A. Yes. The other two percent of our construction is types that require more than the 4.9 feet, that's correct.

Q.567 - In fact they might require up to almost 12 feet on a pole, is that correct?

A. Yes. Double circuit or vertical construction would

require about 11 1/2 feet. Those two constructions are about a quarter of a percent and a tenth of a percent of what we construct.

Q.568 - All right. Now would you agree with me that design requirements for a pole are a function of the weight and the type of equipment that is going to be placed on the pole?

A. The CSA requires you to take into account the strains and stresses that would be on a pole, yes.

Q.569 - So a pole that is going to have more weight on it would require -- would need to be sturdier, is that correct?

A. Yes. A joint use pole tends to -- a joint use pole is a higher class pole than what would be required for individual pole lines.

Q.570 - And do the voltages that are carried by the equipment on a pole, does that affect pole height?

A. No, it does not.

Q.571 - I think you just indicated to me though that the clearance -- excuse me -- the separation space would change depending on the voltages of the lines, is that correct?

A. I'm taking your question to refer to a typical pole.

Q.572 - No. I'm talking about all poles right now. So all my

questions speak to all poles.

A. Yes. As you progress through from distribution qvoltages up to the transmission voltages in this province up to 345,000 volts, there is greater ground clearances, that's correct.

Q.573 - And there would also be a greater separation space if you went to very high voltage power lines?

A. Third parties aren't attached on very high voltage power lines.

Q.574 - All right. So it's really the clearance space and then would the power space change at all?

A. For what?

Q.575 - Depending on the voltage of your lines. Would the amount of power space change?

A. No, it would not.

Q.576 - No, it wouldn't. Okay. Can you describe to me what you consider to be a service pole?

A. Service poles are poles that hold all utilities drop wires required for their clearance so that they can be taken off the main line and into homes and businesses.

Q.577 - Would there be a transformer ever on a service pole?

A. No, there would not.

Q.578 - Would there be high voltage lines on a service pole?

A. No, there would not.

Q.579 - And in fact because the lines are lower voltage you can go to a two foot -- or I think you said .6 meter separation space, is that correct?

A. That's correct, because the CSA standards allows for the reduction in space between service wires, both service drops of communication and service drops of power.

Q.580 - So typically a service pole would support lighter facilities than a distribution pole, would you agree with that?

A. Yes, that's correct.

Q.581 - So a less sturdy pole would be required?

A. Yes, that's correct.

Q.582 - All right. Now I understand that CSA standards allow Disco to let transformers overlap into the separation space, is that correct?

A. Yes, as per CSA standards, and we are allowed to put transformers down into the separation space, just as Rogers is allowed to bring their service drops up into the separation space.

Q.583 - And I believe if we go again back to our excerpts from the joint use manual, if we go to page 267 of those excerpts. And that picture demonstrates that the transformer can indeed go over into the separation space. Would you agree with me, Mr. O'Hara?

A. Yes. As per the CSA standards, that grounded transformer case can be down into the neutral space.

Q.584 - And I understand that Disco takes advantage of this on approximately one out of six of its poles, is that correct?

A. That's correct. There is a transformer on about 18 percent of our poles.

Q.585 - All right. And when this happens would you agree that Disco facilities are mounted in part in a separation space?

A. Disco facilities are mounted as per the CSA standard allowances, yes.

Q.586 - And they are mounted in part in the separation space?

A. Yes. And similarly Rogers has their facilities mounted in part in the separation, in the neutral separation space.

Q.587 - All right. And when Disco is doing this, is it using the separation space for its own facilities?

A. It's using the separation space as per the CSA standards, again just as Rogers does the same thing.

Q.588 - And I think you agreed with me earlier that Rogers puts its facilities where it is told to put its facilities, is that correct?

A. Rogers attaches within the communication space where

it's appropriate to attach. And then they loop their service drops up into the neutral separation space. They are not told where to attach those service drops up in the separation space.

Q.589 - All right. Now I understand that CSA standards also allow Disco to install streetlights in the separation space, is that correct?

A. Yes. That's correct. The CSA standard discusses both transformers and streetlight brackets as they are both grounded pieces of equipment. They are unenergized.

Q.590 - And in fact if we turn to the next page of those excerpts from the joint use manual, page 268, that would be a diagram that shows a streetlight?

A. Yes. That's correct.

Q.591 - All right. And that streetlight is using part of the separation space, is that correct?

A. Yes. That's correct. The streetlights are mounted on less than 7 percent of the joint use poles.

Q.592 - All right. Would you agree with me that when that occurs Disco has its own facilities mounted in the separation space?

A. Yes, as per the CSA standard allowance.

Q.593 - All right. And I understand that Disco also has something which is known as a gang switch handle which it

would sometimes place in the communications and clearance space, is that correct?

A. Yes. There are 946 of those in the entire province.

Q.594 - All right. And what about transition facilities going from overhead to underground? Sometimes those would transit the communications and clearance space, is that correct?

A. Yes. That's correct. Disco has just over 3,400 of those types of installations out there, as would Rogers have those types of installations as well.

And typically where we require underground, it's going into underground subdivisions or places like that. And obviously Rogers is utilizing the same types of facilities to provide that same underground service.

Q.595 - All right. Can Rogers place facilities in the power space?

A. No, they cannot due to restrictions as far as qualifications of their personnel firstly.

Q.596 - All right. I wonder if we could turn to a new topic. It is the issue of adjusting the data for power-specific fixtures. And I will try to keep this as low number intensive as possible. But it is somewhat difficult.

Now can you confirm for me, Mr. O'Hara, that when you calculated what you considered to be a fair rate proposal

in July 2004, you took the costs of a pole without any fixtures, as shown on your books, and added to it 22.5 percent of your installed fixture costs? Is that correct?

A. Yes. That's correct. That was done in error.

Q.597 - All right. And you considered at that time then that 22.5 percent of your total installed cost of fixtures were fixtures required for what I will call a bare pole, and 77.5 -- so the remainder were power-specific fixtures. That is what you considered to be appropriate in July 2005?

A. The calculation was done in error. I believe what the intention was there was actually 22 1/2 percent were the power-specific components and the other 77 1/2 were the common.

But unfortunately that is what the calculation was done at the time. That's correct.

Q.598 - And in this proceeding you are proposing that 72.5 percent of the fixture costs are power and only about 22 -- - or actually 27 percent are non power-specific, is that correct?

A. Yes. That's correct. 27 1/2 percent of the fixture costs are non power-specific -- power-specific, sorry.

Q.599 - Now I think that you state in your evidence that the difference between your calculations for this proceeding

and for July 2004 is that you took certain fixture costs out in July that are in fact fixtures that are required for a bare pole, is that correct?

A. Yes. That's correct. At the time personnel removed anchoring and guying that were joint use anchoring and guying that are obviously part of a common joint use structure. That's as an example.

Q.600 - Was there anything other than anchoring and guying that was removed?

A. All of the components with respect to the grounding system which is a requirement of Rogers and obviously not a power-specific component on a joint use pole, particularly given that the CSA requires Rogers to bond to our multigrounded neutral system.

Q.601 - All right. And I understand that in the interrogatory responses, again A-68 in Appendix N -- I'm not sure if we have go to there, we can if people want -- you provided a list of all of the fixtures that are on your poles, is that correct?

A. Yes. That's correct.

Q.602 - Perhaps we actually should go there. It is Appendix N to exhibit A-68.

MR. MACNUTT: Would you repeat the reference again please.

MS. MILTON: Exhibit A-68, Appendix N as in no.

Q.603 - Now if we go over to the righthand side of the page there is a column entitled "Extension". And as I understand it, that column shows the costs of all the fixtures that are on your poles, is that correct?

A. I would rephrase that. What it shows is the cost of fixtures that were installed over a 12-month period, the material costs.

Q.604 - All right. And then the next column over, you have called it "Pole Related Costs".

And my understanding is that over a 12-month period that is the cost of the fixtures that you would need for a pole regardless of whether there are power facilities on it or not, is that correct?

A. Yes. The material cost of those components.

Q.605 - Now I presume you have seen Mr. Ford's calculations using these numbers, have you, Mr. O'Hara?

A. Yes, I have.

Q.606 - So would you agree with me that based on the numbers that you have provided in exhibit N -- excuse me, Appendix N, power-specific fixture represent about 45 percent of your total fixture costs in a 12-month period and the other fixtures would be the remainder, so around 55 percent?

Do you agree with those numbers?

A. Yes. 45 percent of the material costs. That's correct.
Q.607 - And I take it that in July of 2004 it was actually only a portion of the general costs that were erroneously removed from your calculation? It wasn't all of them? You identified I think guying, anchoring and the grounding system. But that would be a portion of the fixtures we see in this column entitled "Pole Related Cost"?
A. The -- if you looked at the percentage of what is anchoring and guying here as far as the pole-related cost, they are a vast majority of it.
Q.608 - Okay. But even if we take them all out we are still at those costs would represent 55 percent, is that -- you would confirm Mr. Ford's calculations, I believe?
A. Yes. That's correct. Of the material costs.
Q.609 - Now as I understand your approach to removing power-specific fixtures, you calculated the cost of a pole with no fixtures on it at all, is that correct?
A. Yes. That's correct.
Q.610 - So basically you calculated the cost of the stick going into the ground?
A. That's correct.
Q.611 - All right. And then you calculated the cost of that

stick in the ground with power fixtures on it, is that correct?

A. Yes. That's correct.

Q.612 - And so you looked at the difference between the cost of the stick in the ground and the cost of the stick with the power fixtures on it, would that be correct?

A. Yes. That's also correct.

Q.613 - All right. So just to confirm this with some simple numbers, if you had the bare pole to stick in the ground and it cost $500 --

A. Mmmm.

Q.614 - -- and then your pole with just power fixtures on it cost $600 --

A. Mmmm.

Q.615 - -- you would calculate a 20 percent increase in the cost, is that correct?

A. That's correct.

Q.616 - And then you would take that number and you would go to your cost data. And you would take the cost of a bare pole and your cost data and add to that 20 percent of the installed cost of your fixtures, is that correct? Sorry, 80 percent, excuse me. I knew I shouldn't have gone into numbers.

You would add to it 80 percent of the cost of your

fixtures. Because your calculation says that 80 percent of your -- you have calculated this 20 percent as the increase when you just have a power pole?

A. Yes. That's correct.

Q.617 - All right. So I understand the number you calculated in your data when you do this is you calculate going from a bare pole to a pole with power fixtures, that increase is 27.5 percent, is that correct?

A. That's correct.

Q.618 - So then you -- and you got that by doing a weighting system on the various distribution -- the distribution of different types of poles in your system, is that correct?

A. We got that based on actual history out of our line design application, which allowed us to look at specifically what we had designed, looking at the fact that 98 percent of it is single phase and three-phase, better than 60 percent being single phase, the other percentage being three-phase.

We looked at whether they were dead-end type structures, those types of things, a very, very detailed look at it to get those allocations. That's right.

Q.619 - It is indeed very complex. Okay. If we could go back to my simple example. So we have got a bare pole of 500. We have got a bare pole with power on it and it is 600.

So the power fixtures cost $100.

Now let's assume that the pole with all of the fixtures on it costs $650. So we have got power fixtures are $100. The other fixtures are $50. So our total fixtures are $150. Would you agree with that?

A. Using the numbers that you are pulling out of the air, yes.

Q.620 - Yes. That is fine. I appreciate that this is just a simple example.

So in that example 100 of the 150 are power-specific. So approximately 67 percent of total fixture costs are power-specific. Would you agree with that?

A. Yes. That's correct.

Q.621 - So in fact we -- actually when we go back to your data, we would actually need to take out 67 percent not 80 percent of the total fixtures to represent what is power-specific in my --

A. Again your example is based on numbers that you are pulling out of the air and the relationship between a fully framed pole, the power framed pole and the bare framed pole are skewed considerably.

Q.622 - All right. But my example correctly follows your methodology, is that correct? It is consistent with your methodology, what I have done?

A. To be perfectly honest I'm having a hard time following it as you are discussing it.

Q.623 - Okay. Well, what we did was we took the stick in the ground. And we got a percentage increase when we just put power facilities on it, right? And that percentage increase was 20 percent.

So I believe you told me that when you went to your total installed fixture costs you said, we need 80 percent of those. Because 80 percent of those are really what you would need for the pole without power. I believe that is what you said you would do?

A. That's correct.

Q.624 - All right. But in the example that I have provided to me, I believe you have confirmed that in fact the power fixtures are 67 percent of total fixture costs, is that correct? 100 out of 150?

A. Yes. In your example, that would be correct.

Q.625 - Right.

A. But again I want to reemphasize that the numbers that you are using are skewed considerably with respect to the total installed costs and the fixture-only cost and the bare pole.

Q.626 - All right. But the point I'm --

A. And by selecting those particular numbers it results

in something that -- what you are working toward.

Q.627 - All right. But the point I'm trying to make is you are taking a percentage increase on a bare pole. But then you are using that percentage increase to deflate a different thing. You are using it to deflate total installed fixture costs?

A. That's correct.

Q.628 - All right. Thank you.

A. And we did that based on a couple of factors that you haven't taken into account. If in fact the -- I'm going to have to do this one because it's easier to follow. Looking at the reality of it, we have got the bare pole. We constructed a pole with power-specific components. I think that there is one thing worth noting here as well. We think about power-specific components. And we think about cross arms and lots of insulators and those types of things.

The fact of the matter is that power-specific pole, 62 percent of the time all it has got on it is a power-specific component is a pole top pin. There is no cross arm or anything else there. It's a pin insulator. So I think that just helps to put it a little bit into perspective. We are not talking about a big huge amount of product on the pole. In over 60 percent of the cases

it's a pole top pin. That's a few dollars and a few dollars to install.

Anyway, getting back to what we had done, we did the --- I will draw the three accounts. I refer to this as the bare pole account, the electric fixtures account. And this would be the fixtures account.

And we did our exercise. And Ms. Milton is quite correct. We came up with a percentage that this increased this bare pole. And it's 27 1/2 percent.

So we looked at that. And yes, we did take it over and then applied it to this account. But the reason why we did that is that would be mathematically precise, if the value of this account was equal to the value of this account.

So if you had, you know, a million or whatever factor you wanted to use here, and you had the same over here, and you determined this 27 1/2 percent, it wouldn't matter if you applied it here or applied it here. You would get the same result.

And what that would equate to is if you looked at the fixtures as a percentage of the total cost of the pole, it would be 50 percent. So we went through and looked at it -- went through an exercise and looked at our 32 years of data that we are dealing with. And that factor right

there of fixtures to a bare pole is in the order of 55 percent, which is quite close to this. And we felt that that is a pretty reasonable proxy.

However, I do think it is worth noting that the way that Mr. Ford attempted to do this or correct this, although done incorrectly, all of the data there is -- all of the data is available to do it the way that he was looking at.

And that's basically -- again I will draw the same ones. We have got our bare pole. We have got our pole with some power fixtures on it. And we have got this fixture account over here. And we determined that the cost of this is -- the increase is .275 times the bare pole cost. That's the cost of electric fixtures. So if I take that cost, I can remove it from this total cost which is another number that we have, to get what is left, is the power fixtures only.

The result of doing that is a $418 embedded cost. And the way that we did it resulted in a $396 cost. So we were a little more conservative that the two values are within 5 percent of one another. And doing it this method right here is precise mathematically.

Q.629 - Mr. O'Hara, I believe you confirmed at the outset that you are not a costing expert, is that correct?

A. That's correct. I don't consider myself a costing expert. However, I do have a fair bit of experience in that area with regard to the budgeting and looking at costs associated with completing work, comparing actuals to estimates, those types of things.

Q.630 - And just to confirm, the number that you applied to deflate the total fixture cost was not 55 percent, it was 27.5 percent, is that correct?

A. That's correct. The 55 percent was the factor of total fixture costs to the total pole, with the factor of fixture costs to the total pole.

Q.631 - All right. And I believe that one of the criticisms you had of Mr. Ford's approach yesterday was that there was a discrepancy between installed costs and actual fixture costs, is that correct?

A. Yes. There is a significant difference between installed cost and material costs, specifically when looking at certain types of items. And I had explained that yesterday with respect to the anchoring and guying, which is a common cost, which is the most labour-intensive component to install within the fixture account. And you can look at that simply from a perspective of the type of equipment required to put that anchor in the ground, the time associated with doing that, with

installing the guy between the anchor and the pole, with tensioning that guy. There is a lot of labour involved. Whereas with the power component such as that pole top pin insulator or even the cross arm, it is a bolt through the pole and the work is done.

So the ratio between material and installed cost of these anchoring and guying components, which are a majority of the items in the fixture account, is quite significant.

Q.632 - All right. And I assume that Nova Scotia Power would have experienced the same kind of issue, that anchoring and guying would be more labour-intensive for them in the same way that it is for you, is that correct?

A. I can't answer what their assessment of that is.

Q.633 - But you wouldn't anticipate it to be any different?

A. Again I don't know how they deal with things, whether they contract, do it in-house, those types of things. So I can't comment on Nova Scotia Power's assessment of that work. I do know what occurs in the province of New Brunswick.

And I do know that installing those anchoring and guying and the work that's associated with ensuring that they are installed properly is quite a bit more labour-intensive than installing the power-only components, which

tend to be nuts and bolts type of issues constructing on the pole.

Q.634 - I wonder if we could go to Appendix I, I believe, to this exhibit A-68? I understand that this exhibit provides some background on how you did the scaling of your results for each type of -- or height of pole and construction and how you scaled them to get a percentage distribution across your pole population, is that correct?

A. This scaling doesn't have anything to do with height of poles. It's strictly the construction type.

Q.635 - All right. Well if I could just go down to -- there is a one cable that got four rows and then there is a title, it says, "Scale to 70 Percent as 30 Percent of Poles are 30-footers". Do you see that, Mr. O'Hara?

A. Yes, that's correct.

Q.636 - Are you aware that in the materials filed by the CEA in the OEB proceeding they indicated that 15 percent of your poles were 30 feet?

A. Again that was based on a very rough estimate of 600,000 poles times the 57 percent ownership ratio. The 30 percent that we are presenting here is validated from two different applications that we use, one providing the actual historical implementation of poles, the other being what has actually been charged out of our stores. And

both of those indicate quite clearly that 30 percent of those poles are 30 foot poles.

Q.637 - All right. But Disco provided that number to the CEA I understand. You indicated that earlier today that your people would have constructed the numbers they provided to the CEA?

A. About three years ago those numbers were provided to the CEA and they were based on a very rough estimate.

Q.638 - And you don't disagree with me that in those numbers they showed 15 percent of your poles being 30 footers?

A. Again that was a rough estimate breakdown of the poles, and I would put a lot more emphasis on the information that we have today and have developed since then which is based on our actual history out of our actual line design application whereby we design and issue material and do our planning against, and as well as our materials management system which indicates how many poles we were actually purchasing year over year and of what size. And both of those correlate to 30 percent 30 foot poles.

Q.639 - All right. But you don't disagree that it was 15 percent that the CEA told the OEB?

A. Three years ago information based on a very rough estimate was provided, yes.

Q.640 - All right. Could we move on to a new issue, the issue of productivity costs. Would you agree with me that productivity costs are caused by communications attachers as soon as Aliant uses your poles? Would you agree with me that as soon as Aliant is on the pole there are productivity costs?

A. Could you take me to the IR that we are discussing now?

Q.641 - I'm not talking about an IR. I'm talking about productivity costs generally. And I'm asking you would you agree with me that the productivity costs associated with communications attachers on your poles would be caused as soon as you have Aliant on your pole, is that correct?

A. We apply the productivity factor against all communication attachers on the pole.

Q.642 - All right. But as soon as Aliant is on the pole there would be some communications attachers, is that correct?

A. Yes, that's correct.

Q.643 - So presumably there would be some productivity costs as a result of those communications attachers -- as a result of Aliant being on your pole, is that correct?

A. Yes, that's correct. But primarily those types of issues are resolved through the negotiation and the give

and take within the joint use arrangement. Things like loss of productivity can be offset with even such things as sharing common building space or sharing resources or sharing work planning systems or one utility providing certain functions for both.

Q.644 - All right. So you would have considered the productivity costs associated with having communications users on your pole when you negotiated your joint use agreement with Aliant, is that what you are saying?

A. No. I'm just saying that that's one of the factors associated with the overall scope of joint use arrangement.

Q.645 - So you wouldn't have considered those costs even though they are a factor?

A. I didn't say that. I said that's part of the scope of overall joint use arrangement.

Q.646 - All right. So you would have considered --

A. There is give and take on both sides.

Q.647 - All right. But they would have been a factor that the parties would have considered?

A. No, not necessarily specifically a factor that was considered, no.

Q.648 - You wouldn't have considered that there are productivity costs associated with having a joint use

pole?

A. It may have been discussed. The original joint use arrangement began in 1967 and further re-negotiated in 1996, and I'm not sure what particular factor loss of productivity would have played.

Q.649 - All right. But you would agree with me that if there are productivity costs associated with having communications attachers on the pole those costs would arise as soon as you have Aliant on the pole, is that correct?

A. The costs are associated with communications attachers, that's correct.

Q.650 - So as soon as you have Aliant on the pole you have the cost, do you not, Mr. O'Hara?

A. A component of that cost may or may not be there.

Q.651 - Some of the cost would be there?

A. Again it's a part of the overall joint use arrangement. And you accept that there is give and take on both sides and yes, loss of productivity could potentially be a factor associated with that.

Q.652 - Well are you telling me that when Aliant goes on your joint use poles there might not be a productivity cost but when Rogers goes on there is a productivity cost?

A. I'm not telling you that at all.

Q.653 - All right.

A. I'm telling you that it's a factor that would be included as part of the overall joint use arrangement.

Q.654 - All right. Would you agree with me that Rogers is proposing under the methodology that it has before the Board in this proceeding that it is proposing to pay one/half of the productivity costs that are incurred by Disco as a result of having communications users on the pole?

A. Excuse me, could you state that again?

Q.655 - Would you agree with me that in the methodology that Rogers is proposing in this proceeding to the Board Rogers is indicating that it would pay one-half of the productivity costs to Disco that are caused by having communications users on its poles?

A. I'm not sure with respect to that, because at some point in time Rogers has indicated that they want to pay something less than half the productivity factor.

Q.656 - All right. I wonder if we could go to Disco/Rogers IR-17 which again is in this Exhibit A-68. And if we could go to the second page of that response. Do you have that, Mr. O'Hara?

A. Yes, I do.

Q.657 - And just beneath the header Part II, the first bullet

you talk about 1,739 responses per year to non-outage trees on line. Would you agree with me that the tree on line do not all occur after hour?

A. Yes, I would agree with that, but I would also like to point out that 75 -- a little better than 75 percent of the week is outside of normal working hours.

Q.658 - All right. And if we go to your second bullet we have got 1,830 responses to non-outage wires down. Do all non-outage wires down occur after hours?

A. Not all, no, but better than 75 percent of them likely do.

Q.659 - And I believe further on in that bullet you indicate that the majority of these calls are communications related, is that correct?

A. Yes. Obviously when we have got a call and wires are down and it's an non-outage, it's not involving power wires.

Q.660 - All right. But it's not all of them, is that correct? The majority?

A. It would be all of them.

Q.661 - You are revising your evidence then. It's not a majority, it is all of the calls?

A. It's -- all of these calls would be not related to power wires. If wires are down there is an outage. The

statement, yes, indicates the majority of these, so I will stand by that.

Q.662 - All right. And if we go down then to just below calculations and we go to the part two loss, because I understand these two bullets explain your calculation of the part two loss which is described in the second bullet under calculations. And as I understand it it took half of the 739 responses that you attribute to non-outage tree on the line, and you add to it all of the 1,830 responses that you consider to be non-outage wires down, is that correct?

A. Yes, that's correct.

Q.663 - Notwithstanding that not all of them would be communications related, correct?

A. No. This is a determination of a factor and there are other components that aren't included in this, so I still believe that this is a conservative and reasonable amount. The other components that aren't included in here were discussed yesterday.

The fact of the matter is to have on-call -- administer an on-call roster is in excess of half a million dollars a year, and as well, when these calls are after hours, due to our union agreements, depending on how long they may be out or what time of the night those

occurred, they may be on off work on rest -- paid rest pay the following day. So those factors aren't taken into account here.

Q.664 - Mr. O'Hara, would you agree with me that you need your on-call staff in order to service your own electrical lines?

A. Yes, that's correct. But I also believe that as a result of that Rogers has a benefit that they are realizing.

Q.665 - All right. And would you agree with me that this formula is the formula that you are proposing that the Board use to calculate productivity costs, is that correct?

A. Yes, that's correct.

Q.666 - All right. And if we continue on with that formula you have increased -- you have included then two full hours at overtime, is that correct? The 261 represents two overtime hours?

A. Yes, that's correct. That's related to our minimum call out fee. If somebody is called out after hours they are paid a minimum of two hours at double time.

Q.667 - So then you have multiplied that by two to reflect your estimate of the amount of time that would be spent?

A. It's not actually a reflection of the amount of time

that would be spent. The amount of time that would be spent could be more than that. What this is reflecting is the minimum costs that we will incur as a result of that. It doesn't reflect if they happen to be out for longer than two hours which could easily occur depending on what the issue is.

Q.668 - All right. And then you are dividing that amount by the total number of your joint use poles, is that correct?

A. No, that's not correct.

Q.669 - Well what is the 550,000 then?

A. That's the total pole population across the province --

Q.670 - All right.

A. -- and the reason why we are doing that is because, number one, it results in a conservative estimate, but we don't know where those not outage trouble calls will be and we wanted to spread those across all polls because that's where they could be, and to reflect an appropriate component to attach to the third parties.

Q.671 - All right. Now if we go to your part one calculation, as I understand it the third bullet on this page under part two, if we could go to that bullet. And it talks about the fact that in total Disco works on approximately 9,500 joint use poles each year transferring facilities,

upgrading facilities and installing transformers. And that in fact relates to your part one calculation, does it not, Mr. O'Hara?

A. Yes, that's correct.

Q.672 - Now these 9,500 joint use poles, that's all joint use poles in New Brunswick?

A. That's a combination of the number of joint use poles that would be installed year over year. Typically NB Power installs in the order of 6,500 to 7,000 a year and Aliant, their ownership areas would be installing somewhere in the order of 2,500 to 3,000, those kinds of numbers. So that's -- therefore we know that we will be dealing with a minimum of 9,500 joint use poles.

Q.673 - What I am trying to understand, Mr. O'Hara, is this 9,500 poles, is it Aliant and Disco poles or is it just 9,500 Disco poles?

A. It's 9,500 poles or pole locations that Disco will be required to work on that has Aliant facilities attached.

Q.674 - So some of those would be Aliant poles, is that correct?

A. Yes, that's correct.

Q.675 - So why would we be recovering costs associated with Aliant poles through Disco's rate for its poles?

A. We are working on our facilities on those poles and

that's the reason why we have spread the calculation across all joint use poles, not just Disco poles.

Q.676 - But we are talking about a fee for Disco poles, the productivity costs on Disco's poles, are we not?

A. Well the correlation could be that you would use the 6,000 instead of the 9,500 and change the 291,000.

Q.677 - All right. So you agree with me that perhaps we should be deflating the 9,500 by -- to represent the ownership position, so it should be 57 percent of 9,500?

A. No, I do not.

Q.678 - You don't. But you are agreeing that some of those 9,500 are Aliant poles, is that correct?

A. Those are all work locations that Disco must work on.

Q.679 - All right. And again then if we go back to your bullet, you have indicated that it's two minutes per crew on each pole line, is that correct?

A. The result and calculation -- that's a summary statement that would indicate that the result correlates to two minutes per joint use pole.

Q.680 - Well what is it, Mr. O'Hara? Do you spend two minutes per pole or not?

A. Spread across all the poles it's two minutes per pole, yes.

Q.681 - It's two minutes per pole. But when I go down to your

part one calculation just below the header Calculation on this page, I see $130.95 which as I understand it is one hour, is that correct?

A. That's correct.

Q.682 - It's not two minutes, is it?

A. No. The resultant from that calculation correlates to two minutes per joint use pole.

Q.683 - Well, Mr. O'Hara, when you are going to divide by the number of poles that would be the denominator, isn't it?

A. That's correct.

Q.684 - All right. So right now we are just talking about what goes in the top, the numerator, and you have told me it's two minutes, is that correct?

A. No, that's not correct.

Q.685 - Well why is that not correct? Because in your evidence under the third bullet you say it's two minutes per crew per pole?

A. What it says in that bullet is the general assessment is this loss and productivity can be correlated to about two minutes per crew per joint use pole.

Q.686 - So are you revising your evidence? Is it one hour per pole or two minutes per pole?

A. It's one hour per location that we actually have to work at. It's spread across all poles. It's two minutes

per pole.

Q.687 - Are you revising your evidence, Mr. O'Hara, or not?

A. No, I am not.

Q.688 - All right. Now could we look then at this denominator. You have 291,085 joint use poles. I must confess, I have seen a number of numbers of joint use poles but I don't know where the 2,091 comes from. Can you explain that to me?

A. That's 57 percent of our -- or sorry, that's -- yes, that's 57 percent of the current number of joint use poles in the province which is just over 510,000.

Q.689 - But in your part two calculation you use 560,000 and that's because you went beyond joint use poles, is that correct?

A. Potentially you can go beyond joint use poles in response to trouble, and we wanted to ensure that Rogers had the benefit of that by dividing those costs across all poles.

Q.690 - All right. But in your part one calculation then this is presumably based on a number of all -- it's all joint use poles, that's what you believe your 291,000 represents, is that correct?

A. That's all of Disco's joint use poles.

Q.691 - Oh, it's Disco's joint use poles. But you did tell me

that the 9,500 calls were to all joint use poles, is that correct?

A. Yes, I did.

MS. MILTON: Mr. Chairman, I would like to try to finish cross examination before lunch. I think I have about seven minutes. I have one area to cover. Could you indulge me for maybe 10 minutes? Or would you prefer to break now and have me come back and do this?

CHAIRMAN: I think I will hold you to seven minutes. Go ahead.

MS. MILTON: Thank you.

Q.692 - Mr. O'Hara, does Disco contract out its vegetation management requirements?

A. Primarily yes, it's contracted out. We do do some incidental tree-trimming with our in-house resources.

Q.693 - Are you aware of any restriction on Rogers' ability to contract our its vegetation management activities to the same people?

A. None whatsoever.

Q.694 - All right. Now I understand that vegetation management with respect to the joint use arrangement between Aliant and Disco -- I understand that vegetation management is handled outside the basic framework of those joint use agreements. And by that I mean you have got the

ownership shares. But then you pay vegetation management on top of that, is that correct?

A. Yes. That's correct. That's as a result of the evolution of the joint use partnership whereby over the years there were give and take. We traded off for certain services, that sort of thing, to avoid paying back and forth for things.

And as we narrow down more and more on those, you end up with some components that are kind of -- I will refer to them as outliers I guess. And vegetation management is one of those, whereby Aliant chooses to have us do that work as opposed to them doing their 43 percent. They would prefer to have us just manage all of it and pay us to do it.

Q.695 - All right.

A. And that's most cost-effective, as you are able to manage a provincial program. And you have the larger volumes. You are able to have the one infrastructure in place in regard to vegetation management supervision, forestry personnel to oversee that development of standards and those types of things.

Q.696 - All right. And so I understand as a result of that that Aliant pays 30 percent of your annual vegetation management costs, is that correct?

A. That's correct. That's the agreement.

Q.697 - And presumably that would be the amount that the parties considered was appropriate to cover the cost of vegetation management around the communication space on the joint use poles plus Aliant's share of the clearance and separation space. Would that be correct?

A. Well, again it may not just be specific to the vegetation. Again because of the overall joint use partnership, there are other services, as I had indicated, that are traded off.

So that's where the negotiation resulted. There may be other components of that involved again such as sharing of offices or work planning systems, those types of things.

Q.698 - So are you saying that in this agreement where Aliant has said it has paid 30 percent for vegetation management, in fact there is -- it is also paying for other stuff?

A. I'm saying that there is give and take in a joint use partnership. And there is other things that the two utilities offset various costs with.

Q.699 - But by agreement Aliant has agreed to pay 30 percent of your vegetation management costs, is that correct?

A. By agreement there is a cash component of 30 percent of the vegetation costs. That's right.

Q.700 - All right. Now I agree that your evidence is that your total annual vegetation management costs are 4.7 million, is that correct?

A. Yes. That's correct.

Q.701 - And that if you divide that over all of your joint use poles you get a number of $8.39 per pole, is that correct?

A. Actually we have -- no, that's not correct. We have been a little more conservative than that and divided it over all poles in the province, 560,000, not just the joint use poles.

Q.702 - Because you are performing vegetation management on all poles in that 4.7 million, is that correct?

A. No, that's not correct. We don't perform vegetation management on non joint use. Disco -- or non joint use Aliant-owned poles --

Q.703 - But it would include --

A. -- in that contract.

Q.704 - But it would include the non joint use Disco poles, correct?

A. A very small number. There is in the order of 10,000 non joint use Disco poles.

Q.705 - And are you telling me that Aliant has contracted to have you do all this vegetation management for the joint use poles, but it is doing its own on the few non joint

use poles that it has?

A. Yes. That's correct.

Q.706 - All right.

A. They require -- or they ask us to set contracts for work where they need it done. And they pay 100 percent of those costs.

Q.707 - All right. Now under the methodology that Disco is proposing for setting a rate in this proceeding, the vegetation management costs would be included as part of the common cost, is that correct?

A. It's not part of the common cost, no.

Q.708 - Well, if we go back to the table of elements that was circulated yesterday for your present -- there was a cost chart that you used when you spoke yesterday. I'm afraid I may have misplaced mine.

But my recollection is that vegetation management was the upper part of the pole -- or the upper part. So it is in fact included in F, row F, is that correct?

A. Yes. It is included in row F.

Q.709 - Okay. And now my understanding based on this chart is that all of the elements in rows A through G are added up, and then that you are proposing in row J that Rogers pay 30 percent of all of those elements, is that correct?

A. Yes. That's correct. But it doesn't provide that all

of those items A through G are considered common costs.

Q.710 - All right. But under your proposal Rogers would be paying 30 percent then of the vegetation management costs, is that correct?

A. Under our proposal Rogers would be paying 30 percent of the total vegetation program, that's right.

Q.711 - All right. Thank you.

A. Sorry. They would be paying 30 percent of -- they are not paying 30 percent of the total program. That's an incorrect statement.

Q.712 - I think you told me that you have 4.7 million that you spend annually on vegetation management, and that you have allocated that over all joint use poles to get a number of $8.39 per month -- or excuse me, per year, is that correct?

Now the problem with your table is you have included in both your annual maintenance and your annual vegetation. So we have the number of $23.27. But I believe that comprises of your amount for annual maintenance which we are not disputing, plus this $8.39, excuse me, for vegetation management, is that correct?

A. That's correct.

Q.713 - All right. Thank you.

A. However, what I wanted to point out is that doesn't

equate to 30 percent of the total program. If Rogers was to pay 30 percent of our $4.7 million program, their contribution would be in the order of $1.4 million per year.

Q.714 - On a per pole basis we are paying 30 percent of the cost, correct, Mr. O'Hara --

A. On a per pole basis --

Q.715 - -- under your proposal?

A. Sorry. On a per pole basis of poles cut, you would be paying actually in the order of 15 percent --

Q.716 - Well, if you pay --

A. -- based on this calculation.

Q.717 - Why would we pay for poles that we are not on?

A. You don't pay for poles that you are not on.

Q.718 - All right. Thank you. Just one last thing. I would like to take you again back to our joint use manual and the excerpts. It is page 2-9. This is also included in your own evidence. I'm just referring to this copy because it is -- we don't have to get out another binder.

A. I'm sorry. Which page is that?

Q.719 - Page 2-9. Do you have that, Mr. O'Hara?

A. Yes, I do.

Q.720 - Now I believe these pictures are showing what the vegetation management standards are for your poles, is

that correct?

A. Yes. That's correct.

Q.721 - All right. Now the pictures are all -- they are not identical, but they have the same kind of shape to them. So I wonder if we could just go to the one in the bottom right-hand corner. Do you have that, Mr. O'Hara?

A. Yes, I do.

Q.722 - All right. And as I understand the diagram, there is a large outside arch. And that would be the arch that depicts the clearance requirements around all of the facilities on the pole. And most particularly the arch goes up and around the power facilities, is that correct?

A. Yes. That's correct.

Q.723 - And as I understand it then there is an inside arch there. And there is in fact -- it goes around the area where we have the arrow going in that -- that is labeled NB Tel and cable.

And my understanding is that would be the area that needs to be cleared for the purpose of the communications attachments, is that correct?

A. Yes. That's correct.

Q.724 - And would you agree with me that these tree-killing standards don't change if there is -- how can I phrase this simply? Do the tree-clearing standards change if you

have more than one communications user on the pole?

A. No, they do not.

Q.725 - All right. And would you agree with me that this arch around the communications space, if I can call it that, but it includes obviously shared space, the clearance space, would you agree with me that that arch is very considerably smaller than the larger arch we see around the power space?

A. Yes. It is smaller. And if you do the calculation as to what that arch is and consider the reality of cutting trees, depending on which one you are looking at -- for example if we looked at the -- well, look at -- use the one that you are referring to.

The width of that piece that's being cut for communication is about 30 -- is 30 percent of the width, the total width of that. And for this type of clearing you would be cutting trees within that range on both sides of the pole. And as a result that's clearing about 30 percent of the area.

MS. MILTON: All right. Thank you, Mr. O'Hara. Those are all my questions.

CHAIRMAN: I must commend you on your accuracy of cross examination time. Mr. MacNutt, take note. We will break until 1:15.

MR. RUBY: Mr. Chair, before we break, if I could just ask one question. I have a couple of questions in the re-examination that I will do after lunch. But in the usual course I wouldn't speak to the witness before I do that. But since Ms. Milton has asked for an undertaking to be fulfilled, I suspect I may need Mr. O'Hara's assistance to do that.

So with the Board's indulgence and the consent of Ms. Milton, I would ask to be relieved of my obligation to the extent of getting that undertaking answered over lunch if we can.

CHAIRMAN: I see no difficulty with that.

MR. RUBY: Thank you.

(Recess - 12:10 p.m. - 1:15 p.m.)

CHAIRMAN: Good afternoon. Any preliminary matters?

MR. RUBY: Yes, Mr. Chairman. Two. The first is an issue arose with one page might have been incorrect in the joint use manual Ms. Milton was referring to. To the best of our information the manual that the Board has is correct. That said, we have provided to the Board Secretary copies of the page that Mr. O'Hara says is absolutely the right one. So there shouldn't be any confusion going forward.

CHAIRMAN: Okay. Certainly the one that Commissioner Dumont and I were looking at did not have the figures that the

witness --

MR. RUBY: Well that's why we figured we would be safe and provide you with the page.

CHAIRMAN: Well, that's great. Thank you. And the other one?

MR. RUBY: The second one is we have an answer to the undertaking. The Board Secretary I believe has a printed copy of the answer. But perhaps I can just ask -- since Mr. O'Hara is here I can just ask him to answer directly on the record.

CHAIRMAN: Why don't you?

MR. RUBY: Mr. O'Hara, you have been asked to provide the date in which page 1-26 from the NB Power/Aliant joint use manual was revised. What was that date?

A. July 23rd 1999.

MR. RUBY: Thank you.

CHAIRMAN: Okay. Ms. Milton, are you through your cross?

MS. MILTON: Yes, I am, Mr. Chair.

CHAIRMAN: Okay. Mr. Gorman, do you have any questions of this witness?

MR. GORMAN: We have no questions of this witness, Mr. Chairman.

CHAIRMAN: Thank you. Does Mr. -- Public Intervenor have any questions?

MS. YOUNG: I guess not at this point, Your Honour.

CHAIRMAN: Mr. MacNutt, does Board counsel have any questions?

MR. MACNUTT: Board staff has no questions, Mr. Chairman.

CHAIRMAN: Thank you. I think there may be some questions from some of the Commissioners. You save your re-direct until after that. They will probably be the most difficult questions of all.

BY THE BOARD:

MR. TINGLEY: Yes, Mr. O'Hara. You stated in your evidence that NB Power started using treated poles in 1978? I believe that was --

A. Yes, that's correct. We began specifying fully treated poles in 1978.

MR. TINGLEY: But there were poles in the ground -- treated poles in the ground before '78, is that right? So they would be Aliant poles I assume, or NB Tel at the time.

A. NB Tel was purchasing some treated poles. We were purchasing primarily untreated eastern cedar poles.

MR. TINGLEY: So Aliant would have had a considerable amount of poles in the ground by 1978?

A. I'm not sure how many poles they would have had. They would have certainly had poles in the ground by 1978, yes.

MR. TINGLEY: Okay. Thank you. You don't know at what

point they started putting poles in the ground and how many? You don't have that information?

A. I'm sorry, I don't have that information, no.

MR. TINGLEY: Thank you.

MR. SOLLOWS: Thank you, Mr. Chairman. Mr. O'Hara, what is the average utilization of available power space on your poles? How much extra space have you included for future requirements?

A. Our construction standards account for future requirements such as the installation of a transformer, those types of things. If the requirements going forward exceed then there would be a need to upgrade the pole at that time to potentially a taller pole for some unknown reason.

MR. SOLLOWS: Have those allowances been revised based on the -- sort of the flattening out of load growth and the projected perhaps stabilization of reduced growth rates? Basically they used to be growing at five and seven percent, now it's one and two. Have you changed your allowances to take into account that change in growth?

A. The standards that we are building to today have been in place for a number of years. We did revisit them in 1995 but didn't make changes to those standards.

Some of the other factors that -- there is load growth

is a requirement to change out poles and whatnot, but we have had a very aggressive program in the '90s as well to get rid of any of the older eastern cedar poles that were still in the ground as we were beginning to see a fair bit of difficulty with those under, you know, normal winter weather and those types of things. So --

MR. SOLLOWS: Thank you. I also heard you say in response to a question that you have a fairly careful exercise that you undertake to determine those cases where you will put in a pole that exceeds the minimum standards. I guess my question is if you are going to exceed those standards do you -- what kind of decisions -- do you have discounted cash flow analysis or what type of information do you base your decision to exceed standards on?

A. They would strictly be based on the safety aspects. We may determine to exceed standards for example in an industrial park area where there may be trucking businesses or other things like that that we may be reasonably aware of, those types of things. So we may tend to exceed some of the minimum clearances in those cases to ensure an additional safety factor.

MR. SOLLOWS: Thank you. On average you must do some design calculations I suppose when you place a pole. What I want to get to here is you talked about sag and the size of

pole and the class of pole and a type. What weight do you use in your design calculations for the power related material that is attached to a pole and what weight do you use for the telecom related material that is attached to a pole?

A. I can't indicate exactly which weight but what we have developed is large tables that would indicate with certain types of facilities on a pole what class of a pole would you require, in addition to with those types of facilities such as size of wire or different things, in conjunction with the span length that you are intending to build to, what class of pole would be required.

So they have gone through the engineering analysis of that and created tables for people to refer to.

MR. SOLLOWS: Does the -- where this is coming -- you had mentioned that there seems to be a lot of dispute around anchoring and guying, or some matter of concern. I guess I'm wondering does the amount of anchoring and guying that is necessary on a pole vary with the weight that it has to support?

A. The anchoring and guying is primarily a factor on angle structures. So you have got -- it's not just the weight, it's moreso the tension that the conductor and strand is built at. So it would counteract those tensions

that's --

MR. SOLLOWS: The tension arises from the weight of the conductor?

A. Well the tension arises if you have got a -- if you have got a structure and the line is coming at it and then intended to turn, the tension that is on this strand, which could be a Rogers' strand for example, and the tension that would be on the conductors up top, that sort of thing, would be fine. The size of anchor and potentially how many of them, joint use anchoring, for example if this is the communications space and the power facility is up here can be attached to support both of those. Or there may be a requirement for separate guys to a common anchor or potentially multiple anchors and multiple guides.

MR. SOLLOWS: Thank you. One last thing just to clarify. Looking as we did earlier this morning at your joint use policy manual we were referred to page 2-9, and it's labelled Initial Design Standards for Tree Clearing. Have those design standards changed? Are there revised standards for tree clearing?

A. No. Those are the standards required upon new construction and once the trees have encroached to reduce that by 50 percent, our cycles are such that we would then

go and trim out that vegetation back to this same initial clearance.

MR. SOLLOWS: Okay. One last question I guess. You mentioned earlier today about a GIS survey that you had done?

A. We implemented a geographical information system about three years ago.

MR. SOLLOWS: What data does that capture and what level of detail?

A. It captures a great deal of data. We intend as we go forward to have that repository for -- to be utilized as our asset management records. Currently the level of detail varies depending on particular types of facilities. For example, the detailing there with respect to main line poles with our primary facilities on them and switches and whatnot is extremely accurate. It's the model that we actually operate off of. It's linked to our outage management system. So through that we do our switching, taking work permits and things like that. It's very accurate. I would say it's 100 percent accurate with respect to that.

It's accurate with respect to for example kilometres of right-of-way that we have because we have actually got it modelled now. It's accurate with respect to numbers of

certain types of equipment, transformers. The reason why we know that's accurate is because all of our customers are attached to the system via the transformers and all of our customers are connected and when they call us if their power is out, that sort of thing, we know where they are and what pole they are fed off of.

So then there is, you know, other pieces of equipment that -- or other pieces of information that haven't as yet been populated in that system or are evolving as we clean that up through field audits or different things like that.

MR. SOLLOWS: So would it be fair to say that in terms of as a source for data, your GIS system, if it is -- if it contains the information, it's probably the best source or the most reliable data you would have for assets that you have out on the system?

A. From an operational perspective there is no question.

MR. SOLLOWS: Thank you. That's all. Thank you.

CHAIRMAN: Go ahead, Mr. Ruby.

MR. RUBY: Thank you, Mr. Chair.

REDIRECT EXAMINATION BY MR. RUBY:

Q.726 - Mr. O'Hara, I'm sure you will be very glad to hear at this point that I only have very few questions left for you, before you can stand down. But before you make a run

for it, can you turn up again IR number 17 in exhibit A-68.

This is the productivity calculation that Ms. Milton was dealing with at the end of her examination.

Now do you remember discussing with Ms. Milton the 9,500 poles that are at page 2 of that IR response? It is about two-thirds of the way down the page.

A. Yes, I do.

Q.727 - Okay. And you told Ms. Milton that some of those poles were Aliant-owned poles, right?

A. Yes. That's correct.

Q.728 - And I think you made reference to your 9,500 number was conservative, right?

A. Yes. That's correct. It is.

Q.729 - What I would like you to do for the Board is, leaving aside what is in this IR response and taking out the Aliant poles, the 3,000 odd Aliant poles you told Ms. Milton about, start with the 6,000 poles you started -- you talked about the Disco poles. And don't be so nice and conservative. And tell the Board, to the best of your ability sitting here -- and I understand you have the numbers in front of you -- how many poles and why, if you were doing this on a not conservative basis, how many poles you would include?

CHAIRMAN: Mr. Ruby, this is redirect.

MR. RUBY: Right.

CHAIRMAN: And it is simply to clear up any questions that have arisen as a result of cross examination that you as able counsel could not have perhaps foreseen coming down the pipe.

And with frankness, sir, this is a contentious page. And we went over and over and over. I think you should go on to your next question, sir.

MR. RUBY: Thank you, Mr. Chair.

Q.730 - Still though on this page if I can ask one question on a different issue. You have mentioned, and there was some talk about the sentence at the third bullet about productivity being corelated to two minutes?

A. Yes. That's correct.

Q.731 - And I certainly found it confusing. Can you just do the math for the Board on how you get to that?

A. It's just simply a factor of the value of two crew minutes based on 130.95 multiplied by the total number of joint use poles results in that same $4.27.

Q.732 - Thank you. One last question on a different topic. You talked about the application of the CSA standard in the real world. Does the CSA standard itself require increased clearance to account for reasonably known obstacles that lie in the path of a pole line?

A. Absolutely. They are very clear in their documentation that the designer and installer of poles must take into account any reasonably known factors that could occur over the life -- expected life of that line.

MR. RUBY: Thank you, Mr. O'Hara. Those are my questions.

CHAIRMAN: Thank you, Mr. Ruby. Thank you, Mr. O'Hara. You are excused. Thanks for your testimony here yesterday and today.

MR. RUBY: Mr. Nicholson, if I may suggest, Mr. O'Hara has marked up a whole lot of flip charts. I'm in the Board's hands as to whether it wishes it marked as an exhibit and held for the Board's review.

MS. MILTON: I don't have copies of those. So I have a bit of a problem with that.

MR. RUBY: None of us do. So like I say, I'm in the Board's hands as to whoever wants to handle it.

CHAIRMAN: I think that we were able to absorb the explanations that were assisted by those drawings. And we thank Mr. O'Hara for his fine penmanship. But I don't think we want them as an exhibit. Okay. And you want to call your next witness?

MR. RUBY: Yes, Mr. Chairman. I would like to call Dr. Bridger Mitchell.

And, Mr. Chairman, while Dr. Mitchell is getting set

up, we had arranged with Board Staff to make an attempt at a slightly high-tech version of his evidence using a Power Point presentation. So it may take a moment, even with all the engineers in the room, to get this set up.

CHAIRMAN: With the engineers as Commissioner Sollows, it would probably take an hour. Do you want us to take a break and you let us know when you are ready to roll?

MR. RUBY: Well, we did get this working earlier. So I'm hoping it will only be a minute and not an hour. But if that doesn't work in a minute maybe we will ask for a break.

Mr. Chairman, while Dr. Mitchell is getting set up, just in the interest of efficiency, there are a few items that we were going to introduce and provide to the Board during the course of his examination.

Without marking it as an exhibit at this point perhaps we can ask the Secretary to pass them up and use the time while he is getting set up as well.

CHAIRMAN: Well, look, I have this rule on my desk at the office to don't give me anything until I need it because I will lose it. So I will ask the Secretary to keep it there if she would until you are ready to introduce. And I presume you have shown it to counsel opposite?

MR. RUBY: Yes.

CHAIRMAN: Okay. Great.

MR. RUBY: Though I should say one of the slides, a copy of the slides which we have extranged.

CHAIRMAN: Well, I think that that is appropriate, at which time --

MR. RUBY: We have done that.

CHAIRMAN: -- we will mark those.

DR. BRIDGER MITCHELL, having been duly sworn, testified as follows:

DIRECT EXAMINATION BY MR. RUBY:

CHAIRMAN: My records indicate that this copy of these slides would be A-74.

MR. RUBY: Thank you.

CHAIRMAN: Ms. Milton, you have had an opportunity to review the slides. Do you have any problems with them?

MS. MILTON: I believe I saw a version of these on Friday. So presuming there is no change, yes.

MR. RUBY: No. Nothing has been changed.

CHAIRMAN: I feel certain there would be no change. Good. Thanks. Go ahead, sir.

MR. RUBY: Thank you.

Q.1 - Sir, can you please introduce yourself to the Board?

A. My name is Bridger Mitchell. I'm a Vice-president at CRA International in the Palo Alto, California office.

Q.2 - And do you hold a Ph.D. in Economics from MIT?

A. Yes, I do.

Q.3 - Thank you. And I gather from your résumé, and I won't take you through the whole thing, that you are the author of a number of papers and books concerning economics?

A. Yes.

Q.4 - Some in cable? Some concerning the cable industry?

A. Yes. Some of my earliest research was published in regulatory journals on the economics of cable television firms.

Q.5 - And have you addressed the telecommunications industry as well?

A. I have done an extensive amount of work in telecommunications, more generally published a number of papers and two books in that field.

Q.6 - And can you tell the Board a little bit about your work in the area of cost analysis?

A. Well, specifically the first work that I did in the cable television, with respect to the cable television industry was to construct an economic model of the costs of a cable television network operator with particular reference to regulatory -- alternative regulatory treatment of the rates and costs of the cable firm in a municipal setting.

Subsequently I conducted a major project for the California Public Utilities Commission that was co-sponsored by the two major California local telephone companies. And that focused on designing and estimating a model of a cost structure of local telephone networks.

I have also participated extensively in modeling costs for cellular telephone networks in the United States and for an integrated national telecommunication carrier in Australia.

Q.7 - You have also done some work with pricing analysis?

A. Yes. I published a book on the pricing of telecommunications, another book on peak load pricing for electricity incorporating analysis that we did of utilities in the United Kingdom, Sweden, Germany and France.

At one time I directed, co-directed a rate experiment for residential customers in the city of Los Angeles for that large municipal utility. And I published a number of papers on electricity pricing.

Q.8 - Thank you. And coming right back to this proceeding, are you the co-author with Dr. Adonis Yatchew of the prefiled expert report under your name and Dr. Yatchew's name?

A. Yes, I am.

Q.9 - And do you adopt that report as your evidence for the purpose of this hearing?

A. I do. I would like to take the opportunity to correct for the record one typographical mistake there. It's on page 14 at line 30. And in that line the number 17 --

CHAIRMAN: Just a moment, Doctor. What exhibit number would that be?

MR. RUBY: Exhibit A-64.

CHAIRMAN: A-64.

MR. RUBY: A-64.

CHAIRMAN: All right. Just give us a moment, Doctor. We, of course, have committed this to memory, Doctor, that's why there is only one of them here. And what page was that on?

WITNESS: I have page 14, Mr. Chairman, line 30.

CHAIRMAN: I have that. Go ahead, sir.

WITNESS: And in that line it says 17 feet. And the number should be 19 feet.

CHAIRMAN: And that's it?

WITNESS: As far as I know that was the only correction.

CHAIRMAN: Thank you. Carry on.

MR. RUBY: Thank you.

Q.10 - Dr. Mitchell, have you ever appeared before as a witness before this Board?

A. No, I have not.

Q.11 - Have you appeared as a witness before any other energy regulator in Canada?

A. Yes. I appeared before the Ontario Energy Board.

Q.12 - With respect to what subject?

A. A basically similar subject. Attachment fees for joint use poles and the cost allocation of those fees -- or the cost of those attachments.

MR. RUBY: Thank you. Mr. Chairman, I would offer this witness as an expert witness with respect to economics?

CHAIRMAN: Ms. Milton?

MS. MILTON: I have no objection.

CHAIRMAN: All right. We will so recognize the witness. And we were getting -- I don't know if it's me, the time of day or what, but we are getting a buzz up here, a high pitched whine. And I see the man is back at his post, so perhaps he has got that. Yes. Okay. Fine. Carry on, sir.

MR. RUBY: Thank you.

Q.13 - Dr. Mitchell, have you prepared a presentation of your evidence rebutting the Rogers' evidence filed at the end of December?

A. Yes.

MR. RUBY: And, Mr. Chairman, without further interference

from me, what I propose to do is allow Dr. Mitchell to provide you with his evidence in that regard.

CHAIRMAN: Okay. Go ahead.

Q.14 - Dr. Mitchell?

A. Thank you. Mr. Chairman, Members of the Board, I am happy first to note that efficient engineering is alive and well here and if my computer holds up, we should move through this just fine.

The report and my discussion with my colleagues from the records -- from the Rogers' panel will I think continuously focus on a 40 foot pole and the standard dimensions that apply in New Brunswick. Notwithstanding that in the real world poles do have different heights or different requirements and so on. But I think it's generally accepted that for purposes of dealing with the concepts of cost allocation, it's helpful to work with a single so-called standard pole that represents most of the actual poles to which it would be applied.

However, the methodology is general. It can be applied to other circumstances and other dimensions.

And the report that Dr. Yatchew and I prepared applies the findings of mainstream economic analysis to this problem of how to fairly share the costs of joint use poles.

Now we are quite familiar with the basic diagram and the overall situation. Three companies, I label them abstractly A, B and C, share a pole structure. They attach their fixtures in dedicated segments of the pole, where they have exclusive use of that portion of the pole. The pole also requires varied clearance and separation spaces. Those spaces are equally required by every company, A, B and C. And together those spaces constitute the common portion of the pole.

So just to be very clear about the terminology that I will use, the dedicated portions are used exclusively by individual companies. The common portions are shared. And of course, the task is how to allocate the total cost of the pole among the three companies and to do so fairly.

Now it's absolutely common sense, of course, that it is efficient to have a single pole rather than duplicate poles. It's widely in the public interest, that's generally understood. And so the question for an economist looking at this problem is how to bring that about effectively and how to reach an understanding as to what constitutes a fair division of those costs of a single pole.

So I want to review with you and contrast at relevant

points my interpretation of this problem with Professor Ware's.

But as a general matter, cost allocation is something that occurs in all kinds of circumstances throughout the economy. In the paper we used a very simply example of taxicabs that many of us, of course, are familiar with in daily life. It has been applied to power flows in transmission systems. It has been applied even to rocket launches, where you have multiple payloads on a single rocket and need to determine how to share that cost among different satellites or other objects that are being launched into space.

One of its earliest applications was to multi-purpose water projects in which electric power is one of the outputs, but control of rainfall and runoff is a second output and simple recreation use of damned water for recreational purposes is a third. How to share the costs among those different activities.

Computer networks have the challenge of how to divide up the cost of a network among their users. University telephone systems and so on.

As one of the economists who wrote perhaps the key piece of academic literature surveying this whole area of cost allocation, he said something like there are people

who use game theory all the time without even suspecting it.

And indeed it is the theory of co-operative games, a rather jargon-loaded phrase, but basically the idea of a systematic study with economic science of how people co-operate and can be induced to co-operate in order to reduce costs or increase the benefits that they enjoy by working together, rather than going off and building separate poles or separate rocket launches or separate computer networks.

There are three types of objectives or principles that flow out of this economic analysis. The first is to achieve efficiency. In our case that means ensuring that a single pole is put up where it is least costly, which is I think almost universally going to be the case, rather than multiple poles.

Second to provide financial incentives so that the different firms will indeed get together and build a single pole and not be at loggerheads about who is going to pay for it or have the incentive to leave a co-operative situation and go off and duplicate that investment.

And then what is we think the central challenge in this application, how to achieve that division on the basis of something that the parties will themselves and

outside observers judge to be fair and equitable.

I might say one more thing about the example in the electric power industry. This is one that has been studied to a considerable degree. We have a power network where power from different generators and different consumers that is flowing back and forth in both directions across several nodes of the network. This is a network that has already been built. And the challenge is what constitutes fair charges for dividing the cost of that infrastructure? And game theory is applied to exactly this sort of problem.

So really contrary to Professor Ware's assertion in his evidence, this is the relevant science for examining the economics of sharing and how to deal with those costs, allocate them among the parties participating in a common project. And it lies exactly in the mainstream of economic analysis. These are too quite technical, but central references in the academic literature on this the first is in the Handbook of Game Theory and Economic Applications with overall editorship from Kenneth Arrow and Mike Intriligator. A very senior established economist. Ken Arrow is one of the Nobel Prize winners in the early days of the Nobel Prize.

And then another paper which applies these principles

directly to electric power networks.

What principles do we derive from economic theory? First, efficiency. There should be sharing where there are common costs so that total costs can be reduced. And that total costs would therefore not be larger than they need to be.

Second, this division of cost or the assignment of fees or however these revenues are to be raised, should be such that each participant is induced to co-operate. And that means that each user pays at least all of the additional costs that he causes by joining up with the common enterprise. And at the same time no user is charged more than it would cost him to go off and conduct this activity by himself.

The jargon there is incremental cost. That's the additional cost. And the stand alone cost, being the cost of a go it alone sort of operation.

Now I think Professor Ware and I are in agreement about the use of economic terminology here and how it would apply to joint use poles. Professor Ware in his evidence points to what he calls, usable space, as constituting the measure -- well-defined measure of incremental cost. The cost of occupying that usable space. And goes on to say that no participant should pay

less than it would cost to -- then it would take to add their need to a facility created for another participant. The incremental cost test.

So that concept of incremental cost includes the capital cost and the operating cost of adding another user to the facility.

But here there is a conflict, because Mr. Ford is using a different methodology and one that really departs from the basic economic concepts.

In his evidence at Question 15, he is including only administrative costs and loss in productivity as a measure of additional costs. And indeed says that to ensure that subsidization of a cable operator by the owner of a pole does not take place, the pole owner must recover from the cable operator all direct costs associated with the use of the portion of the communication space. That is in his methodology the adminstration costs and the loss in productivity, but none of the costs of the use of the usable space, the capital costs and the operating costs associated with that.

So that is a fundamental difference here between the economists and the other parties appearing.

But let me turn to what I think is the focus of the analysis that Dr. Yatchew and I have attempted to provide.

And I think where many of the differences in position or understanding occur between Professor Ware and myself and I will try to focus specifically on those for you.

There are several ways to reach a point of sharing of the total costs of a pole that are both efficient and have proper incentives. That is they don't result in cross-subsidies. Not a single solution, but a set of possible solutions.

And the challenge then is to think carefully about those solutions and the kind of evidence that can be brought to suggest which are the most appropriate in our situation. We have undertaken to do that and to boil down what is admittedly somewhat complex technical economics in game theory to some quite basic common sense rules, what we call benchmark rules, for sharing costs. And have included that and some examples including examples from taxicabs, actually, in our paper.

But let's look at the first benchmark here. What we call rule number 1, a candidate for fair division of costs, is that the costs of the equally required segments of the pole are shared equally and additional costs are borne by each user individually.

So it conceptually divides the pole up into those two

parts, the shared portions and the individually dedicated portions. So each user causes costs of the common portion of the pole to be incurred. No user could have service without having all of the underground and clearance space on a pole. Every user requires all of that space to be in place, all of that portion of the pole to be in place. But in addition of course, each user requires some space solely for its own use, for its own attachments. And so the rule boils down to adding up these two parts, an equal share of the common cost, so if there are two users, you divide by two, if there are three, you divide by three. Plus the costs of the space dedicated to the particular user we are looking at.

Now here is a different example from taxicabs but I think it helps make the point quite clearly. We have something -- let's say it's a water pipeline, two towns, A and B, with the same populations, that are located at some distance from the source of water. And for much of the route, I just suggest 30 miles in the example, it is possible for them to share a single pipe and at the end of that point, the pipe gets split and routed to the two different towns.

From the junction point, the two towns are of different distances. Two miles for A, eight miles for B.

And what we call the standard cost allocation is that each town would pay for its dedicated pipe, two miles or eight miles of pipe in those two cases, and the two parties would decide how to share the remaining cost of the common pipe. And the commonsense approach to this is the two towns would share equally in that 30 mile.

Now contrast this with Professor Ware's allocation. He would have A pay for two miles and B pay for eight miles, but in the sharing portion, he would have A pay for only 20 percent of that pipe and B for 80 based on the so-called relative use of the dedicated portions of the network.

Now you can imagine, you know, modifying the example to the point where A is located only 100 feet or so from the junction. And see readily that you get radically different solutions to this very simple cost allocation problem if you adopt Professor Ware's methodology of relative use. Where the fraction of the dedicated distance accounted for by one town is minuscule, it will bear almost no cost of the shared portion of the pipe at all -- the pipe network.

Let's go to the second benchmark. A different way of thinking about the basic problem but here focusing on what the two or three users gain by cooperating and looking at

the savings and the costs they would otherwise occur. So this is explicitly looking at an alternative world versus a sharing world.

This rule number 2, each user would share equally in the savings derived from not constructing sole poles or stand-alone poles. So we think of each user designing its best pole just for its own requirements, taking no account of any other attachments.

The total costs of two or three poles with two or three users would be higher than a single pole. Compare that to the cost of a joint pole and divide those savings equally. So start with stand-alone costs and then subtract 1/2 or 1/3 of the savings depending whether there are two or three users.

Now it turns out in our applications for this type of joint pole rules 1 and rule 2 actually yield the same percentage shares. That is in the general principle. It wouldn't apply to other types of cost structures necessarily. But it does indicate that a different view about what is fair, that is thinking in this case about it's fair to -- can thought to be fair to share equally in savings when you engage in a joint product -- project brings you to the same -- in this case, same numerical

answer.

Our third benchmark. Here we consider relative benefits to different users who have different cost and dedicated space requirements. Each user's proportionate share of the total cost is its percentage share of the sum of the individual stand-alone costs.

So users that have a greater dedicated space are responsible in this view for a larger share of the total stand-alone costs and so they share in the joint pole costs in proportion to their share of the total costs of three separate poles.

Now this is another point where Professor Ware and I are differing. This produces a different share than the first two rules in the applications that we have here for joint poles. And it is a rule which takes in to account benefits differing from one user to another. So it is in relationship to the relative benefits obtained by the different parties.

I want to turn now to some of the central points in Professor Ware's commentary. First, it is built around a model which for this application is incorrect. The so-called relative use model. And you can see from the quotation from his paper, that he wants to allocate the costs of the shared portion of the pole, what I have

called the common portion in proportions to the amount of space used in the dedicated part of the pole.

So that's the idea and it has a certain superficial appeal, if you use more you should pay more. And in some applications that is good economics. But in this particular application, it does not hold up. And here is why. Each user, power, telecom and cable, make the same demands on the common portion of the pole. It's not the case that the power company needs more clearance than the cable or the telecom company. They all need that same 17 feet of space in order to have carriage of their wires. So they each and all cause the same common costs. And from that we can conclude, looking at it from an equitable portion -- point of view, that it is fair for them to share those costs equally. They are equally responsible for those costs.

The second reference, Professor Curien's paper from the Power Transmission Book, puts it this way. A pure fixed cost -- a pure fixed cost should be allocated equally since the presence of any single output is insufficient to cause the whole cost.

That is exactly the situation we have here. Any single output, power, telecom or cable sufficient to cause the whole of the common cost of the pole. Now I hasten to

add that relative use can indeed be a relevant principle in other applications with different kinds of cost structures.

Imagine for example a parking lot in a shopping mall. The parking lot is used in common by all customers who come to any of the shops in the shopping centre. And in a rough and ready sense it is probably the case that larger shops attract more customers and need more parking. So we have a common resource, the amount of which is determined by the number of customers coming to different sized stores. And it then has at least an initial possibility to say the common costs f the parking lot should be allocated in proportion to or a greater amount to larger stores than smaller stores. Because their activity of building larger stores drawing more traffic, will indeed bring more -- more users to the parking lot.

And that model in fact may apply to many other situations, including many regulated settings. It has, I think, been quite sensibly argued that in the telephone network, long distance and local service share the costs of a local telephone switch. If long distance service increases, long distance calls double, it may well be necessary to increase the size of the local telephone

switch in order to accommodate that. So that common cost is being driven by the demands of long distance service and allocating local telephone switch costs in proportion to traffic, long distance and local traffic in that setting makes a fair degree of economic sense. But it is because of this causality connection between the use of the dedicated activity and the common activity that it holds up, a relationship that we simply don't have in the case of joint use poles.

Let me come at this again from some additional information. The joint use approach will not satisfy the concepts of a co-operative game theory, the economic analysis that applies to sharing of common resources. Two firms or three firms who would be brought together and try to reach an agreement about how to divide these costs on their own with no regulator in the picture would not agree to the shares that are being predicted by the relative use approach.

Now in order to apply that test you would of course need to have firms that are juxtaposed in relatively equivalent positions in terms of being able to strike bargains and have alternatives and so on.

And that's exactly the situation we have when we look to the decades of history across Canada with joint use

poles between telecom and power companies. They have negotiated without being interposed by regulators their own agreements for how to divide the cost of poles and in effect have reached sharing agreements that are in the order of 60 percent of the cost being borne by power, 40 percent more or less by the telephone companies. Those agreements exist in this province, in Nova Scotia, British Columbia, in Quebec and in Ontario. And perhaps elsewhere in Canada. We didn't have the time to pursue all of the potential sources of information on that.

But it's striking that these agreements which are subject to periodic re-negotiation have remained quite stable with some adjustments in shares or circumstances have changed, but they represent the arrival of an agreement of two parties that have -- it's in their mutual interest to get together and build a common pole.

And the shares that result from this are not the shares that would be predicted by the relative use model but they are within the range of the three benchmarks that we have suggested come from the economic study of co-operative behaviour, co-operative game theory.

So looked at again from that perspective, the relative use approach, if applied to joint use poles, would not pass a fairness test. It would undercharge an attacher

who uses dedicated space but has the same requirements for the buried clearance and separation space as a power or telecom user. It doesn't satisfy the benchmarks that we have derived from a co-operative game theory and it violates another test or criterion, one that was set out by Steven Littlechild and Graham Thompson in a path-breaking paperback in the 1970's. You may know Steven Littlechild's name as later he was the regulator for electric power in the United Kingdom.

And I will just move to the next slide to give you an example of how he applied that. This was in the case of runways and the question was how to charge different aircraft for use of a common runway, or I guess probably a pair of runways in that airport. Aircraft have differing requirements for take-off and landing, both length, but also the strength and turning radius and so on, but for simplification we can simply think just of length here as the important differentiating factor, a small, medium and large aircraft requiring 30, 40 or 44 total units of runway. If we think of cost being disproportionate to length in that case we have a situation where all three types of aircraft need the first segment and if we share those costs equally each would pay ten for the segment number one. That's sufficient for plane A to take off and

land. So only planes B and C need to share segment two. And if they divide the cost of ten equally that's another five. And finally there is an incremental cost for C because it's the only plane that uses the longest portion of the runway with a cost of four.

And so that leads to the charges or the allocation of those costs of ten, 15 and 19, very readily derived, and I think totally -- you know, consistent with our common sense of how sharing would fairly apportion -- apportion these costs.

Now in actuality Littlechild and Graham have actually looked at what runway fees were charged and how they were revised in this setting, and there is quite a good correspondence between the very boiled down ideas here and the actual fees that take into account not only length but the strength of the runways, the turning spaces that are needed on the taxiways, and so on.

And he then stated this criterion as a way to think about fairness in this sort of example. The amount by which the charge a larger aircraft -- the charge to a larger aircract exceeds that for a smaller one so the difference in charges does not exceed the difference in costs of providing for the two types of aircraft. So that leads to the principle that if two craft have equal costs

they should be charged the same and if they differ the difference in their charges should not be greater than the difference in their costs. If we look at our example the difference between B and A, a charge of 15 versus ten, leads to a $5 or five unit difference in fees, and the cost difference there was ten, 40 versus 30. So the criterion is satisfied comparing B to A. And if we compare B and C in that case the additional fee is four and the additional cost would also be four. So those two types of aircraft also satisfy it.

So this is a relative use/relative benefit sort of fairness criterion as well. And it's an additional point of reference that we can use to examine whether cost allocations appear to be fair.

Let me turn to some of the other points made in Professor Ware's commentary.

Essential facilities. This analysis in my opinion simply does not apply to joint use poles. Now as a beginning matter there is at least a little dispute about whether joint use poles are essential facilities. The CRTC did not classify them as such. The Ontario regulator did. But in any case that's really sort of beside the point here because the relevance of essential facilities in terms of pricing analysis occurs when there is

competition with the incumbent who owns the essential facility, and the issue becomes can a competitor get access to that facility in order to compete or compete more effectively with the incumbent? But of course we don't have competition between cable and the power company and that type of access requirement. Access pricing requirement doesn't arise. Cable attachment rates that are set out as being preferential would then favour the cable company in its competition with the other party, the telecom company. So there would definitely be an issue of favouritism rather than neutrality in the rates if relative use rates were to be established.

And finally as I think discussion has already indicated rate adjustments -- or the rates that are finally set in this proceeding will be taking into account in your overall proceeding about setting rates for Disco. And so there is not an issue of needing to limit pole charges to one or another rate in order to prevent Disco from over-recovering the total amount of cost.

Another point of contention is whether there is some difference that is material for joint poles with regard to whether the sharing is analyzed before the poles are constructed and attached to or only after the fact.

Joint use poles have been constructed as we have heard

to accommodate telecom cable and other communications attachers to standards that are expressly set out in order to accommodate sharing.

Replacement of poles and new installation of poles continues on a regular basis. So this is not simply a question of looking at the past of once for all decision. There is new investment occurring.

And again if the price of access to the pole infrastructure were to be discounted for one attacher it would be doing so because he comes last, and being the latecomer is hardly a justification in terms of providing fair sharing among the parties to the pole.

You might ask the same question about the aircraft example, right. The aircrafts come along long after the airport is built, but we don't say that we throw out fairness analysis because they weren't there at the beginning to decide how long the runway should be and what share they should be paying. They pay for take-offs and landings according to these basic principles.

Or the new town that comes in and hooks up to a water system after the system is already built and it just needs an extension of the pipeline. We don't consider it fair to charge them only for the extension and to have no sharing of the common costs.

Now, I suggest that the difference in treatment in the telecom sector in North America is really accounted for by policy and not economics. In the United States that's quite explicit. The original legislation on attachments like cable television to utility poles was expressly designated as a way of keeping cost load to encourage the development of the cable television industry. And in 1996 in our major restructuring of local telecommunication services, the 1996 Telecom Act, the entire act was designed with the intention of promoting competition in local telephone service and established maximum rates for federally regulated poles.

In Canada there is not this explicit representation of that purpose. But rates for attachments to telephone poles are regulated by the telecom regulator and that regulator uses a relative use model for other network facilities where common costs vary with use, as I suggested for example -- the example of the local telecom switch.

So I think this may in conjunction with the policy of promoting competition more generally be one explanation for the methodology that that regulator has adopted.

Let me try to sum up. First in terms of cost causation. Each attacher to the pole is responsible for

causing all the common costs of the underground clearance separation spaces. And each attacher individually causes the direct cost of its own dedicated space and fixtures. And second, the cost allocation benchmarks that we attempted to put into everyday language that derived from economic theory reject -- simply do not match up with the usable pole space type of allocation because of this basic structure of the cost of fixed common costs in the joint pole. Those benchmarks yield a range of fair shares, not a single number of total pole costs, and that range -- the methodology that that range produces -- the methodology which produces that range is validated by extensive decades long experience in markets in which there is active bargaining and re-bargaining about these very resources, attachments to joint use poles.

This representation of pole costs accurately characterizes then the cost structure of poles. As I said it's consistent with the economic theory of co-operative behaviour and it closely predicts the outcome of economic bargaining.

This is about a strong a test as you can get of economic propositions in science. You start with the theory, you test it against experience and you cross-check the two. And when you have it in the very industries and

the resources which are being -- you are being asked to apply the methodology to, I think you should consider it very carefully as compelling evidence for the basic approach of analyzing cost allocation.

Thank you.

MR. RUBY: Thank you, Dr. Mitchell. Mr. Chairman, the witness is now available for cross examination.

CHAIRMAN: We will take probably a 10-minute break. We may well go to quarter after today.

MS. MILTON: All right.

(Recess - 2:40 p.m. - 2:50 p.m.)

CHAIRMAN: Go ahead, Ms. Milton.

CROSS EXAMINATION BY MS. MILTON:

MS. MILTON: Thank you, Mr. Chair. Just before I get started, I wanted to flag that there is a timing issue that has arisen now. It certainly was not our expectation that the direct examination of the two Disco witnesses would be so long.

And it is looking like my cross examination of Dr. Mitchell is going to go well into tomorrow. And I can't judge at this point just how much of tomorrow. But I can certainly say it will go well into tomorrow.

So there is a concern. And I have talked with Mr. Ruby. And we will be caucusing with Mr. Hashey after this

session completes today. And we will have to discuss a possible planning proposal.

CHAIRMAN: Well, with frankness, you might as well have that now. I'm afraid that the hearing days are pretty well set in stone now.

MS. MILTON: I agree, sir. It certainly was never my expectation that we would have this long in direct. I had assumed --

CHAIRMAN: Well, in all fairness to both parties, we have to give you the time it takes to do your job.

MS. MILTON: Agreed, sir.

CHAIRMAN: And that is what we have done. Now we reconvene on what is it, Mr. Hashey, February 3rd?

MR. HASHEY: 6th.

CHAIRMAN: 6th? Okay.

MS. MILTON: Unfortunately I cannot be here that week. I have a court commitment.

CHAIRMAN: Well, okay. You -- I will ask counsel to get together after we rise today and see when the next time we can get together is.

I don't think -- our hands are tied. There are too many parties. There are too many support staff. And the Board also has other business.

MS. MILTON: I understand.

\ CHAIRMAN: Okay.

MR. RUBY: Mr. Chairman, for our part, we would like to get this done as quickly as possible obviously. And we will make whatever effort we can to have a proposal to you tomorrow, for at least something, that accommodates the rest of the hearing.

CHAIRMAN: Okay. Go ahead, Ms. Milton.

Q.15 - All right. Dr. Mitchell, I understand that your expert report that was filed in this case as well as the presentation that you have given to us today was authored by both you and Dr. Yatchew, is that correct?

A. It is.

Q.16 - Can you explain to us what the role was that Dr. Yatchew played in the report and the presentation?

A. We effectively did this jointly from beginning to end except for the presentation here today.

Q.17 - All right. So all of it was -- it was all written by both of you, is what you are saying?

A. That's correct.

Q.18 - All right. Because obviously Dr. Yatchew isn't here to testify, correct?

A. I think that's correct.

Q.19 - All right. Hopefully I can start out with some simple stuff.

Are you aware of any areas of New Brunswick where there is a duplicate pole line?

A. No.

Q.20 - So given that, is there competition in the supply of pole space in New Brunswick?

A. There may be competition in the potential for supply of pole space.

Q.21 - All right. Well, if it is not possible for Rogers to get approval or for Aliant to get approval or anyone else to get approval to build a duplicate pole line, would there be competition in the supply of pole space?

A. If regulations did not allow more than one pole there would not be competition.

Q.22 - All right. And would you agree with me that in that circumstance the pole owner would have market power?

A. With regard to attachments?

Q.23 - Yes.

A. Yes, I would.

Q.24 - Would you agree with me that in a perfectly competitive market, basic economics would suggest that price equals marginal or incremental cost?

A. In a perfectly competitive market --

Q.25 - Yes.

A. -- prices would be driven to marginal cost. Although

observed at any moment in time it wouldn't necessarily equal marginal cost.

Q.26 - All right. Yes. We are talking about theory right now I understand.

Would you agree with me that the incremental cost to Disco of Rogers' use of its pole is the total cost of the pole with Rogers less the cost of the Disco Aliant pole?

A. Could you repeat the question please?

Q.27 - Would you agree with me that the incremental cost to Disco of Rogers' use of a pole is the total cost to Disco of the pole with Rogers less the cost of an Aliant and Disco pole?

Perhaps I can help you. Could we go to your evidence? So A-64, page 21. And at line 38 you begin.

A. Yes. I have 38.

Q.28 - And it reads, the incremental costs of a distributor are measured by the increase in the total costs of the shared support structure when that distributor is added to the facility. Now if we turn the page, when there are two distributors, electricity and cable, the cable distributor's incremental cost is the total cost of the structure that serves both electricity and cable distributors less the cost of the structure needed solely for electricity.

And then you continue to the three party example and you say, with three distributors the incremental cost of e.g. the cable distributor is the total cost of the structure shared by all three distributors less the cost of a structure needed for just the two other distributors?

A. Yes.

Q.29 - Yes. Would you agree with me that common costs are costs that are common to a group of customers?

A. You are applying this to poles?

Q.30 - I'm just asking generally, common costs would be costs that are common to a group of customers -- yes, group of customers. We are in a regulated context here, so we are talking about setting a rate. So just thinking generally what common costs would be. They would be costs that are shared by a number of different customers or, if you prefer, by a number of different services?

A. Well I think the general thrust to that remark is correct. We would want to be specific about who the customers are or what the products are.

Q.31 - Agreed. So the common costs would vary depending on what you are looking at, so I'm just looking at the general contract.

A. Yes.

Q.32 - So these are costs that are incurred for all these

users and that cannot be attributed to a specific one of those users, is that correct?

A. Yes. I'm pausing because costs may be common to some but not all users in a particular example.

Q.33 - Okay. So we assume that they are common to all the users that we are talking about?

A. Yes. If costs are common to all users then they would not be attributed to any one user.

Q.34 - All right. Now could you define for us what you mean by the term fully distributed costs?

A. Well in the most wide definition of fully distributed costs, this would be taking the total costs of the activity and distributing them -- those costs among several customers or applications, so that when all of the parts that are distributed are added up they total exactly the total costs. They are fully distributed.

Q.35 - So would you agree with me that the proportionate use model that the CRTC has used and that Rogers has proposed in this proceeding is a fully distributed cost model?

A. I believe within the parameters we are discussing this at that probably is correct.

Q.36 - Well under the proposal all of the costs are allocated, are they not?

A. Yes. I think there is at some point some dispute as

to what the total costs are, but accepting that there is agreement on what the total costs are, those methodologies would distribute that total cost fully.

Q.37 - Yes. And my understanding was if I had cost issues I directed them to Mr. O'Hara, so I am focusing with you on the theory and particularly the theoretical issues that you have introduced in your expert evidence. So if I am not clear on that that is my intention.

Would you agree with me, Dr. Mitchell, that a pole rental rate is efficient in economic terms if the rate covers all the incremental costs to the pole owner of renting space to the tenant?

A. Well the costs of renting space to the tenant should include all of the costs of providing that additional capacity and service.

Q.38 - But I'm talking here about economic efficiency and I'm asking you if you would agree with that principle that if the rate covers incremental costs the rate is in economic terms efficient? Perhaps I could help you again. We could go to page 23 of your evidence. I wasn't anticipating that this was controversial. Line 24.

A. I have line 24.

Q.39 - And you have the paragraph that begins, however, requiring subsidy free attachment rates that each

distributor pay at least its incremental costs will not be sufficient to determine a unique set of rates. In most cases there are many alternative ways that the common costs can be shared while encouraging efficient use of resources.

My understanding is that the efficiency requirement is met by covering incremental costs. There may be other requirements and I understand we are going to get to those, particularly the fairness requirement. But the efficiency requirement is satisfied in economic terms when the rate covers incremental costs?

A. As I have used the concept of efficiency in this presentation, yes.

Q.40 - Thank you. Are you aware that Disco has an obligation to provide electricity service throughout New Brunswick and accordingly must have a ubiquitous pole network throughout the province?

A. I am generally aware of its service requirements.

Q.41 - And I believe you recognize in your evidence, in fact you rely on it quite heavily, that Disco has a joint use arrangement with Aliant whereby in return for providing Aliant with access to communication space on Disco poles Disco has access to the power space on Aliant poles?

A. Yes.

Q.42 - Are you aware that in order to accommodate Aliant on its poles under the joint use agreement Disco joint use distribution poles have always included two feet of communication space plus a separation space?

A. Yes. That was my understanding of the testimony yesterday and today.

Q.43 - Are you aware that there is no change in the communication space or the separation space if a third party tenant uses the pole?

A. Provided that tenant can be accommodated in the two feet of space, yes.

Q.44 - Agreed. There is no additional capital cost to Disco associated with Rogers use of Disco's joint use poles, would you agree with that?

A. By in large, yes, within the context we are discussing this.

Q.45 - All right. Now if we go back to the CRTC model and the Rogers model that we have put forward in this proceeding, that model proposes that the pole rental rate be set to cover all incremental costs to Disco and pay a contribution to pay Disco's capital cost of a pole, would you agree with that?

A. This is Rogers' proposal?

Q.46 - That's correct.

A. That's my understanding, yes.

Q.47 - So would you agree with me that that methodology satisfies the economic efficiency requirement, and that it would be covering all incremental costs?

A. Yes. If it covers all incremental costs it would satisfy that criterion.

Q.48 - So it does not give rise to any inefficiency?

A. Again within the context that you have set this discussion it does not.

Q.49 - All right. So the issue is not so much that the approach proposed by Rogers results in inefficiencies, but rather that you believe that the approach is not fair, would that be a correct statement?

A. Counsellor, I'm pausing because I frankly don't understand how Rogers' proposal and Mr. Ford's analysis of a subsidy-free rate match up, and I would not consider Mr. Ford's proposal of additional costs of just administration and loss in productivity as being efficient.

Q.50 - Well the evidence -- Mr. Ford's evidence has proposed in very general terms that the rates should recover the incremental costs to Disco of renting the space plus pay a contribution to the common costs, and those would be the capital costs of the pole, as well as some productivity and annual maintenance costs. So given that would you

agree that the issue is not efficiency but rather it's this fairness concept? And I believe your slides emphasize this.

A. I don't disagree with the emphasis, I disagree with Mr. Ford's analysis.

Q.51 - But I am talking about economic principles here. I am asking you --

A. And I am talking about the definition of incremental cost.

Q.52 - Well, I'm talking to you about if a rate proposal covers incremental costs plus makes a contribution to common costs, would that rate be efficient in economic terms?

A. If it covers incremental costs as I have defined it.

Q.53 - All right. So the issue then is really one of fairness. Would that be correct? And fairness in terms of how you allocate the common costs?

A. If you are accepting your premise that incremental costs are covered by the proposal, then the remaining issue is fairness.

Q.54 - I think this is illustrated by your third slide. You have three headers, Efficiency, Incentives, and then Fairness. And under Incentives you have each user pays at least its incremental cost. And that is the economic

requirement of efficiency.

And then you have no user pays more than its stand-alone cost. And that would be the requirement to induce participation in the joint resource.

So the remaining issue then is a fairness issue. Would you agree with that?

A. If the efficiency and incentive standards are satisfied by the proposal, yes --

Q.55 - All right.

A. -- the remaining issue is fairness.

Q.56 - Is fairness an economic concept?

A. Yes.

Q.57 - It is?

A. Yes. I have given extensive references to the economic literature.

Q.58 - So in your view economics has expertise on fairness?

A. Yes.

Q.59 - What role does philosophy play?

A. The philosophical principles are introduced into discussions about fairness.

Q.60 - And then economics takes over?

A. Well, in broad terms assessing fairness is a matter of bringing value judgments to a particular application.

Q.61 - And where do those value judgments come from? Do they

come from economics?

A. Ultimately they come from the observer who looks at the situation and examines the science and the philosophy and whatever other information he can bring to bear on the question and makes a judgment.

Economics is an important contributor to reaching a reasoned judgment about that. But it's not to the exclusion of common sense and experience and philosophy.

Q.62 - Would you agree with me that economics takes rules of fairness and then applies them, using economic analysis, to get an economic solution?

A. Could I have that question again, please?

Q.63 - Would you agree with me that economics takes principles of fairness, perhaps from game theory, perhaps from philosophical theories, uses those theories, applies them to an economic question and gets an economic answer?

A. Yes. It may not get a unique answer in a particular application.

Q.64 - That is fair.

MS. MILTON: I'm about to head into a new line of questioning. How long did you want to sit, Mr. Chairman?

CHAIRMAN: How long is the new line of questioning, madam?

MS. MILTON: Well, my questions are --

CHAIRMAN: You knew I would come back with that.

MS. MILTON: -- they are taking a lot longer than I expected.

CHAIRMAN: Yes.

MS. MILTON: It would be at least 15 minutes.

CHAIRMAN: We will break until tomorrow morning then at 9:15.

(Adjourned)

Certified to be a true transcript of the hearing, as recorded by me to the best of my ability.

Reporter