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In the Matter of an application by the NBP Distribution \&
Customer Service Corporation (DISCO) for changes to its
Charges, Rates and Tolls - Rogers Issue
Delta Hotel, Saint John, N.B.
February 28th 2006

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    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.
February 28th 2006
CHAIRMAN: David C. Nicholson, Q.C.
COMMISSIONERS: Jacques A. Dumont
Patricia LeBlanc-Bird
H. Brian Tingley
Diana Ferguson Sonier
Ken F. Sollows
Randy Bell
David S. Nelson
BOARD COUNSEL: Peter MacNutt, Q.C.
BOARD STAFF: Doug Goss
John Lawton
BOARD SECRETARY: Lorraine Légère
CHAIRMAN: Either my eyesight is failing or they are moving
you further back. Okay.
Could I have appearances please on behalf of NB Power
Distribution Customer Service?
MR. HASHEY: Good morning, Mr. Chairman. At the front table
this morning is -- this of course is the Rogers day, today
and tomorrow -- our counsel Peter Ruby and Clare Roughneed
accompanied by Tony O'Hara and Bridger Mitchell. With me
at the second table this morning is Lori Clark, Brian Duplessis and Lillian Gilbert.

CHAIRMAN: Thanks, Mr. Hashey. Canadian Manufacturers and Exporters? Conservation Council? Eastern Wind? Enbridge Gas New Brunswick? Irving Group of companies? Mr. Booker is not here. Mr. Gillis is not here. Rogers?

MS. MILTON: Leslie Milton for Rogers with Christiane Vaillancourt.

CHAIRMAN: Thanks, Ms. Milton. The self-represented individuals have given up on us. Municipal Utilities? MR. GORMAN: Good morning, Mr. Chairman and Commissioners. Raymond Gorman appearing on behalf of the Municipal Utilities. And this morning also with me is Richard Burpee, Eric Marr, Dana Young, Darren Lamont, Bob Bernard and Dan Dionne.

And just for the information of the Board, we also have an observer here this morning from the Canadian Electricity Association, Helen Sam. She was present I guess in the earlier part of the Rogers hearing as well.

CHAIRMAN: Thank you, Mr. Gorman. Vibrant Communities? Public Intervenor?

MR. HYSLOP: Good morning, Mr. Chair. Peter Hyslop and Carol Power.

CHAIRMAN: Thanks, Mr. Hyslop. If there are any Informal

Intervenors who want to go on the -- show on the record, speak now or forever hold your peace. And, Mr. MacNutt, who is accompanying you today?

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

CHAIRMAN: Thank you, Mr. MacNutt. Any preliminary matters? Whom do I address, Mr Ruby or you, Mr. Hashey?

MR. HASHEY: When we get to the Rogers part I would ask that you address Mr. Ruby, Mr. Chairman.

CHAIRMAN: Okay. I'm now on preliminary matters.
MR. HASHEY: We have none.

CHAIRMAN: Okay. Anybody else? I knew it. Mr. Hyslop, what piece of evidence do you want to enter now?

MR. HYSLOP: Last week, Mr. Chair, I believe it was Commissioner Sollows, in dealing with the Disco panel, asked a question to the effect of whether or not there was a publication that showed electric rates across Canada or at least in the area. And Mr. Marois wasn't sure. I did find a document on the web that $I$ would propose to enter as an exhibit. It is entitled "Comparison of Electricity Prices in Major North American Cities Effective April 1st 2005." It is published by Hydro Quebec.

I have given a copy of this to Mr. Hashey and
indicated my intention today. I don't believe he has objection.

CHAIRMAN: Anybody any objections to its introduction?

MR. HASHEY: No. If that assists the Board we don't have any objection. It is on the Internet.

CHAIRMAN: That has not become the gospel yet has it,

Mr. Hashey?

MR. HASHEY: I have given up arguing relevance.
CHAIRMAN: Okay. This will be PI-20.
MR. HYSLOP: Thank you, Mr. Chair.

CHAIRMAN: Thank you, Mr. Hyslop. Time to swear the panel, Mr. Ruby?

MR. RUBY: Yes, Mr. Chairman, though it is Ms. Milton's panel.

MESSRS. FORD, ARMSTRONG, LAWRENCE, DR. WARE:

CHAIRMAN: Go ahead, Ms. Milton.
MS. MILTON: Thank you, Mr. Chairman. I intend to proceed this morning by introducing each of the Rogers' witnesses and then as Rogers and Disco have agreed direct examination will consist of a short presentation by the Rogers' witnesses. The presentation was circulated to Disco in advance and we have hard copies for the Board and for everyone present in the room.

CHAIRMAN: Have the other Intervenors like the Municipals
been given a copy of that?
MS. MILTON: It was circulated to the Municipals as well in advance, yes.

MR. GORMAN: We received that by e-mail, Mr. Chairman.
CHAIRMAN: Okay. And nobody has any problems. There is nothing new being introduced?

MR. RUBY: Mr. Chair, I do have a problem actually. My agreement with Ms. Milton was that Dr. Ware would be making a presentation to the Board. We had agreed that the two economists would be making Power Point presentations. I had not understood that the slides would be presented by all of the Panel members.

MS. MILTON: Mr. Chairman, that is not what I agreed to. We agreed in advance to a presentation by the witnesses. These presentations were exchanged quite frankly over a month ago. I have two expert witnesses, that was my position from the start, that both Mr. Ford and Dr. Ware were expert witnesses.

The bulk of the presentation is -- will be given by Dr.
Ware and Mr. Ford. There will be a very brief
introductory presentation by Mr. Armstrong and two
concluding slides by Mr. Lawrence in response to issues that were raised in oral by Mr. O'Hara. This is the first I have heard of this objection.

CHAIRMAN: Okay. Mr. Ruby -- and you can appreciate I'm sure I'm having a good deal of difficulty in understanding what difference if these witnesses are appearing as a Panel, if some plays a role and others do not or they all do, if they stick to the subject matter of the slides.

MR. RUBY: Mr. Chairman, it's simply this, and I agree, generally speaking it wouldn't matter to me who gave voice to the slides. But a large number of the slides appear to be not rebuttal evidence but a repetition of the pre-filed evidence. My agreement was is that I would live by with whatever Dr. Ware had to stay and I will stick with that even though some of the evidence appears to be just a repetition.

But if we are going to have all the witnesses repeat their evidence, and as Ms. Milton pointed out to the Board, when my witnesses were here on direct, this Board I understand only hears rebuttal at this stage and not traditional direct or examination in chief. That said, I'm in the Board's hands about how much direct evidence it wants to hear.

CHAIRMAN: Well frankly on various occasions we have had a brief synopsis of the pre-filed written evidence which has, provided that it is brief, turned out to be useful to the Panel. I don't think we have any problem with that.

I have consensus. Just if it is simply emphasizing the prefiled evidence, Ms. Milton, why try and caution your witnesses to be brief as they can. Go ahead, ma'am. MS. MILTON: Thank you, Mr. Chairman.

DIRECT EXAMINATION BY MS. MILTON:
Q.1 - Beginning with the witness on my far left, your far right as you look at the Panel, Mr. Armstrong, could you please state your full name for the record?

MR. ARMSTRONG: My name is John Armstrong.
Q. 2 - And what is your position at Rogers?

MR. ARMSTRONG: I am the director of municipal and industry relations.
Q. 3 - Mr. Armstrong, I understand that your evidence appears in exhibit RCC-1 at the tab labelled Direct Evidence of John Armstrong, in RCC-3 at tab 2 and in the Responses to Interrogatories in RCC-3 which are labelled RCC Disco IR1C, 9, 13, 14 and 25 through 31, as well as RCC PI IR-2 and 3. And also the Responses to Interrogatories in RCC-4 which are labelled Rogers Disco IR-4, 5, 6 in part, 7 and 8 and Rogers UM-1, 2, 6 through 8, 10, 22 through 24 and 26 through 29, is that correct?

MR. ARMSTRONG: Yes, that's correct.
Q. 4 - Was that evidence prepared by you or on your behalf under your direction?

MR. ARMSTRONG: Yes, it was.
Q. 5 - Do you have any corrections that you would like to make to that evidence?

MR. ARMSTRONG: I would just like to note for the Board that I have reviewed my evidence and specifically I have looked at RCC-3, tab 2, direct evidence of John Armstrong under question 4 in the second paragraph. and in addition I have reviewed the agreements that Rogers has with Nova Scotia Power and Newfoundland Power.

In my evidence $I$ stated that by agreement Rogers does not pay for the use of service poles in Nova Scotia or Newfoundland. In Nova Scotia this is not correct. The agreement that we signed with Nova Scotia requires Rogers to pay a full pole attachment rate for service poles. However, what is interesting about our situation in Nova Scotia is that Rogers is not charged anything for service poles because we do not use any in that province. We do not have any customers in Nova Scotia. What we have simply is a fibreoptic cable that runs from Halifax to the New Brunswick border with no customers being fed off that cable.

The facility that we have is attached to about 5,800 poles in that province. So by contrast if $I$ were to contrast that against -- if Rogers had that same facility
here in New Brunswick attached to Disco's poles, in July 2004 Disco proposed that it would charge for the same 5,800 poles but it would then gross up those 5,800 poles by an additional 20 percent, or 1,160 poles, as an estimate of the number of service poles that it assumes that Rogers would be using. Nova Scotia does not do this -- Nova Scotia Power does not do this.

With respect to Newfoundland Power, similarly I reviewed the agreement that Rogers has with Newfoundland Power. The agreement includes service drops in the definition of facilities. However, there is no requirement to obtain a permit to attach a service drop to poles owned by Newfoundland Power.

Furthermore, the number of poles to which Rogers has attachments in Newfoundland is not determined by an actual count of the poles. It's determined using an estimate based on the number of subscribers that Rogers has. In addition Newfoundland Power purchased the poles of Aliant in that province about five years ago, and Aliant did not charge for its service poles nor did it keep track of service poles used by Rogers.

It's my understanding that Newfoundland does not charge for service poles in areas where the poles were previously owned by Aliant. And I believe that this is

- 4752 - Direct by Ms. Milton -
confirmed by Mr. Mugford's facts to Mr. O'Hara dated January 20th 2006, and which this Board marked as exhibit A-71.
Q. 6 - Mr. Armstrong, subject to that correction do you adopt the evidence that I have just listed as your own for the purposes of this proceeding?

MR. ARMSTRONG: Yes, I do.
Q. 7 - Mr. Armstrong, could you please describe the nature of your evidence in this proceeding?

MR. ARMSTRONG: Yes. The nature of my evidence includes a background regarding Rogers access to joint use poles here in New Brunswick, background regarding Rogers access to joint use poles elsewhere in its serving territory in Other parts of Canada, benefits of ownership versus tenancy, treatment of service poles. The impact of Disco's proposed rates and the nature of competition for the provision of cable television for broadcast distribution undertaking services and Internet services in New Brunswick.
Q. 8 - Thank you, Mr. Armstrong. Turning now to the next witness beside Mr. Armstrong, Dr. Ware. Dr. Ware, could you please state your name for the record?

DR. WARE: My name is Roger Ware and I am a professor of economics at Queens University. - 4753 - Direct by Ms. Milton -
Q. 9 - Dr. Ware, I would like to direct you to the evidence at Tab 3 of RCC-3, and the interrogatory responses Rogers Disco IR-6 in part and 10 through 12 that are contained in RCC-4.

Was that evidence prepared by you and filed, or under your direction and on your behalf, Dr. Ware?

DR. WARE: Yes, that's correct.
Q. 10 - Do you adopt that evidence as your own for the purposes of this proceeding?

DR. WARE: Yes, I do.
Q.11 - I wonder if I could take you to tab A of your evidence in RCC-3, which is your CV. Dr. Ware, is that an accurate summary of your professional qualifications?

DR. WARE: Yes, it is.
Q. 12 - Very briefly could you describe the highlights of your educational history and employment?

DR. WARE: I graduated from Cambridge University in 1972
with a Bachelors Degree in Economics. I completed a Masters Degree at Sussex University in 1973. I worked in the British government as an economist for a few years. Then completed my PhD in Economics at Queens University in 1981. I held an assistant professorship at the University of Toronto from 1980 to 1990. Receiving my tenure during that period. I moved to Queens University in 1991 and was
promoted to a full professor in 1996.
Q. 13 - Thank you, Dr. Ware. Could you please describe your major areas of specialization?

DR. WARE: Yes. I have specialized since the beginning of my career in the economics of industrial organization, which $I$ could very briefly define as the study of competition in markets and how to regulate those markets when competition breaks down in various different ways. And I have worked in the area of regulatory economics also and in game theory. I have also specialized in the economics of competition policy and I have regularly taught courses in economic regulation and industrial organization both to economic students and in the faculty of law at the University of Toronto and Queens University. Q. 14 - Dr. Ware, do those areas require you to consider the appropriate allocation of common costs?

DR. WARE: Yes, they do.
Q. 15 - Have you published in those areas, Dr. Ware?

DR. WARE: Yes, I have. In the year 2000 I published a textbook in the economics of industrial organization, which addresses the issue of the allocation of common costs and also very broadly defined the whole area of the economics of regulation, and also has a considerable amount of space devoted to game theory.

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-4755 - Direct by Ms. Milton -
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Q. 16 - And I understand that in addition to your textbook you have also published in a number of journals, is that correct?

DR. WARE: Yes, I have. In the same areas.
Q. 17 - Dr. Ware, have you testified in prior proceedings?

DR. WARE: Yes, I have. Mostly before administrative tribunals, in particular the Competition Tribunal, but also before a Chapter 11 panel and some regulatory boards.
Q. 18 - And what was your role in those proceedings?

DR. WARE: My role was as an expert economist being retained by one of the parties.

MS. MILTON: Mr. Chairman, I move to have Dr. Ware declared as an expert witness in economics.

CHAIRMAN: Any objections? All right.

MR. GORMAN: No objection.

CHAIRMAN: The Board will so recognize Dr. Ware. And if your second witness -- as I understand it you have a second expert. If the parties opposite have no quarrel with that individual being an expert in a particular field then we need not go through the entire academic background.

MS. MILTON: All right. Sorry, Mr. Chairman.

CHAIRMAN: No, no. No problem.
Q. 19 - Dr. Ware, could you describe your mandate in this
proceeding?

DR. WARE: I was asked to provide an economic analysis of pricing for access by Rogers to power poles owned by Disco and operated under a joint use agreement with Aliant.
Q. 20 - Thank you, Dr. Ware. Moving to the next witness. Mr. Ford, could you please introduce yourself to the Panel? MR. FORD: Yes. Perhaps the term is reintroduce to at least one member of the Panel. My name is Donald Ford. I am the president of D.A. Ford \& Associates Limited. And I last testified before this Board in June of 1984 on behalf of the Public Intervenor of New Brunswick.

CHAIRMAN: I would rather you didn't date both of us in that fashion.
Q. 21 - Mr. Ford, I am going to refer you to the evidence in RCC-1 following the first tab labelled Direct Evidence of Mr. Donald Ford, to the evidence in RCC-3 at tab 4, and to the interrogatory responses in $\mathrm{RCC}-2$ that are labelled RCC Disco IR-10, 12, 14 to 19 and 21 to 24 , and RCC PI IR-1, and also to the interrogatory responses that are contained in exhibit RCC-4 that are labelled Rogers Disco IR-9 and Rogers UM IR-4 and 5.

Mr. Ford, was that -- the evidence that $I$ have just identified prepared by you or on your behalf under your direction?

MR. FORD: Yes, I prepared it.
Q. 22 - And do you adopt that evidence as your own for the purposes of this proceeding?

MR. FORD: I do, with one very minor correction. In RCC-3 Appendix $C$, page $C-1$, and lines 12 to 13 , when $I$ characterize the approach that Disco used in part in eliminating the cost of power specific fixtures, I make a reference to a bare pole being a pole that has the required guying and anchors but no power specific fixtures.

Having listened to the cross-examination of Mr. O'Hara by Ms. Milton when we were last here before the Board, I understand that Mr. O'Hara is not using what $I$ assumed he was using which was the standard definition of a bare pole. I believe he and Ms. Milton characterize it as a stick in the ground. And so I would amend my evidence to delete that part within parenthesis. The bare pole as used by Mr. O'Hara has no fixtures on it at all.

However, I would emphasize that this makes no difference whatsoever to the conclusions that $I$ drew in that appendix and in Part 2 of my evidence and that is that the approach does not make any sense at all.

MS. MILTON: Thank you, Mr. Ford. Now given your last comment, Mr. Chairman, I am going to skip Mr. Ford's CV
and then if there is an objection by Mr. Ruby we will have to go back to it.
Q. 23 - Mr. Ford, have you been involved in prior proceedings concerning pole rates?

MR. FORD: Yes. I have testified as an expert witness before the CRTC, before the Nova Scotia Utilities and Review Board and before the Ontario Energy Board on matters of costing and rate making methodologies for access to power poles and to telephone poles.

MS. MILTON: Thank you, Mr. Ford. Mr. Chairman, I move to have Mr. Ford declared as an expert witness in the area of cost allocation and rate design.

CHAIRMAN: Any objections?

MR. RUBY: Yes, Mr. Chairman.

CHAIRMAN: Well then we had better have Ms. Milton take --

MR. RUBY: What $I$ was going to suggest though is while raising that objection $I$ am content to deal with Mr. Ford's qualifications on cross-examination. I'm not suggesting that he should be precluded from testifying. So I am in your hands as to how you would rather do that, now or later.

MS. MILTON: Mr. Chairman, I have moved to have him declared as an expert witness. He was accepted as an expert witness before the NSUARB on the very same issues. He was
treated by Mr. Ruby as an expert before the OEB. If we are going to have to argue this I would like to argue it. Perhaps though just to make sure we have the facts on the record, I'm sorry, but could we go back to Mr. Ford's CV which is contained I believe at tab A of your evidence in RCC-1, Mr. Ford, if I could get you to go there. Is that an accurate summary of your professional qualifications, Mr. Ford?

MR. FORD: It is although I will say in terms of those projects that is contained there $I$ have limited it only to those that involved the rates for cable access to power and/or telephone poles.
Q. 24 - Could you please describe your education and employment history, Mr. Ford?

MR. FORD: Yes. I have Bachelor and Masters Degrees in the Natural Sciences from Carleton University and a Master of Business Administration Degree from the Ivy School of Business at the University of Western Ontario. I have worked ten years with the federal government with the National Energy Board, the Department of Communications primarily. I worked for a firm that is now known as KPMG for about two years, from 1981 to 1983, and in 1983 I formed my own firm in which I continue to operate to this day.

I have participated in well over 200 major projects and studies regarding the Canadian and international communication industries. I have testified as an expert witness before the New Brunswick Public Utilities Commission, the Ontario Telephone Service Commission, the National Energy Board, the Bermuda Telecommunications Commission, the Nova Scotia Utilities and Review Board, the Ontario Energy Board and on numerous occasions before the Canadian Radio Television and Telecommunications Commission.

MS. MILTON: Thank you, Mr. Ford. Mr. Chairman, I'm not sure how you would like to proceed. I can make a brief two minute argument on this point or the witness can be cross-examined on his qualifications by Mr. Ruby.

CHAIRMAN: I don't know either. Was Andrew Elek with KPMG as you were there or --

MR. FORD: Yes, he was.

CHAIRMAN: Yes. I remember those costing days. They are a bad memory.

MR. FORD: Yes. I had a number of -- and actually even when KPMG and $I$ joined forces not too many years ago at a study that we did jointly in Thunder Bay for Thunder Bay Telephone I had occasion to work with Mr. Elek once again. CHAIRMAN: Ms. Milton, again what is the field in which you
want the witness to be proclaimed an expert?

MS. MILTON: Cost allocation and rate design, Mr. Chairman.

CHAIRMAN: Mr. Ruby, I think you should probably cross the witness on his qualifications.

CROSS EXAMINATION BY MR. RUBY:
Q. 25 - Thank you, Mr. Chairman. There are only a few items I want to highlight. First of all, Mr. Ford, you are not a professional accountant, are you?

MR. FORD: No, I do not have an accounting designation, Mr. Ruby .
Q. 26 - And you are not a professional engineer?

MR. FORD: That is correct. I am not a professional engineer.
Q. 27 - And you are not an economist?

MR. FORD: No, I am not an economist.
Q. 28 - And I take it from what you just told the Board that the focus of your work particularly in recent years has been in the communications industry?

MR. FORD: Certainly for the last 30 -- well I would say 32
years -- 30 years probably would be correct, within the communications industry, that's correct.
Q. 29 - Right. Not the power industry?

MR. FORD: No. I have dealt with issues regarding access to power poles but no, not -- I have not done consulting work
for entities within what $I$ would consider to be the power industry.
Q. 30 - Okay. Other than testifying on behalf of the cable industry or other entities in cable pole related proceedings, have you done any studies of cost allocation for power facilities?

MR. FORD: All of the costing work that $I$ have done in this area regarding power facilities has been for purposes of either assisting various parties, and that would include parties other than cable companies such as the Bureau of Competition Policy for example, in either negotiating rates negotiations or in fact regulatory proceedings.
Q. 31 - Can you turn up your CV for a moment? You might have it there. This is, Mr. Chairman, RCC-1, right at the end of Mr. Ford's original evidence in this proceeding.

MR. FORD: I have it, Mr. Ruby.
Q. 32 - Starting with the bullet at the bottom of page A-1, you see it there. This is where you list the various -- you say, assisted various parties in negotiating and so on. Do you see it there?

MR. FORD: Yes, I do.
Q. 33 - And you see the bullets? So the first one you gave evidence on behalf of the cable industry, right?

MR. FORD: In these cases I think they were primarily paper
proceedings. So it was a matter of preparing written evidence. But there was not expert actual testimony involved. These were paper proceedings in this bullet.
Q. 34 - But you were working for the cable companies in this particular item, is that right?

MR. FORD: Yes. Those were cable entities, that's correct.
Q. 35 - All right. In the second this is also similarly working for the cable companies?

MR. FORD: That was the Canadian Cable Television Association that $I$ was working -- that was my client in that particular case, yes.
Q. 36 - And the third one is again working for the cable companies?

MR. FORD: There were two cable companies involved, yes. Q. 37 - On the next page, A-2, this one it's marked assistance to essentially the Competition Bureau. Your view in that case essentially came down on the same side as the cable companies, right?

MR. FORD: I don't think I would characterize it that way. I was advising the Director of Investigation and Research and it was the director that reached the decision. I provided advice. I wouldn't characterize that advice as coming down on one side or the other.
Q. 38 - All right. Let's put it this way. The advice you gave
the director, was it inconsistent with the position you had taken when you were working for the cable companies?

MR. FORD: I don't recall the specific nature of the advice that I gave them but it would have had -- it would have been based on my review and my analysis of the facts of the information that $I$ gathered to advise them.
Q. 39 - All right. And --

MR. FORD: I would not -- it would have had absolutely
nothing to do with any advice that $I$ gave before, although I might have reviewed some of the same information. Q. 40 - This particular project, the first bullet, did it deal with cost allocation for support structure rates?

MR. FORD: I'm sorry. Which are you on?
Q. 41 - The first bullet, still there, on page A-2.

MR. FORD: A-2, Yes.
Q.42 - Did that project involve cost allocation for support structure rates?

MR. FORD: I don't believe it got into detail in terms of costing, but $I$ have not -- I haven't reviewed it for some time. I just don't remember.
Q. 43 - Well you are being tendered as an expert on cost allocation and rate design. Did this project involve cost allocation or rate design or you just don't remember?

MR. FORD: I just don't remember whether it did or not.
Q. 44 - All right. Moving to the next --

MR. FORD: I think the -- if I remember correctly I think the complaints in that particular one related more to the access itself as opposed to the rates, but I -- my memory is pretty faint on that one.
Q. 45 - Okay. The next one you were acting for the cable companies again?

MR. FORD: That was the Manitoba Cable Television
Association, that is correct.
Q. 46 - Right. And that's not a rate design or cost allocation exercise you did there, right?

MR. FORD: There were certainly elements of rates in that, yes. I mean, in any support structure agreement the price for access is certainly very relevant.
Q. 47 - Okay. I'm not trying to make this difficult, Mr. Ford. Did you do --

MR. FORD: I'm just trying to answer the questions as honestly as I can, Mr. Ruby.
Q. 48 - All right. Did that particular project involve you creating a cost allocation model or rate design?

MR. FORD: I am positive that we looked at elements of cost and other cost models. Because these are in chronological order. It certainly would have followed 95-13 which was heavily cost-based, the work that I did following Public

Notice 93-50.

And I'm sure that a lot of the costing information would have been brought forward into that. And certainly price was a major part of that negotiation.

It was not before a regulator. So there was not evidence filed with respect to detailed costing.
Q. 49 - Mr. Ford, I'm just asking what you did?

MR. FORD: I am sure that I would have brought forward costing information, comparable costing information to assist my client in negotiating what they consider to be fair and reasonable rates.
Q. 50 - Right. But you don't remember the specifics?

MR. FORD: I do not remember the specifics.
Q. 51 - Okay. Let's move on to the third bullet. You are acting for the cable companies again?

MR. FORD: That is correct.
Q. 52 - This is sort of more or less the same thing as in Manitoba. You are doing it again in Ontario? MR. FORD: That's correct. And in that case I specifically remember putting together a presentation with respect to costing information and costing methodologies, ratemaking methodologies and in fact assisted the parties to come to an agreement very, very quickly once that information was put before them. I do remember that one. - 4767 - Cross by Mr. Ruby -
Q. 53 - The fourth bullet, that is the cable companies again? MR. FORD: I worked with the Association, that's correct, in the negotiations. And it was subsequently close to I guess what you would term an arbitration proceeding before CRTC staff.
Q. 54 - In the next bullet where you deal with assistance to the Bureau of Competition policy, that again -- your evidence in that proceeding is consistent with the advice you have given to the cable companies about power poles? MR. FORD: It was consistent with information that I had provided previously, yes.
Q. 55 - The same information, same evidence, same opinion, different paymaster, is that fair?

MR. FORD: I'm not sure that -- well, there is a certain I guess tone to that question, Mr. Ruby, that may imply something different.
Q. 56 - I don't mean to have any tone. I'm just asking questions. Let's go on to the next one. We have heard a little bit about the Ontario Energy Board and what you did there already.

And so there you were acting for the cable companies again though?

MR. FORD: That is correct. It was the Canadian Cable Telecommunications Association in that case.

- 4768 - Cross by Mr. Ruby -
Q. 57 - And the last one is obviously what led to this proceeding?

MR. FORD: That's correct.

MR. RUBY: Mr. Chairman, on that basis -- those are my questions I should say for Mr. Ford.

My simple objection is on the basis that this witness does not have general expertise in accounting or economics, the two major fields that would lead to accounting and rate design.

The focus for the last $I$ think he said 32 years has been in the communications industry, not the power industry. And his work that touches on the power industry relates wholly, in my submission, as a partisan, to one particular party to these disputes through a large part of Canada. And on that basis he should not be accepted as an expert.

CHAIRMAN: Ms. Milton, do you have anything further to say?
MS. MILTON: Mr. Chairman, I believe that the questions that Mr. Ruby asked and Mr. Ford's answers largely speak for themselves.

It is clear that Mr. Ford has had extensive experience dealing with the issues of costing and rate design for
poles, both telephone poles and power poles. Who he acted for in those proceedings is largely irrelevant. He has used cost allocation and rating principles to reach a determination on what is an appropriate rate. He did not act for either a power company or a telephone company or a cable company before the NSUARB.

And I can give you the cite. I don't propose to take you there. But the cite to the NSUARB decision where he is recognized as an expert is contained in $R C C-1$ at tab $D$ on page 2.

I have copies of the OEB transcript if you would like to see them, where Mr. Ford was introduced as an expert and was not challenged by Mr. Ruby in terms of that qualification.

And in fact there are a number of questions where Mr. Ruby referred to Mr. Ford's expert opinions. It was clear that that proceeding dealt with power poles. I am content if Mr. Ruby wishes to restrict, for the purposes of this proceedings, Mr. Ford's area of expertise to pole cost allocation and rate design.

I would note however though that his résumé does make it clear that he has worked much more broadly than just on poles. And he began his career indeed at the NEB. Those are my submissions, Mr. Chairman.

- 4770 - Cross by Mr. Ruby -

CHAIRMAN: Good. Thank you. The Board is going to take a quick recess. We are going to huddle in the hall. But before we do, Mr. Ford, you actually didn't get very far in front of this Board before. And it was on a legal point as $I$ remember it.

And the Director of Combines Investigation had exceeded his authority, the way that legislation was worded. He was a federal civil servant. And he couldn't appear before a provincial tribunal.

MR. FORD: No, sir. I appeared on behalf of the -- I'm sorry. Mr. Chairman, I appeared before this Board in an NB Tel rate case on behalf of the Public Intervenor of New Brunswick.

CHAIRMAN: Okay.

MR. FORD: And I did testify before the Board at that time.

CHAIRMAN: All right. Yes. But on this one I'm just
looking at now -- because that was before both -- that same question as to the competency of a federal public servant to appear before a provincial tribunal was before the Newfoundland Board and also our Board. And this may not have been the time. And as a matter of fact the solicitor appearing on behalf of the Director is now the Vice-Chair of the OEB. And it went all the way to the Supreme Court of Canada.

And that is the only time that this Board has been correct all the way through.

Anyway we will take our break.
(Short recess)

CHAIRMAN: The Board will accept Mr. Ford as an expert in reference to cost allocation and rate design and not restrict it just to poles.

Go ahead, Ms. Milton.

MS. MILTON: Thank you, Mr. Chairman.

DIRECT EXAMINATION BY MS. MILTON:
Q. 58 - Mr. Ford, could you please provide an overview of the nature of your evidence in this proceeding?

MR. FORD: I have provided in my evidence an overview of the costing and pricing methodologies used by Canadian and U.S. regulators in this area.

I have proposed a methodology for setting a rate for access to Disco poles. And I have applied that methodology using costing data provided by Disco to establish a recommended pole access rate.

MS. MILTON: Thank you, Mr. Ford.
Q. 59 - Turning to our final witness at the far end of the table, Mr. Lawrence, could you please introduce yourself to the Board?

MR. LAWRENCE: My name is Clinton Lawrence.

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Q. 60 - And what is your position, Mr. Lawrence?

MR. LAWRENCE: My position is Director of Technical Operations, Planning and Construction for Rogers Cable here in New Brunswick.
Q. 61 - What does that position involved, Mr. Lawrence?

MR. LAWRENCE: That position involves constructing networks for Rogers Cable throughout the province. I have been doing that for the company for Fundy Cable, Shaw Cable and Rogers Cable directly for the last eight years.

Previous to that I was -- I held senior positions within Fundy Cable, Vice-President and Regional Manager. And I actually started with Rogers -- or sorry, with Fundy Cable.

I was the first service technician hired in the city of Saint John by Fundy a long time ago. And over the span of my career I have dealt with technical issues and technical operations throughout my career.

And over the last eight years we have constructed approximately a thousand kilometers of new plant across the province and rebuilt all the cable systems within the major systems here in New Brunswick.
Q. 62 - And would that require you then, Mr. Lawrence, to deal with pole issues?

MR. LAWRENCE: Yes, very much so.
Q. 63 - Mr. Lawrence, I would like to draw your attention to the evidence in RCC-1 at the tab labeled Direct Evidence of Mr. Clinton Lawrence and the evidence at RCC-3 in tab 1 and finally the Interrogatory Responses in RCC-2 that are labeled RCC Disco IR-1 through 9, 11 and 20 and in exhibit RCC-4 the Interrogatory Responses labeled Rogers Disco

IR-1 through 3 and RCC UM IR-38, 11 through 17,18 in part, 19 through 21 and 25.

Mr. Lawrence, was the evidence that $I$ have just referred to prepared by you or on your behalf under your direction? MR. LAWRENCE: Yes, it was.
Q. 64 - Do you adopt that evidence as your own for the purposes of this proceeding?

MR. LAWRENCE: Yes, I do.
Q. 65 - Mr. Lawrence, could you please describe the main topics that are covered by your evidence?

MR. LAWRENCE: The main topics that are covered by my evidence, it deals with typical space allocation on poles, pole usage, the issue of service poles and vegetation management activities required for poles.

MS. MILTON: Thank you, Mr. Lawrence. And now I would like to proceed with the presentation. That concludes my introductions. We will bring up copies for the Board.

CHAIRMAN: This will be RCC-5.

MR. ARMSTRONG: Mr. Chairman, I will go through two very brief introductory slides. And then $I$ will turn it over to Dr. Ware followed by Mr. Ford and followed by

Mr. Lawrence for two brief concluding slides.

What Rogers would like to focus the Board's attention on are a few key principles just to start out. These key principles are that joint use poles are a monopolycontrolled essential facility.

And by that $I$ mean they are a facility that is required by Rogers to serve its customers here in New Brunswick. And there is no readily available technological or economic alternative.

In addition Rogers is a tenant on these poles. It is not a pole owner. And my next slide $I$ will highlight some of the differences between tenancy and ownership.

We believe an equal sharing of pole costs across pole owners and tenants is not just and reasonable and rather a proportionate sharing of costs is just and reasonable. It is efficient and it is appropriate in this instance. So again, as I said very briefly, a few benefits of pole ownership. A pole owner has priority access to the space on the pole whereas Rogers does not. The pole owner gets to determine the height, the placement and the costs

A pole owner can use space anywhere on the pole for its own equipment subject to applicable safety standards and requirements. Rogers has to take the pole or take the place on the pole where the pole owner dictates that it must go. A pole owner can earn pole rental fees. As I said just a moment ago, the pole owner dictates where the tenant can place its facilities. And the pole owner can impose one-sided limitation of liability indemnification provisions on the pole tenant. So with that I will just turn it over to Dr. Ware.

DR. WARE: Thank you, Mr. Armstrong.
I would like to thank the Board for the opportunity to discuss and hopefully clarify some of the issues before them and in particular some of the issues that are raised by Drs. Mitchell and Yatchew in their report.

I want to start with the concept of an essential facility.
An essential facility is a sunk facility or network where duplication is either not feasible or economically undesirable. An access by an entrant is essential for that entrant to operate on reasonable terms.

In my report I give examples of the Interac electronic funds network and the local loop facilities of local
exchange carriers.

The Ontario Energy Board in the 2004 hearing on a similar issue to this one found that pole networks were an essential facility. The CRTC uses a similar conceptual framework without the terminology in its decisions regarding pole networks. The same is true of the $F C C$ in the United States.

By its very definition the party requiring access to an essential facility is in a different position to the parties that created it. I call it the distinction between ex-ante and ex-post, or before and after the fact. In this case the Power Company and the Telephone Company jointly planned, designed and constructed the network to their own requirements and specifications.

And I would note that there is evidence on the record that all poles have been built with a two-foot communication space with no consideration for possibly varying numbers in that space.

The cable company, in this case Rogers, is applying to attach to this network ex-post or after the network has been built, and is in effect a sound investment.

And here is where the fundamental problem arises with the cost allocation literature using cooperative game theory that is relied on so heavily by Drs. Mitchell and

Yatchew in their report.
That literature applies only to problems of ex-ante cost allocation, that is where all the parties are present and are present at the very beginning of the planning process. All parties are involved in the design, and equally in the original agreement, of how to share the costs of the investment.

This is clearly not the case here. Rogers has never been an owner of the pole networks, has never been involved in the design, planning or ex-ante cost-sharing decisions. Now ex-post pricing to an essential facility can be priced, efficiently priced at incremental cost plus some contribution to common costs.

This might be a good moment to comment on
Dr. Mitchell's claim at one point in his testimony that Mr. Ford and I disagree on the definition of incremental costs.

It is true that Mr. Ford uses the term "incremental cost" in a slightly different way in his evidence than the method that $I$ interpret it. He uses it to mean what I would call short run incremental cost, that is the direct cost of attaching a cable user to the communication space given that a pole of a given size is already in place.

I use the term "incremental cost" to mean more of a long run incremental cost in that $I$ attribute some opportunity cost to the space that Rogers, the cable attacher, uses on the pole.

You can think of the space that Rogers occupies as having some opportunity cost in the sense that in the long run it may displace some other potential attacher to the pole. So I include the capital cost of that usable space as part of my calculation of long run incremental costs. But I do want to emphasize that this distinction is not a disagreement or an inconsistency. Mr. Ford and I agree on the formula for contribution. We get exactly the same answer.

The only difference is that the part of the capital cost associated with the space occupied by Rogers on the pole is attributed by me as part of long run incremental costs but is attributed by Mr. Ford as part of contribution to capital common costs.

So if we include -- both definitions of incremental cost give us exactly the same answer of a total contribution for both cases of 15.5 percent of the pole cost based on the standard parameters of the 40 -foot pole.

Now why have I adopted a proportionate use methodology? Well, because assigning shares of common
costs in proportion to the demands made by different users on a common facility is the natural and virtually ubiquitous method for computing cost shares in the vast majority of regulatory applications.

The rationale for it is to use a proxy for how much each user is causing the common cost. So for example in gas pipelines regulated by the National Energy Board, each user's contribution to the fixed cost of the pipeline is in proportion to the volume of gas contracted for by that user.

Other pipelines do the same thing. Electric transmission lines where a competitive market for supply exists allocate contribution to fixed costs in proportion to the amount of power being supplied.

And as we heard last time we met here in the Board's -the recent CARD decision of this Board, some corporate common costs were allocated according to a proportionate use formula.

Dr. Mitchell himself gave us the example of a local telephone switch where common costs have to be allocated between local and long-distance users. And he cited with approval in fact, the fact that these costs are allocated in proportion to the volume of traffic, so that if the long-distance volume increases so does the share of common costs allocated to long-distance users.

The same principle applies to allocating the common costs of a pole. Power users require more space and sturdier, taller poles. And that should be reflected in a higher proportionate share of common costs allocated to the power user.

Dr. Mitchell in his slide presentation sets up a
fallacious example of proportionate methodology and attributes it to me.

And $I$ wonder if -- I don't know if the Board have Dr. Mitchell's slide presentation available. But $I$ wonder if you do if you could turn to slide number 5 for a second. If not I can --

CHAIRMAN: What exhibit number is that? A-74.
DR. WARE: Slide number 5, Mr. Chairman. Dr. Mitchell stated in his testimony but not in the slide, as you may note, that the towns have the same population. He argues for an equal division of the shared part of this pipeline. He then attributes to me, as you see at the lower part of the slide here, Professor Ware's cost allocation -- he attributes to me a solution which makes no sense and which I have not proposed. That is, to base the cost allocation for the shared pipeline on the lengths of the non-shared pipeline segments.

In fact for this example my actual solution would be the same as his, for the two towns to share the costs equally. But not based on some arbitrary rule of equal division, but because their use of a common facility is the same by assumption if they have the same population, it's because they make the same use of the common facility.

Using my methodology if Town A grows more rapidly than Town B and its demands become larger, then its share of the pipeline fixed costs would increase in proportion. Dr. Mitchell's equal division rule however would have both towns contributing the same to the shared pipeline no matter how much greater the demands of Town $A$ are than those of Town $B$.

And Dr. Mitchell raises a concern about the proportionate use methodology with what $I$ would call their negligible user argument. They say supposing an attacher comes forward who has a very thin cable, say just a few millimetres thick. And wants to pay the proportionate cost based on their share of usable space which would by assumption be very small. That is, a share of the common cost. My response to that concern is in two parts. First, Rogers has always proposed that it would share the costs of the communications space equally with other - 4782 - Direct by Ms. Milton -
attachers. So that with two communications users, Rogers and Aliant, they would pay -- they would each pay a half of the costs attributed to the communications part of the pole. So the only way then that that share could become negligible is if there were literally an infinite number of attachers.

Second, suppose that there were say a dozen attachers to the communications space and it was in fact technologically feasible for each of them to use -- occupy only two inches on the communication space, hypothetically. If that were the case, then two inches would in fact represent the true economic opportunity cost of the space that these attachers are using on the pole, and two inches would -- an allocation of $1 / 12$ of the costs attributed to the communication space would be an economically efficient rule, and it would of course fully distribute all of the common costs.

I want to come to equal sharing. Perhaps I could remind the Board that Drs. Mitchell and Yatchew in fact proposed three cost sharing rules for consideration in their report. Two of them however, Rules 2 and 3, required detailed cost data for the stand-alone cost of the different users, that is, the communications user, the power user and the cable user, which it's my understanding
these data are not available.

The third which they in fact cite first as Rule 1, the third relies on the principle of equal division of the common cost. There is no basis in economics for equal division of the common cost. The only time that equal division is justified is when different users place equal demands on a common facility, such as in the pipeline example that Dr. Mitchell presented.

And also I should qualify that, even there only when there are no normative arguments for favouring one user over another. Otherwise the principle of equal division does not stem from economics and neither does it arise from game theory or from results in game theory. It derives more from the realm of philosophy or from a very special notion of fairness and cannot be justified on grounds of economic efficiency.

Moreover equal per capita sharing as proposed by Dr. Mitchell leads to some obvious anomalies. I have already discussed Dr. Mitchell's own pipeline example. As another consider the streetlights that Disco currently attaches to the separation space of many of its poles. If those streetlights were sold to an independent lighting company, that company would be levied a per capita share of the common costs of the pole under Dr. Mitchell's equal
division rule. That would mean that every user -- every other user's share of the common cost would go down as a result of simply the divestiture of that -- of those lighting fixtures, including the share of Rogers.

And yet nothing real has changed. There has been no change in the number or the position of the streetlights, no change at all in the allocation of economic resources. I gave a similar example in my report. If three towns share a water facility and contribute equally to the costs, so each of them pays $1 / 3$ of the common costs, then if an amalgamation of two of the towns occurs, the remaining town will be penalized with a higher share of water costs, because now shares would be allocated on a 1/2 1/2 basis. Again nothing real has changed. There has been no change in water use, no change in the allocation of resources.

In contrast if the towns were levied on the basis proportionate to their use of water, then an amalgamation would have no effect on the shares of fixed costs paid by each user because those shares are based on their use, not on who owns the town.

In the case before this Board, Rogers does not in fact benefit equally from attaching to the pole network compared to the incumbents, Disco and Aliant. These
companies own the poles and they designed and built the
network to suit their needs, not those of Rogers. They have retained priority access to the power and communication spaces for themselves and they have the right to earn a revenue from additional attachers to these poles, which Rogers of course cannot do.

Finally, Drs. Mitchell and Yatchew argue that the
ownership of the network is actually more of a burden than an advantage. They pose the analogy of an apartment building owner who builds knowing that some units will be vacant at times and with of course unpaid rent. This vacancy risk of course is not faced by the tenant. But the analogy is a false one. Every pole constructed under the joint use agreement between Aliant and Disco is fully utilized. The costs of the communication space and the power space are fully allocated and accounted for. There are no incremental capital costs in addition to those incurred by the incumbents which are created by Rogers' attachment to these poles -- to these existing poles. Thus there is no vacancy. It's more appropriate to view the arrival of a tenant who contributes in addition to the originally allocated costs as a windfall. And in fact of course other tenants may also arrive and if they do they would confer further windfall benefits on the incumbent
owners of the pole network.

Thank you. Those are my comments, Mr. Chairman, and now I would like to turn the presentation over to Mr. Ford.

CHAIRMAN: Before Mr. Ford testifies I think we will take our break.
(Recess)

CHAIRMAN: Ms. Milton, go ahead.
Q. 66 - Mr. Ford.

MR. FORD: Yes. Mr. Chairman, I'm going to deal with first of all an overview of the methodology. And after that I will deal with data issues which of course means the determination of the cost to be used with the methodology. Now in my view a fair and reasonable pole access rate must provide for the full recovery of all direct or incremental costs of third party access to Disco poles. And these are the costs that Disco incurs directly as a result of Rogers using a portion of the communication space on poles that Disco owns.

And secondly $I$ believe that to be fair and reasonable, a pole access rate must also provide for and include a fair and reasonable contribution towards the indirect or common costs of the pole. And these are costs that Disco incurs whether or not a third party such as Rogers
accesses the poles.

Now I would note that if the rate is at least high enough to cover the incremental costs, the first part, the direct costs, then the rate can be said to be compensatory. And what that means is that there is no subsidy flowing from Disco to Rogers, but $I$ would also note that by far the largest component or the larger component of access rates is the element of contribution.

Now I propose, as you know, the use of a proportionate use methodology for allocating pole costs based on proportionate pole usage. I would note that the communications users are deemed to use the separation space but it should be noted that Disco actually uses this space itself for transformers and for streetlights and there are a few other uses as well.

Turning to the next slide which contains a diagram of a typical 40 foot distribution pole, and this is a pole that has been used by the Nova Scotia Board, it has been used by the CRTC, it was used by the Ontario Energy Board, it was proposed by the power industry in a number of those proceedings before the CRTC, before the Nova Scotia Board and before the Ontario Energy Board as a typical power pole.

And I would note that you can see there are six feet
of buried space starting from the bottom 17-and-a-quarter feet of clearance space, two feet of communication space, three-and-a-quarter feet of separation space and 11.5 feet on the top for power space.

Now in determining the level of contribution that Rogers should make, I have assumed that there will be two users of the communications space on any pole that Rogers wishes to access. That is, Aliant is there first and Rogers is the second, and for essentially any pole for which we are asking the Board to set a rate that Rogers will pay, Rogers will be the second attacher. Aliant will be on those poles.

Now each communications user is deemed to use one foot of communication space, 1.6 feet of separation space, for a total of 2.6 feet. And this is 15.5 percent of the dedicated space, usable space, on the pole. And Rogers is therefore allocated 15.5 percent of the annualized capital costs of the pole structure itself.

In effect I'm looking at it from the perspective of Mr. Ware's long-run incremental cost methodology. Rogers is allocated all of the pole structure costs associated with the space that is dedicated or deemed to be dedicated to its use, and that is half of the communication space and half of the separation space, plus it is allocated
15.5 percent of the structure costs associated with the common space on the pole.

Dealing now with the types of pole costs that are necessary to apply the methodology. We have first of all the administration costs, and these are the costs to Disco of administering third party access such as Rogers' access to its poles. That includes the cost to Disco of issuing permits, maintaining agreements, billing and accounting. And another way of looking at it is these are costs that Disco would not incur but for Rogers' use of those poles. In addition there are the extra costs by Disco to carry out its own construction and maintenance work due to the presence of third party facilities such as the Rogers facilities on Disco's distribution poles. And these are termed the loss in productivity costs.

In addition they are the costs to Disco of owning and maintaining the pole structures, and these are the common costs or the fixed costs, including annual depreciation cost, the annual carrying cost, utility taxes, maintenance costs. And these are costs that Disco will incur whether or not Rogers is present on the poles. Turning now, Mr. Chairman, to data issues. Rogers accepts Disco's estimates of the annual administrative costs of 55 cents per pole per year. It also accepts
three of the elements of the capital related cost. That's an annual depreciation rate of three-and-a-quarter percent based on a 32 year straight line depreciation, an annual carrying cost rate of 9.9 percent, including both the cost of debt and a return on equity, and an annual utility tax rate of two-and-a-quarter percent. However, I would like to emphasize that Rogers disagrees with Disco's estimates in three important areas. One is the annual loss in productivity costs due to Rogers presence on the poles, second is the costs of a bare pole, I'm using that in the context of a pole with basic fixtures but without power specific fixtures, and it disagrees with Disco's estimates of the annual maintenance cost.

Now all or virtually all -- dealing with loss in productivity costs, all or virtually all of the productivity costs estimated by Disco are likely caused by Aliant attachments. In other words, there is really no incremental productivity cost to Rogers access. The fact that there are cables within the communication space on the pole is really what caused the impairment or the extra cost to Disco to do its own work. That -- however, Rogers is proposing to pay half of those costs, to share them equally with the first attacher on the pole.

I would note that in many cases and particularly in
the early years before Rogers was allowed to install its own facilities, Aliant actually required -- was required to install the Rogers facilities and would actually in many cases overlash them on top of Aliant's own facilities. And so it's quite apparent that there would be really no incremental loss in productivity in those cases. Now dealing with the magnitude of the loss in productivity. As I noted in part 2 of my evidence, I believe there was a mathematical error in Disco's calculation because it seemed to be saying that the actual cost to Disco to work on a pole was an extra two minutes per pole. But they had used one hour per pole, the cost of one hour for two men in a truck in order to calculate that cost.

We heard a different explanation in cross examination of Mr. O'Hara from Ms. Milton to the extent that there really was one hour involved, and I found that to be much higher than I would have expected.

As a matter of fact, the two minute number seemed very reasonable to me when I read Mr. O'Hara's interrogatory response on that point, because two minutes per pole is exactly the number that BCTel put forward to the CRTC in the proceeding leading to telecom decision CRTC 86-16.

Two minutes per pole was the additional cost that it incurred as a result of cable attachments within the communication space. If Disco had said one hour per pole in the interrogatory response, as I say, I would have questioned that and $I$ would find that number totally unacceptable. Mr. O'Hara further went on in his direct evidence to say that the loss in productivity was related to some 9,500 poles installed each year and then said that $2 / 3$ of those were Disco poles, which would imply that he was calculating a loss in productivity on poles that were installed by Aliant and that those costs should be charged to Rogers.

And of course it is totally inappropriate for them to be charging Rogers for costs that it incurs on poles that are owned by Aliant. Not only that, he talked about installing 9,500 new poles a year. When those poles are new poles and not replacement poles, Rogers is not even on those poles. Rogers is the last one to attach to poles. And I might ask Mr. Lawrence to comment on that at some point during his presentation. But Rogers is the last one to attach. The poles are up, the facilities of Aliant and Disco are on, and then Rogers would apply for a permit to attach to those poles. So there could not
possibly be any impairment of Disco's own operations if Rogers is not on the poles.

So there is certainly a lot of confusion with respect to those numbers, Mr. Chairman.

I in my evidence suggested that the two minutes per pole was appropriate for the part 1 cost. Mr. Chairman, you mentioned and I thing questioned Mr. O'Hara in terms of the overtime rates to be applied to a truck as far as the part 2 loss in productivity cost, and so there certainly are some questions.

I have used in my evidence and in my rate proposal a total loss in productivity cost due to communications of $\$ 2.01$ and suggested that be divided by two, but $I$ think on reflection in hearing Mr. O'Hara's evidence, that probably could be slightly high by a penny or two.

Now dealing with the cost of a bare pole, and again I would emphasize that I'm not using Mr. O'Hara's definition here, the rate for the cost of a bare pole that we should be looking at for our purposes here does include the cost of basic fixtures but excludes the cost of power specific fixtures.

There has been an issue discussed as to whether we use 32 years of data or whether we use data for all of the poles that Disco has in use. In our view it's very
clear -- in my view it's very clear that we should be using costing data that is representative of all of Disco's poles.

And perhaps I could provide the Board with an analogy which I think explains it. If we wanted to calculate the average annual income for all New Brunswickers and say statisticians told us that the average life expectancy for a New Brunswicker is 82 years, does that mean we would not include data in our calculations for any New Brunswicker who is over the age of 82?

And I think it's clear that we wouldn't exclude them. We would include their incomes in calculating the average income. Now some New Brunswickers live to well beyond 82, some die younger, but we would certainly include all living New Brunswickers in our sample. And I think that's a way to illustrate that it's appropriate to include costing data for all of the poles Disco has that are currently in use when you are doing this costing. The second element, which is complex, is the elimination of the cost of power specific fixtures. Ideally we would use the historically installed costs -- fixture costs from Disco's books of account for the entire pole population and eliminate from those numbers the installed cost of power specific fixtures. But since this
information is not available we must estimate the best -- we must estimate this using the best available information. Now as I noted in particular at Appendix $C$ to my part 2 evidence, Disco's complex methodology contains a number of errors and inconsistencies. Basically it calculates, and it calculates incorrectly, a percentage increase of one account over another, and then applies that percentage to a completely different account.

And perhaps let me try with another analogy to explain my understanding of what Disco did. Say I wanted to buy a new car, but as $I$ live in the temperate climate of Saint John, I don't want or need an air conditioner. The problem is the dealer only has fully loaded cars in stock. A basic car costs $\$ 10,000$. Now this is a dated example perhaps, but I like to use round numbers. So let's say a basic car costs $\$ 10,000$. And the total additional cost for all the accessories, that's the air conditioner, the sun roof, the stereo, the leather seats, is an additional \$5,000. Now how much should the dealer deduct from the price for the air conditioner that $I$ don't want. The dealer calls the factory and the engineer says installing an air conditioner increases the cost of a basic car by ten percent. On that basis the dealer offers - 4796 - Direct by Ms. Milton -
to deduct ten percent of the total accessory cost. And the total accessories cost $\$ 5,000$. So the dealer offers to reduce -- to deduct ten percent or $\$ 500$ to account for the cost of the air conditioner. And that, Mr. Chairman, is essentially my understanding of what Mr. O'Hara did to remove the cost of power specific fixtures from the fixtures account.

Now in my view, the use of current cost of fixtures achieves a better estimate. Granted, it assumes that the installed cost of fixtures are proportional to the costs of the fixtures themselves. There is no evidence on the record that indicates that this is an inappropriate assumption. And Mr. O'Hara's example during cross examination of a power specific fixture as a simple pin on top of a pole does not mean that this assumption is invalid. As a matter of fact, the pin probably doesn't cost much to install either. So I think the assumption that the installed costs are proportionate to the cost of fixtures is quite an appropriate one to make. If we apply that analogy that we were working with a few moments ago, what $I$ would say is what $I$ did was obtain a list of the accessory parts and their costs, that is, the air conditioner, the sun roof, the stereo, the leather seats, and I determined the percentage that the air

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conditioner represented of those parts, and I applied that to the cost -- the 5,000 installed cost of the accessories and suggested the dealer deduct that.

Now when we go back to the real example we are working with here, and that is the poles, my calculations using the cost of the individual elements for fixtures, results in the removal of 26 percent of the pole cost as being due to power specific fixtures. The Nova Scotia Utilities and Review Board, when it removed the cost of power specific fixtures for Nova Scotia Power, removed 28 percent of the costs. So I think the similarity of the results certainly reinforces that my approach is a reasonable one.

Now my finding was that power specific fixtures represent 45.4 percent of Disco's annual expenditures on pole fixtures and excluding 45.4 percent of Disco's installed fixture cost results in an average embedded pole cost of just over $\$ 555$ and an average net embedded pole cost of just over $\$ 317$. Similar calculations conducted by the Nova Scotia Public Review Board for Nova Scotia Power came up with a figure of $\$ 342$ for Nova Scotia Power. And that is on the basis of removing 28 percent of the pole costs as being due to power specific fixtures compared to the 26 percent I calculate.

Turning now to the matter of maintenance costs, Disco
has included in the maintenance cost its annual cost of maintaining the poles, plus the annual cost of vegetation management. By agreement Aliant pays 30 percent of Disco's annual cost of vegetation management for joint use poles, even though Aliant owns 43 percent of those poles. Disco does the vegetation management for Disco for all joint use in the province, but only requires that Aliant pay 30 percent. None of the vegetation management costs are likely to be incremental to third party use such as Rogers, but Rogers is prepared to pay 15 percent through the allocation process. And if it pays 15 percent of the vegetation management costs, then communication users in total will pay a total of 45 percent of the cost, which in my view is more than fair.

Again on maintenance costs, Disco spends 4.6 million annually according to its evidence to maintain its joint use poles, or $\$ 13.52$ per pole averaged over its entire pole population. And it spends an additional 4.7 million annually on vegetation management. And as I indicated, it does it for all joint use poles. And in that case the cost is $\$ 8.39$ per pole. So the total cost to Disco of owning and maintaining an average bare distribution pole for one year is $\$ 77.82$. As I emphasized, these are costs that
are incurred whether Rogers accesses the distribution pole or not. But those numbers are the basis for the contribution.

Just summarizing the pole rental rate that is in my evidence, I indicated incremental costs, and these are the short-run incremental costs, of $\$ 1.56$ which based on my comments earlier on the loss in productivity probably should be slightly lower than that. But as I indicated, the contribution which we calculate as $\$ 12.06$ per pole per year, is by far the larger component. I proposed a pole access charge of $\$ 13.62$ based on the loss in productivity costs that I had calculated earlier. I just want to highlight a couple of slides here talking about the nature of the proposed rental rate and I think there are a couple of points I would emphasize from that list. One is that Disco instals bigger, stronger, larger poles than are required by Rogers. And the cost per foot as we know from discussions in cross examination with Dr. Mitchell, the cost per foot increases significantly as poles get bigger and larger and stronger. But Rogers is willing to pay a contribution on all of Disco's poles. And secondly Disco makes use of the separation space for transformers and streetlights. The issue is not, as

Mr. O'Hara would have you believe, whether or not it is allowed by CSA standards to do that. We are not disputing that they are allowed, when a transformer is properly grounded, to allow that to encroach on the separation space.

The issue is really then whether the separation space is truly separation space for cost allocation purposes or whether it should be considered power space. It is available to Disco on all its poles Rogers proposes to allocate a 3.25-foot separation space entirely to communications users. Mr. Lawrence will now take you through a discussion of the pole space model.

MR. LAWRENCE: Thank you, Mr. Ford.

My evidence deals with the typical clearance space that you will find on a joint use pole, the issue of separation and the issue of sag.

And the first point on the bulletin or on the slide, CSA standards for clearance at the poles vary from 10.5 to 18 feet. First of all, I would like to back up. The typical clearance space of 17.25 feet, Rogers feels that this is very appropriate for New Brunswick.

And it is always an issue of what is typical. And there has been a lot of discussions about what is typical.

And you can always argue there are some allocations which are larger than that and there will be allocations that are less than that.

Our position is that for New Brunswick this allocation of 17.25 feet is very appropriate. The second point, the CSA standards for clearance at the poles vary from 10.5 to 18 feet.

Mr. Chair, there is actually an error in this slide. And I wish to correct it at this time. Yesterday when $I$ was going through the information that Disco had presented -and I would like to take the Board to A-63, exhibit A-63. And it would be exhibit $E$ of Disco's evidence, page 61. I'm sorry. It is exhibit $A-63$, appendix -- or exhibit E of Disco's evidence.

And I would turn the Board's attention to page 61. And what you have in front of you is a table which identifies the ground clearances that are required by CSA standards. And I would turn the Board's attention to column 1. And the heading above it basically deals with communications cables. If you read that, the section at the top, you will see that it includes communications cables. And if you look down the list on column 1 you will see - 4802 - Direct by Ms. Milton -
on the first page there is a list of locations where this clearance actually applies. And for the first four the height measurement is 4.42 meters as a minimum, which equates out to 14.5 feet.

And if $I$ turn the Board's attention to the next page, you will again see under column 1 a list of minimum heights which are required. And I would turn the Board's attention to the bottom of the page, the second one from the bottom, which is over walkways or ground normally accessible to pedestrians only. The minimum height required is 2.5 meters which is actually 8.5 feet. So bearing this in mind, what $I$ would like to do is correct this slide basically to say that the CSA standards for clearance of a pole vary from 8.5 feet to 14.5 feet. Now the standards that have been discussed so far in this hearing by Disco are basically standards that apply in the joint use manual which governs the relationship between Aliant and Disco.

And again if the Board would indulge me, I would turn you to Disco's evidence A-63 with exhibit G. This is one of the pages from Disco's joint use manual. And in this information they are indicating that the maximum heights are 18 feet. And then they go down from there for new construction. I won't go through all of those.

The other issue that $I$ wanted to raise briefly was there has also been information that this is for new construction only. Disco actually will, under their own standards with Aliant, actually will allow their facilities to go to 16 feet.

And again I'm using the maximum height that we are discussing here. I'm not using the lowest forms. But we are dealing mostly with maximum heights.

So the point $I$ wanted to make with that is that you have heard a fair amount of testimony or evidence that Rogers needs to be at a minimum of 19 feet at the pole. Mr. Chair and Commissioners, there is no evidence here that any of the standards require us to be that high. So moving on to the next point on this slide, "Communication sag is insignificant." Rogers' facilities -- cable facilities are very light. Fibre optic and co-ax cable is very light compared to copper cables used by Aliant. And for this reason our facilities are usually installed near the top of the communications space on the pole.

So thinking about it, you are obviously going to install something that has less sag, higher on the pole than something that has more sag, because you will wind up with a problem. Tension strand virtually eliminates sag.

What is different between Rogers' facilities than Disco's is that we use something called tension strand. Our co-ax cable and fibre optic cable does not support itself. We put it on the pole. We attach it to -- we actually put a strand first on the pole and then we attach or co-ax and fibre cable to that strand. And we tension that strand to the point where it virtually has no sag.

And what sag there is, it's accommodated within the communication space on the pole, within the two feet that are allocated on the pole. Even the one-foot, that is allocated on the pole for Rogers is lots to accommodate the sag that there is typically in our facilities. So the next point on the slide, that 19 feet is within the two feet of communication space. Since the clearance space is 17.25 feet that we are suggesting, then obviously the communication space would be two feet above that, going from 17.25 to 19.25 feet.

And if the communication space, as I think you have heard from Mr. O'Hara, if the communication space was actually 19 feet to 21 feet, which is what they are suggesting, then Disco's 35 -foot poles would have to be replaced. And what $I$ would like to do is explain that to you.

If you have a 35 -foot pole, you have six feet of
buried space, using Mr. O'Hara's analogy, you would have 19 feet of clearance space. Then you would have two feet of communication space. That takes you to 25 feet -- sorry, six and 19, that takes you to 27 feet. Please excuse me, my lord. I will do the math here again.

I'm sorry. You would have six feet of buried space. You have 19 feet of clearance space. That is 25 feet. Two feet of communication space is 27 feet. By their model you have four feet of separation space, that takes you to 31 feet. You only have four feet left for power space at the top of the pole.

And the information that Disco has provided, there is none of their construction practices that require less than five feet, 4.9 feet.

So if really what Mr. O'Hara was saying is true, Disco would have to replace all of their 35 -foot poles in order to achieve the separation requirements and other conditions on the pole.

Turning to the next slide, CSA standards, the typical separation space of 3.25 feet is appropriate.

And I think you have already heard several situations where the separation space can be reduced for transformers, for streetlights, for service wires for Disco. The separation space of 3.25 feet is appropriate.

This is the CSA standard. And it's for -- it's a minimum separation space at the pole. And basically it has already been placed into evidence, I believe agreed to by both parties that the reason for this is to protect the safety of communications workers working on communications attachments on the pole.

Now the issue of sag of power lines. Mr. O'Hara also spoke about this issue. And he explained a situation where you have to require a certain amount of separation at mid span.

If Disco requires more separation space at the pole in order to meet the requirements of mid span separation, then this is additional space requirements to accommodate power requirements, and as a result it should be accommodated within the power space, not within the separation space that has already been decided that it's for the safety of communication workers.

And one final comment. Mr. O'Hara has also given evidence that the situation of poles with communication facilities on both sides of the pole occurs less than 1.5 percent of the time. This is simply not true.

For the past 10 years almost all of Rogers' facilities in New Brunswick, since we have had the opportunity to actually own our own facilities, have been placed on the

- 4807 - Direct by Ms. Milton -
rear side of the pole. Over that period of time we have constructed over a thousand kilometers of new plant. And as a result of the rebuilds that we have done within the cities of Saint John, Fredericton, Moncton, Miramichi, Edmundston, Shediac, Bathurst, we would have installed probably close to another thousand kilometers of fibre optic cable. And virtually all of that fibre optic cable would have had to have been installed on the rear side of the pole. And if you go anywhere within any city in New Brunswick you will see that this situation exists on virtually every street. Thank you.

MS. MILTON: Mr. Chairman, that concludes our direct evidence. The witnesses are available for cross examination.

CHAIRMAN: Go ahead, Mr. Ruby.

MR. RUBY: Thank you.

CROSS EXAMINATION BY MR. RUBY:
Q. 67 - Mr. Lawrence, you are not a professional engineer, are you?

MR. LAWRENCE: Mr. O'Hara -- sorry, Mr. Ruby, I have had 31 years of experience within the cable industry in New Brunswick. My background is originally an electronic
technician. I have been dealing directly with poles in New Brunswick for a very long time. I'm not a Professional Engineer. I do have an engineer on staff at Rogers Cable that reports to me. And I have taken full advantage of his expertise in this matter.
Q. 68 - In New Brunswick for Rogers you coordinate Rogers' work on joint use poles, is that right?

MR. LAWRENCE: That's correct.
Q. 69 - But you don't do the field work yourself?

MR. LAWRENCE: I have done the field work.
Q. 70 - When was the last time you did the field work as a regular part of your job?

MR. LAWRENCE: It has probably been 15 years.
Q. 71 - Mr. Armstrong, you are not a Professional Engineer either, are you?

MR. ARMSTRONG: No, Mr. Ruby, I'm not.
Q. 72 - You are a joint use negotiator?

MR. ARMSTRONG: That's one way to characterize it I suppose, yes.
Q. 73 - I think that is what it says in your résumé, is it fair?

MR. ARMSTRONG: That's fair.
Q. 74 - These negotiations that you do, do you do them in every
province that Rogers operates in?

MR. ARMSTRONG: Probably with the exception of the negotiations that took place in Quebec, $I$ have been involved in negotiations of joint use agreements in other provinces.

The agreement that we have with Newfoundland Power was not negotiated by Rogers. It was negotiated by the cable company that owned system in Newfoundland before Rogers purchased it.
Q. 75 - In some of these negotiations you have been involved in, you get a deal, right?

MR. ARMSTRONG: We conclude some of these negotiations, yes.
Q. 76 - But you conclude them with a negotiated agreement at the end of it, not a regulatory outcome?

MR. ARMSTRONG: In my experience what $I$ have found - - and Ontario is an excellent example -- is that we are able to negotiate the terms and conditions of access to joint use poles. What is often the sticking point is the dollar figure.
Q. 77 - Right. But sometimes you are able to negotiate the rate?

MR. ARMSTRONG: It's the exception I would think more than the rule.
Q. 78 - What access rate was paid by cable companies to Disco
before 1995?

MR. ARMSTRONG: I'm not entirely sure, Mr. Ruby. I would have to check the evidence. I believe that there is some information on the evidence, but --
Q. 79 - Well, I think you will find that the evidence says that it was 960 in 1995. Would that be fair?

MR. ARMSTRONG: That's correct.
Q. 80 - What $I$ would like to know -- and I'm content if you would do this by undertaking -- is to know before that was the rate still 960? We will put it that way. Or was it something less? Can you answer that sitting here? MR. ARMSTRONG: I can't answer that sitting here.
Q. 81 - Okay. Would you get that for me please?

MR. ARMSTRONG: I will.
Q. 82 - Thank you. Rogers wants a discount for service poles, is that right, Mr. Armstrong?

MR. ARMSTRONG: I think what Rogers is asking for is similar to what has been negotiated between parties in other -well, in Ontario specifically, where the parties agreed that service poles, while the cost of all the service poles, tall poles, large or small poles are included in the costs that we use to determine the rate, the parties through negotiation have agreed that often service poles are not -- don't have the same tension on them, don't have
the same requirements for administration, often don't have the same requirements for tree-trimming, often don't have the same requirements for costly or strong guying.

And therefore the parties have agreed that in certain instances the cost for a service pole is some fraction of the full pole attachment rate.
Q. 83 - In New Brunswick in this proceeding, if we can focus here for a minute, does Rogers want to only pay 25 to 30 percent of the regular attachment rate for service poles? MR. ARMSTRONG: Our proposal has been to this Board that service poles get charged out at a rate between 25 and 33 percent.
Q. 84 - Mr. Lawrence, where Rogers operates are Rogers, Aliant and Disco's facilities all attached to service poles? MR. LAWRENCE: I think the issue is what exactly do those attachments consist of? In the case of --
Q. 85 - Mr. Lawrence, first maybe just answer the question. Are they all attached? Are facilities of each of those three parties attached to service poles?

MR. LAWRENCE: There are some service poles that Rogers attaches facilities to, yes, or have attachments to, yes. Q. 86 - And where Rogers attaches Disco's service poles there is also an Aliant facility of some kind on the pole?

MR. LAWRENCE: I guess that would depend whether or not the
person wanted phone service. But I'm assuming the answer would be yes.
Q. 87 - Is it fair to say that somebody who wants cable television wants a telephone too?

MR. LAWRENCE: I guess.
Q. 88 - Okay. And that same person probably wants power to run their television, right?

MR. LAWRENCE: Probably.
Q. 89 - Okay. So where Rogers is on a pole we have probably got Aliant and Disco facilities there as well?

MR. LAWRENCE: You have a very small drop wire on that pole, yes.
Q. 90 - Okay. Disco and Rogers have agreed in this proceeding, haven't they, to a rate model based on a typical 40-foot pole?

MR. LAWRENCE: I'm sorry. You were asking me?
Q.91 - I'm asking you.

MR. LAWRENCE: Yes, I believe so, yes.
Q. 92 - I mean, if somebody on the panel disagrees with that particular proposition $I$ would be keen to hear it now. We are working with a 40 -foot typical pole, right? Everybody is.

MR. FORD: It's a typical 40-foot pole. But I believe the space allocations on the pole are not in agreement.
Q. 93 - Yes. Mr. Lawrence, you will agree with me that some joint use poles are 50 feet high?

MR. LAWRENCE: Yes. There are some joint use poles that are 50 feet high.
Q. 94 - Some are 40 feet?

MR. LAWRENCE: According to Mr. O'Hara's evidence, there are very few of them that are at the 50-foot level. But yes, there are some at that level. There are also a significant number at 40 -foot, yes.
Q. 95 - Okay. Some are 35?

MR. LAWRENCE: Yes.
Q. 96 - Some are 30?

MR. LAWRENCE: Only service poles are 30 feet.
Q. 97 - Right. That is because there typically wouldn't be enough clearance underneath anything else?

MR. LAWRENCE: No. I think that's because, as I mentioned earlier, service poles are used for providing service to an individual home or one or two homes that are in close proximity.

So they only need clearance. And they only need to be a certain height. So I think that's what the reason is that they are 30 feet.
Q. 98 - Thank you. Mr. Armstrong, can you please pull out your second set of evidence? And $I$ think that is RCC-3 at

Question 4 of your evidence please?
Now in the very last sentence of the second paragraph of question 4 -- and maybe you can just tell me when you have it?

MR. ARMSTRONG: I have it.
Q. 99 - There you talk about a 75 percent rate. Now is that a discount of 75 percent or you pay 75 percent of the rate? MS. MILTON: Sorry, Mr. Ruby. Did you say question 4 of his additional evidence?

MR. RUBY: Question 4, second paragraph, page 5.
MS. MILTON: It looks like you are in the big binder. Is that RCC-1 by any chance?

MR. RUBY: No. RCC-3. Mr. Chairman, I don't know if you have got the reference there?

CHAIRMAN: Yes, we do.
Q. 100 - Do you see that last sentence dealing with the 75 percent?

MR. ARMSTRONG: Yes, I do.
Q. 101 - So that's -- you pay 75 percent of the regular rate?

MR. ARMSTRONG: That's correct. That is with one particular hydro distributor in Ontario. We negotiated -- we are negotiating with that distributor for a rate for service poles. We were proposing 50 percent as a rate. The distributor was proposing 75 percent and would not
entertain any other change to that rate.

We were faced with a decision where we had to decide whether or not we go back to the energy Board and ask them to make the decision or whether we accept 75 percent of the full attachment rate as the rate for clearance poles. And because just the cost involved in going back to the energy Board, we made a decision to accept the 75 percent and sign the agreement.
Q. 102 - That was with Hydro One?

MR. ARMSTRONG: That's with Hydro One.
Q. 103 - That's the largest electricity distributor by far in Ontario?

MR. ARMSTRONG: It is the largest electricity distributor in Ontario, that's correct, but I also note that the bulk of its facilities are in rural areas of the province where there aren't a lot of customers. And where we have a lot of fibreoptic cable that run from point to point interconnecting our systems and we don't use many clearance poles, we are in the process right now of working with Hydro One to determine exactly how many clearance poles we are using.
Q. 104 - What percentage of the regular access rate is paid for service poles in Toronto, Canada's biggest city?

MR. ARMSTRONG: That would be 33 percent.

- 4816 - Cross by Mr. Ruby -
Q. 105 - Sorry. Let me ask, you only pay 33 percent of the regular rate for service poles in Toronto?

MR. ARMSTRONG: That's correct.
Q. 106 - For every pole -- every service pole in Toronto?

MR. ARMSTRONG: That's correct.
Q. 107 - Mr. Armstrong, again if you can look at the first sentence, I want to very quickly deal with the Newfoundland Power and Nova Scotia Power situation. Just to be completely clear, and I won't go into this at length, in that first sentence where it says by agreement you get a discount for service poles, that's not correct, is it, that first sentence?

MR. ARMSTRONG: I believe I made that clear at the outset. It's not correct.
Q. 108 - Thank you. Mr. Lawrence, I think we have heard about Rogers building some poles up in the northern part of the province, is that right?

MR. LAWRENCE: Yes, that's correct.
Q. 109 - Who gave you permission to build on the land where those poles are located?

MR. LAWRENCE: The Department of Transportation.
Q. 110 - And were you involved in that project?

MR. LAWRENCE: No, I was not.
Q. 111 - Okay. Do you know whether those poles are built to
the CSA standard?

MR. LAWRENCE: Yes, they are.
Q. 112 - And how tall are they?

MR. LAWRENCE: They range between 30 and I think a large number of them are 35 feet tall.
Q. 113 - And how high up on the pole from ground are the Rogers attachments?

MR. LAWRENCE: Since we are the only people using those poles we have taken full advantage of the height of that pole, and what we have also done is we have increased the length of span of those poles.

Those poles are about 125 meters apart. They are roughly 400 to 450 feet apart. So in that case since we are the only attacher we have moved towards the top of the pole and with the additional length of the span at this point we still attain all the clearances -- minimum clearances across the ground.
Q. 114 - At mid span on that pole line how high is the wire off the ground?

MR. LAWRENCE: I haven't been up there to look at it for the last three or four months. At mid span $I$ guess $I$ don't know the answer to your question.
Q. 115 - Do you know how deep the poles are buried?

MR. LAWRENCE: They would be buried about six feet deep.

- 4818 - Cross by Mr. Ruby -
Q. 116 - Now Disco has pole lines between towns and cities that run along highways and streets, is that right?

MR. LAWRENCE: Sorry. You are asking -- yes. Yes, they do.
Q. 117 - Does it have some facilities that run through areas of farmland where vehicles would travel?

MR. LAWRENCE: I assume so, yes.
Q. 118 - Now, Mr. Armstrong, I see from your résumé that you were not working for the cable industry in around 1967, is that right?

MR. ARMSTRONG: That's right.
Q. 119 - And, Mr. Lawrence, were you working for the cable industry back then?

MR. LAWRENCE: Sorry. What was the date?
Q. 120 - 1967?

MR. LAWRENCE: I have been around a long time but not quite that far, no.
Q. 121 - Fair enough. And I assume it's the same for you, Dr. Ware and Mr. Ford?

DR. WARE: That's correct.
MR. FORD: That's correct.
Q. 122 - In preparing for this hearing did you talk to anybody involved in the 1967 negotiations between Aliant and Disco with respect to joint use? Any of you?

DR. WARE: To whom are you directing that question?
Q. 123 - Well did any of you? If anybody wants to say yes they should feel welcome. Otherwise I will take it as a no. DR. WARE: I did not.

MR. ARMSTRONG: I didn't

MR. LAWRENCE: No, I didn't either.
Q. 124 - Okay. Thank you. Communication space, the standard, Mr. Lawrence, is three attachments on both sides of the pole, is that right?

MR. LAWRENCE: Well the standards enable you to do that, yes. Three attachments on both sides of the pole. If you have a two foot communication space you can put one at the bottom, one in the middle and one at the top, and you could do that both front and back of the pole.
Q. 125 - Thank you. Now along roadways in New Brunswick, Mr. Lawrence, we typically find 40 foot poles, is that right, joint use poles?

MR. LAWRENCE: No. There is a broad range of heights of poles that you find along roadways in New Brunswick.
Q. 126 - Would it be fair to say that along roadways they would be at least 40 feet tall?

MR. LAWRENCE: I'm having some trouble with your definition of roadways I guess as -- to regards to the entire population of poles that are out there. There will be 35 foot poles along -
Q. 127 - I am happy to make this easier. A roadway I'm suggesting is anything that a vehicle travels along, any kind of vehicle?

MR. LAWRENCE: And I would go with the information that Mr. O'Hara presented earlier that they have 35 foot poles, 40 foot poles, 45 foot poles, 50 foot poles and 55 foot poles along roadways.
Q. 128 - All right. So you think there are 35 foot poles along roadways, joint use poles?

MR. LAWRENCE: That was the information that Disco had provided, yes.
Q. 129 - Do you have your own information about that?

MR. LAWRENCE: I believe there are 35 foot poles along roadways. As far as us actually counting them, one of the difficulties we have is that we are not sure which poles are Disco's or which poles is Aliant's, but I do believe there are 35 foot Disco poles along roadways in New Brunswick.
Q. 130 - Right. But would you agree with me that typically along roadways the poles are -- joint use poles, so it doesn't matter whether Disco or Aliant actually owns it, but joint use poles are typically 40 feet and higher? As you have pointed out on your slide a few minutes ago at 35 feet there is a problem you say, right?

- 4821 - Cross by Mr. Ruby -

MR. LAWRENCE: Yes. Basically what we are trying to do is develop a typical model, Mr. Ruby, for New Brunswick, and that is the 40 foot pole model.
Q. 131 - I would like to take you back, Mr. Lawrence, to Appendix G of Mr. O'Hara's evidence. That's A-63, please. This is the one we looked at a moment ago with you, Mr. Lawrence?

MR. LAWRENCE: Yes. Correct.
Q. 132 - Now one point $I$ just want to clarify. If you look at the chart on the bottom --

CHAIRMAN: Excuse me, Mr. Ruby. It is A-63. Would you give the reference in that exhibit again?

MR. RUBY: Pardon me. It is exhibit A-63, Appendix G. This is the evidence of Mr. O'Hara. It is page 2-60 of the joint use manual.
Q. 133 - Mr. Lawrence, do you see the chart at the bottom of the page there?

MR. LAWRENCE: Yes, I do.
Q. 134 - Okay. I take it from your earlier testimony -- but I just want to be completely clear about this -- is that Rogers accepts that for its wires or its situation it is required to be 18 feet above ground at mid span?

MR. LAWRENCE: Well, that's the standard in the joint use manual. But that's not the standard in the CSA standards.
Q. 135 - All right. I'm quite content to go to the CSA standard and go through it all. All I'm trying to find out is if you disagree that at the end of the day in New Brunswick the right number turns out to be 18 feet at mid span?

If you don't that is fine. We will go to the CSA standards.

MR. LAWRENCE: No. Actually I do disagree with that. There are certain circumstances where you have to have 18 feet. And I think even Mr. O'Hara has indicated that some of the network is built to that standard. You need to have that standard in urban areas, densely populated areas. As it says here you need to have the standard in those areas. However, just to go back to my first point, when you are trying to determine what is a typical model for New Brunswick, you have to include all the rural areas. You have to include the urban areas. You have to include all of these to come up with that standard.

And if you look at what is here, I feel, and I think the evidence supports that 17.25 is a very typical height for clearance for New Brunswick.
Q. 136 - All right. Let's go to the CSA standards. And I don't think we have any choice.

If you can turn up Appendix E, the same exhibit at

- 4823 - Cross by Mr. Ruby -

A-63, and you go to page 61 which is where $I$ think you took the Board to earlier. So page 61 of exhibit E to Mr. O'Hara's evidence?

MR. LAWRENCE: I have it.
Q. 137 - Now I think you told the Board already that the column we are supposed to look at for communications wires is column 1, is that right?

MR. LAWRENCE: That's my understanding of this table, yes.
Q. 138 - Okay. Now the first item, just running down the chart, is "Over land likely to be traveled by road vehicles."

And then it goes on to give some descriptions of what $I$ think could be fairly characterized as some kind of roadway, is that fair?

MR. LAWRENCE: Well, it says highway, streets, lanes, alleys and driveways. So to me that indicates -- I'm trying to draw a parallel between what the joint use section says and what this says.

To me that's the section of the joint use that deals with over roadways and densely populated areas.
Q. 139 - Okay. Well, you have told me you are not satisfied with what it says in the manual. So we are going to the standard.

So if you go down, not to the next one which deals
with underground pipes but the one after, "alongside and within the limits of streets and highways"? MR. LAWRENCE: Yes.
Q. 140 - So -- and that is the same measurement as if you are crossing the highway or other type of roadway, right?

MR. LAWRENCE: It doesn't say crossing the highway. It says alongside the highway.
Q. 141 - That is completely my fault, Mr. Lawrence. If you
look at the first one it says "Over land", right? So that is over the roadway, right?

MR. LAWRENCE: Yes.
Q.142 - The third one is alongside the roadway, right?

MR. LAWRENCE: Yes.
Q. 143 - The same height requirement, same clearance requirement, right?

MR. LAWRENCE: In densely populated areas, yes.
Q. 144 - Right. And you heard Mr. O'Hara's testimony that densely populated areas under the CSA standard is anywhere people live. You heard that testimony?

MR. LAWRENCE: No. I can't recall that.
Q. 145 - Okay.

MR. LAWRENCE: But even if I did I wouldn't agree with it. Because that's not what this says. I find it hard to understand how you can say -- or how you can draw a
parallel between a densely populated area is anywhere where people live.
Q. 146 - Well, Mr. Lawrence, have you worked with the committee that came up with the standard, the CSA standard?

MR. LAWRENCE: No, I haven't.
Q. 147 - Okay. And have you participated in any working groups dealing with the application and interpretation of the standard?

MR. LAWRENCE: No, I haven't.
Q. 148 - Have you worked with any industry-wide national groups dealing with joint use?

MR. LAWRENCE: No.
Q. 149 - If you go to the next one on that same page where it says over or alongside farm land likely to travel by vehicles.

So if you are out in the farm land and you are still dealing with the roadway, you still use the same clearance requirement, is that fair?

MR. LAWRENCE: There is an asterisk to that that says -- on the next page under table 2, concluded, on farm land not likely to be traveled by high farm vehicles, these clearances may be reduced by .76 meters. So I'm assuming that's another reduction to that standard. So that would take you down to about 3.75
meters.
Q. 150 - So if you have got short farm vehicles you are okay? MR. LAWRENCE: I guess.
Q. 151 - Okay. Let's contrast one. If you turn over to the next page, still part of the same table, but page 62? MR. LAWRENCE: Yes.
Q. 152 - If you go three down you see there "Over driveways to residences and residence garages for vehicles not exceeding 2.4 meters in height"?

MR. LAWRENCE: Yes.
Q. 153 - And that is down -- the clearance drops to 3.7 meters.

Do you see that there?
MR. LAWRENCE: That's the third one down, Mr. Ruby?
Q. 154 - That is the third one down.

MR. LAWRENCE: Yes.
Q. 155 - And is that supposed to tell us that for a driveway, if you don't -- I think it was in Mr. O'Hara's words, have a boat you bring into your driveway -- you can lower the standard over a driveway, right, the clearance requirement?

MR. LAWRENCE: Well, as you said, I wasn't party to determining these standards. So I guess for me to perhaps try and deal with that part of it, Mr. Ruby, I don't know what was inferred by that standard. All I can do is read
it. And it says that -- it says exactly what you said that's 3.7 meters.
Q. 156 - Let me see if I can help you then understand what a densely populated area is by contrasting it to the fourth one down. "Alongside roads and highways in areas unlikely to be traveled by road vehicles." That is what the CSA standard means by a not densely populated area, right? If you don't have road vehicles there --

MR. LAWRENCE: I'm sorry. Would you repeat that?
Q. 157 - If you look at the fourth one down --

MR. LAWRENCE: Yes.
Q. 158 - -- it talks about you have a reduced number, only 3 meters, right?

MR. LAWRENCE: Yes.
Q. 159 - "In areas that are unlikely to be traveled by road vehicles." Do you see that?

MR. LAWRENCE: Yes.
Q. 160 - I'm suggesting to you that if you turn back to the third one on page 61 that deals with a densely populated area, that if we want to know what a densely populated area is, what it certainly isn't is an area that doesn't have road vehicles. And that is how we are supposed to read this chart altogether, right?

MR. LAWRENCE: I don't know the answer to your question.

- 4828 - Cross by Mr. Ruby -
Q. 161 - Okay. Mr. O'Hara -- it snows a lot in New Brunswick, doesn't it? I notice with some embarrassment that every time I come to New Brunswick there doesn't seem to be very much snow here.

MR. LAWRENCE: I'm sorry. Did you have a question?
Q. 162 - Yes. Does it snow a lot in New Brunswick?

MR. LAWRENCE: According to the table that is in these standards there is some snow accumulation in New Brunswick. And being a New Brunswicker all my life I can attest to the fact that snow does accumulate in New Brunswick.
Q. 163 - All right. And along roadways it gets pushed by the snow plows off to the side typically, is that right? MR. LAWRENCE: Typically.
Q. 164 - Where it creates snowbanks?

MR. LAWRENCE: Yes.
Q. 165 - Along a snowbank do you need to keep clearance from the top of the snowbank to the wire?

MR. LAWRENCE: I think the standards allocate another allocation for places where snow accumulates and is not cleaned off.
Q. 166 - Will you agree with me that cable wires sag more under maximum ice and wind loading than they do on a plain cold winter day?

- 4829 - Cross by Mr. Ruby -

MR. LAWRENCE: If they are attached to tension strand, Mr. Ruby, the difference is very small.
Q. 167 - Sorry. So if we put one inch of ice on a tension strand it sags, doesn't it?

MR. LAWRENCE: It sags a very small amount, yes.
Q. 168 - Okay. Does it sag 2 percent versus its span length? Sorry, Mr. Lawrence. Before you answer let's go back. The longer the span the more the sag --

MR. LAWRENCE: Yes.
Q. 169 - -- generally speaking?

MR. LAWRENCE: Yes.
Q. 170 - So going back to my question a moment ago. If you put ice on a tension strand it does sag, right?

MR. LAWRENCE: It does sag some, yes.
Q. 171 - Does it sag 5 percent as compared to the span length?

MR. LAWRENCE: You mean 5 percent of its normal sag,
Mr. Ruby? Or do you mean -- I'm sorry. I guess I don't -when you say 5 percent do you mean that it sags 5 percent more than it would when there is no ice loading?
Q. 172 - That is a very good point, Mr. Lawrence. When you put up this one day is there any sag there, because it's apart from the line of sight between attachment points might be another way of putting it?

MR. LAWRENCE: The specifications for putting up sag --

- 4830 - Cross by Mr. Ruby -
sorry, for putting up strand on a spring day are different than the specifications for putting up strand on a winter day. A calculation for temperature is included when you are making that, you know, design calculation, so that, you know, there is a certain amount of sag there but it's -- it does not sag anymore than it would.

In other words it's designed to move across that temperature swing so that you don't have any additional sag.
Q. 173 - All right. Well you tell me which time of year is the natural time to put up a strand, and we will use that season?

MR. LAWRENCE: Well we don't put up strand based on the time of year. We put up strand based on when we have a requirement from our customers to install strand.
Q. 174 - All right. Well let's do it this way. On a summer day when you put up a strand over a 60 meter span, how much does it sag? I'm putting to you that it sags something around five percent. That's what you build in. Is that correct?

MR. LAWRENCE: I will have to do the math. Five percent of 60 meters is -- are you suggesting -- actually the correct number over 200 -- over 100 meters is about a foot. Over 100 meters. Over 50 meters it's about six inches.

CHAIRMAN: Mr. Ruby, to coin a bad pun, the Panel is sagging and I think the only thing that will replenish us will be lunch, so we can come back to the mathematics after lunch. We will reconvene at 1:15.
(Recess - 12:00 p.m. - 1:15 p.m.)

CHAIRMAN: Anything preliminary? No undertakings, Mr.

Hashey?

MR. HASHEY: Not today.

CHAIRMAN: Okay. Thank you. Well he who changed positions can begin then.

MR. RUBY: Thank you. We just figured at least this way we can see everybody which we had a little trouble on the side. And Ms. Milton was kind enough to change positions with us.
Q. 175 - Mr. Lawrence, am I right that Rogers assumes that it uses one foot of space on a pole?

MR. LAWRENCE: Well that's the allocation that we are using in the model that we put up. The two feet of communication space and that Rogers would be using one foot of that.
Q. 176 - Okay. Do you know how an overlashing mechanism works? MR. LAWRENCE: Do $I$ know how it works? Yes.
Q. 177 - Can you just quickly explain to the Board what it is?

MR. LAWRENCE: An overlashing -- basically a lasher is a
piece of equipment that connects our fibre and co-ax cables to a piece of tension strand that is connected to poles. And it's a large metal device which basically winds a piece of lashing wire around the cable and the strand and is used to attach the co-ax and fibre to the strand.
Q. 178 - And I take it it moves along the strand in between two poles, is that right?

MR. LAWRENCE: It's a device used during construction, if that's what you mean, Mr. Ruby.
Q. 179 - Well I don't mean it doesn't sit at the pole. It actually travels along the entire path of the wire lashing as it goes?

MR. LAWRENCE: Yes, that's correct. It's used during construction. It's not something that stays on the pole. It's used just during the construction, you know, when we are putting -- when we are lashing the wire.
Q. 180 - Thank you. And it uses about six inches of space on either side of the wire, is that fair?

MR. LAWRENCE: I think that's a good guess, good estimate.
Q. 181 - Mr. Lawrence, Rogers uses two kinds of wire, right, co-axial cable and fibreoptic cable, is that right?

MR. LAWRENCE: That's correct.
Q. 182 - And I take it there is lots of Rogers' co-axial cable
around New Brunswick?

MR. LAWRENCE: Yes, there is.
Q. 183 - Probably the vast majority of Rogers' wire is coaxial?

MR. LAWRENCE: Well up until about '94, '93, it was all coaxial. So I think your statement is correct, that the larger percentage would be co-axial.
Q. 184 - Do you need that fibreoptic network to provide -- or the fibreoptic portion of the network to provide digital television services?

MR. LAWRENCE: No.
Q. 185 - And sometimes Rogers' wires I think you told us are attached to a strand, is that right?

MR. LAWRENCE: They are always attached to a strand.
Q.186 - But aren't some, particularly co-axial cables, selfsupporting in the sense that they don't have a separate strand to which they are attached?

MR. LAWRENCE: Virtually 100 percent of our co-axial cables are attached to a strand. There is -- I think what you are referring to is a self-supporting co-ax which is used sometimes to go about one pole span into apartment buildings. And if that's the case where there is no strand available, or you simply can't attach the tension strand to the side of an apartment building, because it's
just not practical, you will use a piece of co-ax that has a self-supporting member in it, that's true.
Q. 187 - You don't attach a tension strand to a house, do you, a residential house?

MR. LAWRENCE: No, not usually.
Q. 188 - And you don't attach it to a business building?

MR. LAWRENCE: It would depend on the size of the business building and whether or not tension strand was already there. We would have to have special permission to put tension strand on the side of a building. I guess if it was a large enough business that might be possible.
Q. 189 - Generally speaking for service drops, that is, the wires from service poles to the home, the business, wherever they are going, is it fair to say generally those are not attached to a strand?

MR. LAWRENCE: Yes. Correct.
Q. 190 - And you have mentioned that sometimes Rogers is attached to an Aliant strand?

MR. LAWRENCE: Up until 1994 Rogers, or at that point Fundy, did not have permission from Aliant to erect our own strands. So yes, we were attached 100 percent to Aliant strand.
Q. 191 - Now I take it Aliant's tension strands don't run in a straight line between attachment points. They sag, don't
they?
MR. LAWRENCE: Well if you have a heavy copper cable attached to them, they will sag, yes.
Q. 192 - When you overlash cable wire to an Aliant strand that has on it Aliant facilities, the whole lashed together cable sags, doesn't it?

MR. LAWRENCE: If you attach to an Aliant strand that is attached to Aliant facilities, you would have some sag. However, the fact is that just because Aliant owns the strand a lot of times they -- we were the only one that was attached to that stand.

In other words just because Aliant owned the strand doesn't necessarily mean that Aliant facilities are present on the strand. Lots of time they would run a separate strand just for our co-ax cable.
Q. 193 - All right. Well let's deal with that and deal with $I$ think what is a new allegation in this proceeding. Can you turn up a copy of your slides? Do you have a copy from today -- earlier today, and in particular slide 26 ? MR. LAWRENCE: I have it.
Q. 194 - Thank you. Do you see right in the middle of the page you say, tension strand virtually eliminates sag?

MR. LAWRENCE: Yes. When you are attaching cable television facilities to it it virtually eliminates sag.

- 4836 - Cross by Mr. Ruby -
Q. 195 - When you say virtually eliminates, on a typical 60 meter span how much sag would there be under minimum loading conditions?

MR. LAWRENCE: On a 60 meter span, which is roughly 200
feet, you would expect to have about one foot of sag.
Q. 196 - Now, Mr. Lawrence, I don't want to spend too much time on this, but Rogers' evidence is that the right amount of clearance space to use for rate making purposes is 17.25 feet, is that right?

MR. LAWRENCE: That is what we have as a typical 40 foot pole -- that is what we are suggesting is the typical clearance space, yes.
Q. 197 - And that is at the pole, right?

MR. LAWRENCE: Yes.
Q. 198 - So the mid span is one foot of sag, even on a tension strand that's 16.25 feet above the ground, right?

MR. LAWRENCE: Well when we say typical clearance space that includes whatever allowance we would make for sag. Q. 199 - I guess I'm not being clear. In your evidence and the evidence of Rogers, 17.25 feet is the clearance space at the pole, right?

MR. LAWRENCE: A typical clearance space across all of the joint use poles that Rogers is attached to that is what we are suggesting is correct?
Q. 200 - And you say that that meets the CSA standard?

MR. LAWRENCE: The CSA standard?
Q. 201 - Yes. Is 17-and-a-quarter feet enough to meet the CSA standard on a typical 40 foot pole?

MR. LAWRENCE: Yes. Again the issue is what is typical. I mean, you are going to have some situations where the strand will be higher than 17.25 feet and you are going to have places where it is lower than 17.25 feet.
Q. 202 - All right. I don't mean to -- can we take a look at slide 10, please, in your -- this is exhibit RCC-5?

MR. LAWRENCE: Yes, I have it.
Q. 203 - 17.25 feet I'm reading towards the bottom of the page.

And this is diagram marked Space Allocation on a Typical 40 foot pole. This is the pole you are proposing to use for rate making, right?

MR. LAWRENCE: Yes.
Q. 204 - Okay. 17.25 feet at the pole means with one foot of sag 16.25 feet off the ground mid span, isn't that right? MR. LAWRENCE: That would be if you assumed a 60 meter span.

But my experience is that spans in New Brunswick are around 40 meters.
Q. 205 - Okay. So what would the sag be on 40 meters?

MR. LAWRENCE: Seven or eight inches.
Q. 206 - All right. But in your evidence Rogers has taken
responsibility for one foot of space, right?
MR. LAWRENCE: Yes.
Q. 207 - I don't want to quibble about this. So will you assume for me for the moment that if it was one foot of sag -- I know there is a difference in the evidence about how long span lengths are in New Brunswick, but if you assume one foot that's 16.25 feet of clearance at mid span, right? 17.24 minus one. So we are agreed on that?

MR. LAWRENCE: Sorry. No. Did you ask me a question? I was --
Q.208-17.25 feet at the pole translates, under the assumptions we are talking about, 60 meter spans, to 16.25 feet at mid span, is that right?

MR. LAWRENCE: Based on what you have said, yes. I guess what we are saying is that in light of the fact that we are assuming responsibility for one foot of the communication space, and bear in mind that our cable -- if we are just talking about a piece of cable, fibre or whatever, that is overlashed to this strand, it's only using a couple of inches of space.

So again we are getting down to what is typical and what we are saying is this we think is typical and in that -in this situation we would take one foot of space. So if you look at it that way, Mr. Ruby, the sag, what there
is of sag, would still fall within the one foot of space that Rogers is using.
Q. 209 - And I understand that that's your position. You have put that into the evidence. In New Brunswick under the CSA standard, the CSA standard says you are supposed to use . 8 meters to account for snow, is that right?

MR. LAWRENCE: According to the information that has been filed it actually goes from $\operatorname{I}$ think it's . 6 to 1. So . 8 sounds like a fair average.
Q. 210 - Okay. Thank you. And I won't take you back to it unless you want to go, but the table we were looking at at the CSA standard for all the different measurements at page 61, yielded 4.42 meters as the roadway related clearance, right?

MR. LAWRENCE: Yes.
Q. 211 - Okay. Thank you. And if you add those two up you get 5.22 meters, right?

MR. LAWRENCE: 4.42 --
Q. 212 - Plus . $8 . \quad$ That's snow plus clearance?

MR. LAWRENCE: That would be 5.22?
Q. 213 - Well I'm asking you to confirm that that's right. Is that what you get too?

MR. LAWRENCE: When I add the two, yes, 5.22.
Q. 214 - Okay. And that's 17.12 feet. Since we are working in
feet we had better convert it?

MR. LAWRENCE: I don't have a calculator.
Q. 215 - All right. Well how about this. Assuming with me that that's right and then at the break --

MR. LAWRENCE: Sure.
Q. 216 - -- subject to check why don't we stick with that?

MR. LAWRENCE: Sure. I will accept your number.
Q. 217 - All right. So do you agree with me that that means that 17.12 feet are required for clearance along roadways in New Brunswick?

MR. LAWRENCE: Mr. Ruby, that is the maximum. There are a lot of minimums that we have seen in this table. That's where we get back to the issue of what is a typical pole. Q. 218 - All right. I was hoping not to have to do this. Can you turn back to page 61 of exhibit A-63? It's Appendix E. So this is where the 4.42 comes from, right? MR. LAWRENCE: Yes.
Q. 219 - Can you tell me what the name of the table is?

MR. LAWRENCE: It's Minimum Vertical Design Clearances Above Ground or Rails for Alternating Current.
Q. 220 - Right. So this is minimum clearance, right, not maximum as you just said?

MR. LAWRENCE: Yes.
Q. 221 - Okay. So --

- 4841 - Cross by Mr. Ruby -

MR. LAWRENCE: But what $I$ was referring to was you are using the maximum number of the minimums $I$ guess. Because you could look over on the other pages where there are minimums of 2.5 and 3.0 and 3.7 .

And in fact some of these numbers you can derate by another half-meter to three-quarters of a meter depending upon the circumstances that are outlined on page 63. So what I was referring to, Mr. Ruby, and I appreciate that it's probably quite confusing for the Board, is that what you are referring to is the maximum minimum standard required. There are a lot of other standards that are minimum that fall below that standard. So in other words, you know, there could be a large percentage of the province where the actual minimum standards are only 12 or 13 feet.

So when you add them all together, what we are saying is that the 17.25 foot is fair. Or it's a reasonable or a typical representation of one of the 500 and some odd thousand joint use poles that there are out there.
Q. 222 - Okay. For the poles that Rogers is on, they run along roadways, don't they?

MR. LAWRENCE: They run most everywhere that Disco has services and Aliant has services. So yes, you are correct, they do run along roadways, yes.
Q. 223 - Okay. And the 4.42 in the chart is the standard for roadways?

MR. LAWRENCE: Yes.
Q. 224 - Okay. Thank you. So if we use the 17.12 feet as the CSA standard number --

MR. LAWRENCE: Sorry. Did you say 17.12?
Q.225-12, the same number $I$ was using a moment ago.

MR. LAWRENCE: Oh, okay. Yes.
Q. 226 - Right. 4.42 plus .8 converted to feet?

MR. LAWRENCE: Yes.
Q. 227 - That is a minimum requirement for clearance. That is more than the 16.25 feet that you are proposing be at mid span, isn't that right?

MR. LAWRENCE: That is under the highest possible standard in here. Yes, you are correct.
Q. 228 - Okay. So if it turns out that the typical pole that Rogers is on, 40-foot pole, lies along roadways -MR. LAWRENCE: Yes.
Q. 229 - -- then at 17.25 feet at the pole you are not meeting the minimum CSA standard? MR. LAWRENCE: Yes. That's correct. Q. 230 - Okay. Thank you. Now do you still have slide 26 in front of you?

MR. LAWRENCE: I have it.
Q. 231 - And this is again RCC-5. The very first bullet on that pole you made a correction to it?

MR. LAWRENCE: Yes.
Q. 232 - But the numbers that you have pulled out of the CSA standard, those are mid span numbers, right?

MR. LAWRENCE: I don't see anything in there that says where they are located at, whether they are at mid span or whether they are at the pole. I do agree with you that they are minimum numbers.
Q. 233 - All right. Thank you, Mr. Lawrence. Now will you agree with me though that the 4.42 is supposed to be the place, the measurement where people can pass underneath? That is what it's there for, right?

MR. LAWRENCE: You mean people or vehicles?
Q. 234 - People, vehicles, boats?

MR. LAWRENCE: Sure.
Q. 235 - So the place you would measure that minimum clearance
is at the lowest point of sag on the wire, right?

MR. LAWRENCE: Yes.
Q. 236 - Okay. So if we look at your first bullet on page 26 we should correct that, shouldn't it? It is not -- if you want to use 8.5 feet and 14.5 feet this should read standards for clearance at mid span, right? If you are going to pull the numbers out of the CSA
chart then they are mid span numbers, they are not pole numbers?

MR. LAWRENCE: Well, this -- Mr. Ruby, not to be argumentative, but this doesn't say anything about the location, whether it's at the pole or whether it's at the mid span.
Q. 237 - Right.

MR. LAWRENCE: It just says this is the minimum number. And that's what I quoted.
Q. 238 - Right. But you agree with me that it has got to be at mid span?

MR. LAWRENCE: I really don't know.
Q. 239 - Okay. You used 17 -- or not you -- maybe Mr. Ford, you can help with this, the CCTA. First of all, can you tell me who the CCTA is?

MR. FORD: The Canadian Cable Telecommunications Association.
Q. 240 - Okay. And Rogers is its largest member, right? Maybe Mr. Armstrong could help with that.

MR. ARMSTRONG: The answer is not quite linear. Rogers is the largest member of probably what was the CCTA. As of Thursday there will be no more CCTA.
Q. 241 - Right. Okay. And in the Ontario Energy Board proceeding that we have heard about, the CCTA or the cable
companies used 17.25 as the clearance figure for the rate calculation, is that right?

MR. FORD: That's correct.
Q. 242 - And Rogers operates in Toronto, doesn't it, Mr. Armstrong?

MR. ARMSTRONG: Rogers operates in a variety of places in Ontario with some attachments in New Brunswick, Quebec, Nova Scotia and Newfoundland.
Q. 243 - But Toronto too?

MR. ARMSTRONG: And Toronto.
Q. 244 - Okay. And Toronto is its biggest market, right?

MR. ARMSTRONG: That would be correct.
Q. 245 - Now, Mr. Lawrence, in Toronto what does the CSA measure -- or the CSA tell us to calculate for snow accumulation? It's .8, right, in New Brunswick. What is it in Toronto?

Maybe $I$ can help you. I think it is 2. You are welcome to check. It is on page 166 of the standard.

MR. LAWRENCE: I will take your word that's it.
Q. 246 - Okay. Thank you. I appreciate it. So there is a difference in snow accumulation between New Brunswick and Toronto of about two feet. Mr. Ford, why haven't you increased the minimum clearance on your pole model when you moved it from Ontario to New Brunswick?

MR. FORD: Well, sir, it was an industry standard pole model that was used in Ontario. And I would be very confident, although I haven't looked at the numbers, that there would be areas in Ontario which would have snow accumulations that would be significantly greater than those in Toronto. And yet it was the industry in Ontario that put that pole space model forward.
Q. 247 - Okay.

MR. FORD: And I think given that there are areas of Ontario that have significant snow accumulations, I believe it was appropriate to use that same pole space model here.
Q. 248 - When you proposed in this proceeding using 17 1/4 feet did you turn your mind to the difference in snow accumulations between Ontario and New Brunswick?

MR. FORD: No, sir, I did not.
Q. 249 - Mr. Lawrence, will you agree with me that new and already stretched wires sag different amounts?

MR. LAWRENCE: If they are connected to tension strand there is very little sag. They just don't stretch.
Q. 250 - Well, you have told me they sag a foot, right, on a 60 -meter span?

MR. LAWRENCE: On a 60-meter span, yes.
Q. 251 - okay. And what are strands made out of?

MR. LAWRENCE: They are made out of steel.

- 4847 - Cross by Mr. Ruby -
Q. 252 - Okay. And when steel heats up does it stretch?

MR. LAWRENCE: I suppose so.
Q. 253 - So -- and the hottest day of the summer you would expect, all else being equal, a steel strand to sag more in the summer than the winter?

MR. LAWRENCE: I would say so.
Q. 254 - And if we are looking in the winter would you expect that a steel strand with an inch of ice on it would sag more than a strand without ice on it?

MR. LAWRENCE: I would think there would be a little more sag, yes.
Q. 255 - But it would be a significant amount, right?

MR. LAWRENCE: No. I really disagree, Mr. Ruby. When you come to tension strand it really wouldn't be a lot of difference. I have -- and when you speak of ice loading and things like that, $I$ have been in this industry for a long time. And in New Brunswick I don't think I have ever seen a piece of our steel strand broken by ice accumulation. I agree that it probably does sag a little bit. But like it has never broken.

I mean, we will get drops. We will get our wires going into customers' homes down. Sometimes we have quite a problem in that area. But as far as the actual co-ax or fibre cable connected to a steel strand, it does not come
down.
Q. 256 - Okay. But it does stretch a little bit you have agreed?

MR. LAWRENCE: It stretches a little bit under maximum load.
Q. 257 - All right. And when it does that do the attachment points on the poles change?

MR. LAWRENCE: No, no.
Q. 258 - Now can you turn, sir, to your evidence RCC-3 please?

This is your newer evidence at Question 4, the second paragraph. Question 4 please, second paragraph -- sorry, RCC-3. Have you got that?

MR. LAWRENCE: Yes.
Q. 259 - Now you say there -- you make some references to the separation space with respect to new construction and existing construction. Do you see that? The second paragraph. But you might want to turn your mike on. Do you see where it talks about existing and new construction there with respect to separation space? I just want to make sure we are both looking at the same page. The second paragraph, Question 4 , page 2 ? MR. LAWRENCE: Yes, I have it, the minimum separation space, yes.
Q. 260 - Okay. All right. Can you point to me where in the CSA standard, or any other standard for that matter, it

- 4849 - Cross by Mr. Ruby -
says that there is a four-foot new construction minimum and a 3.25 minimum for existing strand?

MR. LAWRENCE: I will try. So you want me to look through the CSA standards?
Q. 261 - Well, you have made the statement --

MR. LAWRENCE: Yes.
Q.262 - -- that the minimum separation space applies to new construction only. I want you to tell me where it says that there is a four-foot minimum separation space that applies to new construction only.

And I don't mean to make this difficult for you. I'm going to suggest that there is no such standard.

MR. LAWRENCE: If you go to page 135 --
Q. 263 - I'm sorry, sir. 135 of what?

MR. LAWRENCE: Oh, sorry. In A-63, Appendix A, page 135, it shows several -- and I appreciate these are rather difficult to read. I had difficulty myself trying to follow all the numbers on some of these slides. But if you look at the top of this page, the four feet as I understand it, which if you are looking at the left-hand side of the page, it says -- it's . 75 kilowatts to 22 -sorry, kilovolts. It shows an allocation or it shows several numbers, minium separations A, B, C and D. And D being 1.2. And if you look at the diagram it shows that
being the separation between communications space and the open secondary on the transformer.
Q. 264 - But where does it differentiate between existing and new -- or excuse me, yes, I suppose I'm right, existing and new construction?

MR. LAWRENCE: I believe that the difference was between new and existing construction and was outlined in the joint user manual.
Q. 265 - Well that related to clearance. Here you are saying it relates to separation space. It's just not here, right?

MR. LAWRENCE: It's not here but $I$ believe it's in the joint use manual, between Aliant and Disco.
Q. 266 - All right.

MR. LAWRENCE: There was a difference -- as I - - and I appreciate that $I$ don't have that in front of me because it was never filed by Disco, but --
Q.267 - Sorry, sir, it is filed.

MR. LAWRENCE: Oh, is it? Okay. Well then if someone would pass me a copy of it $I$ will have a look.
Q. 268 - Well tell you what, why don't we come back to this after a break and you can see if you can find it for us. MR. LAWRENCE: Okay.
Q. 269 - Now, Mr. Lawrence, there is no separation space on a
communications only pole, is there?

MR. LAWRENCE: On a communications only pole there wouldn't be any need for separation space because it exists as I mentioned earlier primarily to protect communication workers from Disco facilities. So the answer is no.
Q. 270 - On a power only pole there is no separation space either, right?

MR. LAWRENCE: I don't know. I don't think I have - - I don't think any of our facilities are attached to power only poles. I mean, that's obvious, but I think -- you are probably right.
Q. 271 - Right. If there is nothing to separate you from you don't need separation space, right?

MR. LAWRENCE: Probably not, right.
Q. 272 - So separation space is it fair to say is caused by the fact that a communications user and a power user are sharing the same pole?

MR. LAWRENCE: Separation space as I mentioned earlier exists to protect communication workers from Disco facilities.
Q. 273 - Right. Both the power company and the cable company need the separation space under the CSA standard as soon as they are both there, right?

MR. LAWRENCE: As does Aliant.
Q. 274 - As does Aliant. Absolutely. Now in terms of the size of the separation space, can you go to again exhibit A-63, exhibit E, this is the CSA standard again?

MR. LAWRENCE: Yes.
Q. 275 - Table 23 this time. This is at page 79.

MR. LAWRENCE: Yes.
Q. 276 - Now this is the chart that tells us how much
separation there has to be -- I'm just looking at the very
first entry -- between current carrying plant and communications plant, right?

MR. LAWRENCE: Yes.
Q. 277 - And we are supposed to be using the first column on the left, right, zero to 750 volts, right?

MR. LAWRENCE: Yes.
Q. 278 - So one meter, is that right? That's the minimum under the CSA standard for separation space?

MR. LAWRENCE: Yes, that's correct. Yes. With the exception of the note at the bottom that indicates the separation space can be reduced to .6 meter when it comes to communication drops.
Q. 279 - Thank you. Now if you turn back inside the CSA standard to page 30 , to clause 4.10.1.1?

MR. LAWRENCE: 4.10.1.1?
Q. 280 - Yes.

- 4853 - Cross by Mr. Ruby -

MR. LAWRENCE: Yes.
Q. 281 - That tells us that we are supposed to be using table 23, right, for separation space?

MR. LAWRENCE: Yes.
Q. 282 - And that there are some special exceptions that are dealt with under Section 4.10.1.3?

MR. LAWRENCE: Sorry. Will you say that again, Mr. Ruby?
Q.283 - Well I'm just reading. 4.10.1.1. I'm just following through. This is the way we are supposed to do it, right. Follow the standard, it tells us to go to table 23 -MR. LAWRENCE: Yes.
Q.284 - -- and then provides some exceptions and special qualifications?

MR. LAWRENCE: Yes.
Q. 285 - Okay. So we are on the same page. Now if you go to 4.10.3.1, I appreciate that following the numbers can be a bit tough, but this is three-quarters of the way down the page on page 31?

MR. LAWRENCE: Yes, I see it.
Q. 286 - This is also a requirement that applies to a joint use pole, right?

MR. LAWRENCE: I believe you are right.
Q.287 - And this is a separation space standard as well?

MR. LAWRENCE: Yes. - 4854 - Cross by Mr. Ruby -
Q. 288 - Okay. And it says to turn to table 24 . So why don't we do that. That's on page 80.

MR. LAWRENCE: This deals with a communication conductor. This is not the same thing.
Q. 289 - Well this applies to a charge, if I could put it that way, communications wire, doesn't it, a wire that's carrying signal? And the first item is if it's zero to 750 volts, right?

MR. LAWRENCE: I think this -- I could be mistaken. I guess the answer is I don't know.
Q. 290 - All right.

MR. LAWRENCE: When I look at this it looks to me like we are talking about some type of conductor that is being used by either a communications company or by Disco. It doesn't strike me that this deals specifically with the same issue that table 23 does.
Q. 291 - I'm not suggesting it deals with exactly the same
issue, but first of all let's see if we can agree on at least that table 24 is something that applies in order to figure out the separation space between a power wire and a communications wire?

MR. LAWRENCE: Some type of power wire, yes.
Q. 292 - Some type of power wire?

MR. LAWRENCE: Yes.
Q. 293 - And a cable wire, to make --

MR. LAWRENCE: It says communication conductor. I don't honestly understand what it means by conductor.
Q. 294 - Okay. Now Mr. O'Hara's evidence was that this applied to communications wire. Do you have any evidence on the basis of which you disagree with his evidence?

MS. MILTON: Mr. Ruby, could you take Mr. Lawrence to the cites for that evidence?

MR. RUBY: I will take it to him afterwards. But, Mr. Lawrence, do you have any reason to believe that this is not applicable to a co-axial or fibreoptic cable wire?

MR. LAWRENCE: Well no. It's applicable to a co-axial wire but it also talks about supply conductors with thermal plastic weather-proof covering. It's not clear to me what type of Disco facility that this actually refers to.
Q. 295 - Okay. Let's see if we can make this easier. The third one down, the zero to 750 volts with other covering or bare?

MR. LAWRENCE: Well I don't think I have seen bare Disco wires out there anywhere.
Q. 296 - No. This is the communications wire, or actually either.

MR. LAWRENCE: Well it says under voltage or supply -voltage of supply conductor zero to 750 volts with other
covering or bare.
Q. 297 - All right. Let's see if we can agree on this. Does there have to be a 75 millimetre difference or clearance between an electricity supply conductor and the line of sight of the points of support of the highest communications wire or cable?

MR. LAWRENCE: Oh, I'm sorry. I misunderstood. This is dealing with the clearance at mid span. Yes, you are correct.
Q. 298 - All right. Thank you. Now in order to know how much the lowest power wire sags under fully loaded conditions we would have to know the manufacturing specs, right, of the wire?

MR. LAWRENCE: Mr. O'Hara has given evidence to that effect. Q. 299 - And you agree with that, right?

MR. LAWRENCE: I -- as far as the amount of sag there are in Disco facilities Mr. O'Hara is the person that gave that evidence.
Q. 300 - All right. Now there is another chart in the joint use manual dealing with separation space, right? You remember seeing that?

MR. LAWRENCE: Could you take me to it?
Q. 301 - Sure. Tab $H$ in the same book.

MR. LAWRENCE: Tab H?

- 4857 - Cross by Mr. Ruby -
Q. 302 - H. Same exhibit.

MR. LAWRENCE: Yes. I have it.
Q. 303 - Now this summarizes both Table 23 and Table 24 from the CSA standard, isn't that right? This brings the two together.

MR. LAWRENCE: This is a copy from the joint use agreement between Aliant and Disco.
Q. 304 - Yes.

MR. LAWRENCE: And there is again -- this is -- this attachment table at the bottom shows clearance required between NBTel cable and NB Power secondary of 1.2 meters. This is for new construction. There is another one for existing construction that says one meter.
Q. 305 - I understand that. But leaving that aside for the moment, this chart shows -- if you look on the left hand side of the little picture, you see it there?

MR. LAWRENCE: Yes.
Q. 306 - It says one meter min.

MR. LAWRENCE: Yes.
Q. 307 - Right. That tells you how far apart you have to be at the pole, right?

MR. LAWRENCE: Yes.
Q. 308 - And then right in the middle under the word Secondary Supply it's got 75?

MR. LAWRENCE: Yes.
Q. 309 - That tells you how far the Disco wire has to be above the line of sight of the communications wire attachments? MR. LAWRENCE: Yes.
Q. 310 - And the chart at the bottom of the page is a calculation of the distance at the pole -- clearance at the pole that you need to meet both of these requirements in span and at the pole?

MR. LAWRENCE: Yes, it is, but that gets to my point, that this is a design requirement for Disco facilities. It has nothing to do with cable or telephone facilities. We have already decided that the separation space exists to protect communication workers.
Q. 311 - You compare existing and new construction standards, but the attachments for a new wire and a wire that has been there for years are exactly the same, right?

MR. LAWRENCE: No. There are different standards.
Q. 312 - But the points don't move physically in the real world.

MR. LAWRENCE: Well Mr. O'Hara I guess indicated that facilities stretch over time and I believe that's why there is a difference between existing and new.
Q. 313 - But the attachments point on the pole, the physical -MR. LAWRENCE: Yes.
Q.314 - -- nails, if $I$ can put them that way --

MR. LAWRENCE: Sure.
Q. 315 - -- I'm probably using completely the wrong term, but -

MR. LAWRENCE: They don't move, I agree with that.
Q. 316 - They don't move?
A. No.
Q. 317 - Okay. Except for one pole up in the northern part of the province, since 1967 is it right that all Disco poles in areas where Rogers wants to go it has found joint use poles?

MR. LAWRENCE: Can you repeat that?
Q. 318 - Okay. Other than northern New Brunswick -- you told us you built the line there, right?

MR. LAWRENCE: Yes.
Q.319 - Other than that line everywhere Rogers wants to build facilities there is a joint use pole?

MR. LAWRENCE: There is now. I guess you said since 1967. I wasn't involved in it then, so I don't know.
Q. 320 - Okay. Since 1967, other than that northern pole line, has Rogers built a pole in New Brunswick?

MR. LAWRENCE: The only poles we built in New Brunswick are the ones in northern New Brunswick. The only reason we built them was because there were no other facilities
there. If there had been we wouldn't have built.
Q. 321 - Mr. Armstrong, poles are a form of support structure, right?

MR. ARMSTRONG: Yes, that's correct. They are part of a support structure system and that would also include for cable tension strand.
Q. 322 - Okay. Now Rogers and Aliant are currently involved in a dispute before the CRTC, is that right?

MR. ARMSTRONG: We are currently involved in a dispute before the CRTC with respect to Aliant's purported termination of our support structure license agreement with them.
Q. 323 - This is the one in New Brunswick --

MR. ARMSTRONG: Yes.
Q. 324 - -- the one that is in evidence in this proceeding? MR. ARMSTRONG: Yes.
Q. 325 - Okay. And Rogers has applied for relief against Aliant with respect to Disco's poles, is that right? MR. ARMSTRONG: What we had originally asked the CRTC to do was to make a declaration that the terms and conditions of that support structure agreement couldn't be changed merely as a result of the assignment or part or all of that agreement. Subsequent to our application the commission has responded to us indicating that it will not
make any declaration on that point out of deference to this Board because it knew this Board was seized with the matter.
Q. 326 - Right. But you went to the CRTC and asked for its intervention despite being here as well?

MR. ARMSTRONG: Well we went to the CRTC after following through the standard dispute resolution mechanism that we have in the support structure license agreement with Aliant, and both parties essentially went asking for clarification of a matter that's legally essentially contract law.
Q. 327 - Mr. Armstrong, I would like to show you a copy of the application.

CHAIRMAN: Mr. Ruby, can we take our break now and you can do that after.

MR. RUBY: Any time you would like, Mr. Chair.
(Recess)

CHAIRMAN: Go ahead, Mr. Ruby.

MR. RUBY: Thank you, Mr. Chairman.
Q. 328 - Mr. Lawrence, you can put away your side tables. How is that for good news. Let's talk about the number of poles for a minute. Rogers uses 109,000 Disco joint use poles, is that right?

MR. ARMSTRONG: Mr. Ruby, I think that that number is under
dispute. I believe that the number that we -- that Rogers uses in New Brunswick, joint use poles belonging to both Aliant and to Disco is somewhere in the neighbourhood of 171,000 poles. At least that's what we have been told by Aliant.

At the same time we have been told by Aliant that Disco would take over administration and billing for 90,754 poles. Aliant would retain somewhere in the neighbourhood of -- I'm going by memory but I believe it's 81,000 poles.

And that a reconciliation of the number of poles that needs to be used would take place at some point in the future. The 109,000 poles that has been discussed in evidence at this hearing is, as I understand it, the 90,754 poles to which Aliant and Disco I believe agree that we have full pole contacts on, and then it's grossed up by 20 percent as an estimate of how many clearance poles we may or may not be using. And like I said at the outset that's not something that -- that number is under dispute as far as Rogers is concerned.
Q. 329 - How many poles including service poles of Disco do you say Rogers is using? I just need the number, whatever it is.

MR. ARMSTRONG: We don't know. We have only ever been given permits for access to any pole here in New Brunswick by - 4863 - Cross by Mr. Ruby -

Aliant. Aliant doesn't even know. And as I understand it I'm not sure if Disco knows either.
Q. 330 - All right. Thank you. Mr. Ford, let's talk about maintenance for a minute. I take it from your evidence that we agree -- or at least that Rogers doesn't contest that Disco spends $\$ 4.6$ million a year on non-vegetation management maintenance, is that fair?

MR. FORD: That's right. We don't -- we accept that number that Disco has provided. We have no independent source of that number but we have no reason to question that number. Q. 331 - All right. Mr. Lawrence, do you have some experience with pole maintenance?

MR. LAWRENCE: With pole maintenance?
Q. 332 - Yes.

MR. LAWRENCE: You mean in what regard?
Q. 333 - Maintaining poles. Rogers owns some you told us in northern New Brunswick.

MR. LAWRENCE: Yes. I mean we certainly have experience with maintaining that section of pole line in northern New Brunswick.
Q. 334 - Do you have to do pole maintenance every year? And I'm not just talking about the ones in northern New Brunswick.

MR. LAWRENCE: Okay.
Q. 335 - But generally speaking you have told us that you have had experience in this area for many years. Generally speaking do you have to do maintenance on some poles every year?

MR. LAWRENCE: Yes.
Q. 336 - Okay. Would it be fair to say that you need to do maintenance on ten percent of the pole population every year?

MR. LAWRENCE: Well I know that Rogers does not do maintenance on ten percent of our poles every year. As a tenant the area that we actually occupy in the communications area is a very small area and I think as we looked when we were last here the communication space is very small compared to the power space, and actually the requirements for clearing a communication space is very minimal.

We would cut some branches when we need to. A lot of our issues deal with storm damage where, you know, trees are falling down and we need to move them. When they are on communication lines we move them ourselves but when they are up into the power area, we certainly refer them to Disco.
Q. 337 - Okay. Leaving aside vegetation management for the moment --

MR. LAWRENCE: Okay.
Q. 338 - -- because we will get to that separately. Do you think it's fair to say that Disco would do maintenance on ten percent of its joint use poles every year, maintenance of one kind or another?

MR. LAWRENCE: I really am not in a situation, Mr. Ruby, to answer that question. I just don't know.
Q. 339 - Well do you think it's reasonable to say five percent as a minimum?

MR. LAWRENCE: Well if you need a number, sure. Five percent.
Q. 340 - Okay. Can you turn up, please, Disco Rogers IR-17.

That is Exhibit 68, please. Page 2. This is the IR that Mr. O'Hara was cross examined on rather extensively.

CHAIRMAN: What is the citation on the IR?

MR. RUBY: 17. December 16, 2005. And it is exhibit A-68 I believe.
Q. 341 - Do you have it there, Mr. Lawrence?

MR. LAWRENCE: Yes, I do.
Q. 342 - So under the heading Calculations in more or less the middle of the page, do you see where there is a calculation for Part 1, Loss in Productivity?

MR. LAWRENCE: Yes.
Q. 343 - And do you see there is a number there, 9,500 poles
per year out of 291,000?

MR. LAWRENCE: Yes.
Q. 344 - Do you see that?

MR. LAWRENCE: Yes, I do.
Q. 345 - Subject to check would you agree with me that that is 3.26 percent of Disco's joint use poles? So 9,500 is --

MR. LAWRENCE: I may be mistaken. But $I$-- sorry, let me rephrase. Is this all Disco poles? Or is this some combination of Disco and Aliant poles?
Q. 346 - Well, $I$ suggest to you that it is Disco poles. But let's leave aside the characterization for the moment. 9,500 over 291,000 odd poles is about 3.26 percent. Would you accept that subject to checking it?

MR. LAWRENCE: Well, I accept that the math is probably right, Mr. Ruby.
Q. 347 - We will start there. Now again just assuming that that math is correct, am I right that that means that Disco works on about 3.26 percent of its poles each year?

MR. LAWRENCE: That seems to be what this is saying, yes.
Q. 348 - And that works out to be one pole every about $301 / 2$ years, right? 3.26 percent means about work every $301 / 2$ years?

MR. LAWRENCE: Is this for -- don't mean to be -- I mean, this is not my evidence. So $I$ would have to read through
this to find out if all these things accumulate up to a percentage that's higher than 3.25 percent I guess. That's where I'm having some difficulty.
Q. 349 - Okay. Well, the calculation is right here under the heading Calculation. I'm just dealing with part 1 for the moment.

MR. LAWRENCE: Okay. So this is a loss in productivity for what? I don't -- like this is a loss in productivity for what? This is for vegetation? Because - -
Q. 350 - I mean, $I$ can help you with that. If you turn back --

MR. LAWRENCE: I'm sorry, Mr. Ruby. I have never seen this page before. So $I$ was just trying to acquaint myself with it. This is Mr. O'Hara's or Disco's evidence, not --
Q. 351 - Oh, no. I understand. But does Rogers accept -well, we have already been told Rogers doesn't accept the loss in productivity figures, right?

MR. LAWRENCE: I'm going to turn that question to Mr. Ford. MR. FORD: That is correct.
Q. 352 - All right. Well, Mr. Ford, I'm happy to continue with you if that is -- if Mr. Lawrence doesn't know anything about this.

MR. FORD: I will try to help.
Q. 353 - All right. So are you okay with what we have done so far? Or do we have to retread the same ground again?

- 4868 - Cross by Mr. Ruby -

MR. FORD: Well, you mentioned the 9,500. But as $I$ sat here and listened to Mr. O'Hara's cross examination by Ms. Milton, $I$ believe -- or it might have been in direct examination by you, it doesn't really matter.

But there was a discussion of 9,500 poles was poles that were installed in an average year and that two-thirds of -- or sorry, I guess it would be 43 percent of those typically would belong to Aliant.

And that it related to the installation of poles. That was the discussion $I$ heard, that it was not related to maintenance at all.
Q. 354 - All right. But before we go to the characterization though, I just want to know if you can agree with the math that Mr. Lawrence just agreed to, the 3.26 percent, 30.6 years?

MR. FORD: I think you suggested that the 9,500 did not include any Aliant poles.
Q. 355 - No. I --

MR. FORD: And I cannot agree with that. But I can agree with -- I will certainly accept, subject to check, your division of 9,500 by 291,000 as being something slightly over 3 percent.
Q. 356 - Thank you. I appreciate that. And work on 9,500
poles, regardless of why that work is taking place, as
long as it is on Disco joint use poles --
MR. FORD: Disco-owned joint use poles?
Q. 357 - Disco-owned joint use poles.

MR. FORD: Yes.
Q. 358 - You would agree with me that the work should be counted towards loss of productivity?

MR. FORD: Sorry. Could you try that question on me again?
Q. 359 - Okay. If Disco does work on 9,500 of its joint use poles, you would agree with me that that work should be counted towards calculating loss of productivity?

MR. FORD: If in fact there is a loss of productivity as a result of communications attachments, yes, then it would be what I believe is appropriately included in estimating a cost due to loss in productivity.
Q. 360 - Okay. Leaving aside how much loss of productivity there is on each pole, would you agree with me that on every pole that Disco does work on, where there is a communications attachments as well, there would be some loss of productivity?

MR. FORD: No, sir. I wouldn't agree with that.
Q. 361 - Would you agree with me that it would be almost always ?

MR. FORD: It would depend entirely on the nature of the work that's being done. In a lot of cases, if they are - 4870 - Cross by Mr. Ruby -
using a boom truck, which is only on the roadside of the pole, this is not required to access anything on the field side of the pole for example, I wouldn't imagine there would be any cost due to loss in productivity associated with that work.

I have heard discussions in other proceedings which suggest that particularly when you are going under communications cables -- I mean, hardly anybody climbs a pole anymore. So we are not in a situation of making sure you don't put your climbing spur into a communications cable on your way up the pole. So where I have heard it described is that you have to take care when you go under communications cables with a bucket truck for maintenance not to -- in order to access cables, power cables on the back side of the pole, that you would have to -- it would slow you down because you would have to use extra caution not to damage communication cables and so on. So I can think of lots of situations where it would be possible to do work without putting a bucket truck under the communications cables. And in that case I wouldn't expect there would be any loss in productivity.
Q. 362 - Now you say there are lots of situations where you can think of those types of things occurring.

But this is not your area of expertise is it? You are the cost allocation rate design guy, right?

MR. FORD: You ask me the questions, sir. And I'm trying to be as helpful to the panel as I can. And that's my understanding.
Q. 363 - And I appreciate that. But you don't know any of what you just told me in answer to that question about from your personal experience?

MR. FORD: Only what I have observed driving around is that there was work that takes place on the front of a pole when you see power workers working with bucket trucks. That's --

MR. LAWRENCE: If I could jump in with that for a second, since you have sort of -- I think since we were discussing sort of the physical plant.
Q. 364 - I'm sorry, Mr. Lawrence. I promise I will come back to you in one minute. But I do have one follow-up question for Mr. Ford first. You mentioned, Mr. Ford, that -- I think it was that not many people climb poles anymore, they use buckets. Is that what you -- you said something like that didn't you? MR. FORD: I said it doesn't happen often anymore, is my understanding, yes.
Q. 365 - All right. Are you aware that climbing poles in New

Brunswick actually is the way the work is usually done and not in buckets, as opposed to maybe some other provinces?

MR. FORD: Are you telling me that that is the case?
Q. 366 - I'm asking you if you know. You said what you know is from driving around and seeing things. I'm just exploring with you how you know these things.

MS. MILTON: Mr. Ruby, is there some evidence on the record that you can point Mr. Ford to on this point? Because it seems to me you are giving evidence here.

MR. RUBY: No. I'm asking him what his evidence is.
Q. 367 - So Mr. Ford, how do you know in New Brunswick --

MR. FORD: Are you asking me to agree with you that climbing poles is the normal method of accessing power facilities in New Brunswick?
Q. 368 - I'm asking you how you know that in New Brunswick, as opposed to anywhere else, climbing poles is the normal method instead of using -- excuse me, using a bucket truck is the normal method as opposed to climbing poles? MR. FORD: It's my understanding that Disco is a modern well-equipped power utility. And it would certainly be a great surprise to me if you were to tell me that their preferred method of climbing poles was to use -- or of accessing power facilities on poles was to use climbing equipment.
Q. 369 - So you are just assuming it? You don't have any knowledge at all on this point, is that right?

MR. FORD: I think it's a reasonable deduction on my part given what $I$ have read of Disco.
Q. 370 - Right. And experts make deductions and give opinions, right? That is what you do, is that right?

MR. FORD: We do many things. But in this case I do not have specific knowledge. I have not asked Disco that question. I'm not aware that it's in evidence one way or the other. I think it's a reasonable assumption for a reasonable person. I'm not -- I'm not giving that opinion as an expert.
Q. 371 - Okay. Thank you. Sorry, I cut you off, Mr.

Lawrence, and I want to give you an opportunity to answer the question.

MR. LAWRENCE: That's quite all right, Mr. Ruby. The point I was going to make was that on the productivity issue, it doesn't indicate on the 9,500 poles whether or not that is new construction or pole replacement or anything like that. And basically when new construction takes place, Disco is the first people there. Our attachments are not on the pole at that point. We come later.

So in any situation where you are dealing with new construction, I don't see where there would be any
productivity loss from Rogers' facilities, because we are not there.
Q. 372 - Thank you. Mr. Armstrong, in the past decade, is it fair to say that a number of telecommunications ventures have gone bankrupt?

MR. ARMSTRONG: I would say that there have been a number that have, yes, gone out of business. Some have been -what often happens is those -- that the facilities of those companies get purchased by another company.
Q. 373 - Right. But, for example, Group Telecom is no longer in business? There is no company called Group Telecom anymore right?

MR. ARMSTRONG: Just as a subsidiary of Bell Canada.
Q. 374 - Right. Global Crossing, its gone?

MR. ARMSTRONG: Its gone.
Q. 375 - C1 Communications, its gone? Mr. Lawrence, if Rogers gets a downed line call, because the cable television is out, but the power is still on, the customer calls Rogers, right?

MR. LAWRENCE: My experience is customers will call all three utilities.
Q. 376 - If the power is out though?

MR. LAWRENCE: They will still call.
Q. 377 - So you are suggesting that if a customer - - the power
is out, the lights don't turn on, the fridge won't work, they call the cable company for help? That's your evidence? MR. LAWRENCE: Not -- not very often, no, Mr. Ruby.
Q. 378 - All right. Thank you. If Rogers gets a tree on the line call --

MR. LAWRENCE: Yes.
Q. 379 - -- what does Rogers do? Goes out and fix it?

MR. LAWRENCE: If it is in the -- if it's in the power space, we refer it to Disco. If it's just crossing our own communication facilities, we will typically remove it ourselves. Or we will call a contractor and ask them to remove it.
Q.380 - And you don't do it yourself because Disco's personnel are not qualified to work on the power space, right? Sorry, Rogers' personnel? My apologies.

MR. LAWRENCE: Sorry, what's that?
Q. 381 - Rogers' personnel are not qualified to remove a tree from the power space, is that right?

MR. LAWRENCE: No, that's not correct.
Q. 382 - So they can work in the power space?

MR. LAWRENCE: We have two of our technicians that have power training. They have the same certification that Disco linesmen have. In fact one of them worked for Disco

- 4876 - Cross by Mr. Ruby -
for many years. And another one worked for saint John Energy for many years.

So those two individuals are licensed or they are qualified to work in that area. However, we would not have them do that work.
Q. 383 - Thank you, Mr. Lawrence. That's helpful. Now, Rogers -- it's a bit trite to say, but Rogers is on only some joint use poles in the province of New Brunswick, right? MR. LAWRENCE: I think we agree with you there, yes.
Q.384 - All right.

MR. LAWRENCE: There has been lots of evidence to that effect.
Q. 385 - And Rogers only pays for the poles it's on, is that fair?

MR. ARMSTRONG: Perhaps I will answer this question and let Mr. Ford step in if he needs to. It seems to make sense to me that you would pay for the poles that you are attached to, not the ones that you are not attached to. Q. 386 - No, I understand the reasoning. I just want to check the facts. You only pay for the poles you are attached to, not to the poles where there is room for you, right? MR. ARMSTRONG: That's correct.
Q. 387 - Nr. Lawrence, sometimes Rogers takes down its wires, is that right, off a pole?

- 4877 - Cross by Mr. Ruby -

MR. LAWRENCE: Not very often.
Q. 388 - Does it sometimes to go underground, for example?

MR. LAWRENCE: Oh, underground?
Q. 389 - Yes. They move from up high to down low?

MR. LAWRENCE: Well, we would follow whatever the established right of way is for an area. For instance, if there was an underground area where Disco and Aliant had decided that the facilities would be built underground, we would typically follow that, yes.
Q. 390 - So if you were on a pole and then you moved underground, you would stop paying for access to the pole, is that right?

MR. LAWRENCE: Well, I can't think of when that would have ever happened, but yes. The answer is yes. We would stop -- we would stop paying for that pole contact, because we would no longer be on that pole.
Q. 391 - Mr. Armstrong, could you please turn up your evidence, RCC-3. So your December evidence, question 2, please. MR. ARMSTRONG: Yes, I have it.
Q. 392 - Now at page 2 of question 2, do you see it there? You have got some bullet points part way down the page? MR. ARMSTRONG: Yes.
Q. 393 - And here you are discussing the benefits of ownership, right?

MR. ARMSTRONG: Right.
Q. 394 - Now let's go through at least some of these. I don't propose to go through all of them. It would take forever. But some of the things that you say are different as in treatment. And I want to start with the first bullet. You say Aliant and Disco jointly determined the design. Well let's start with design. Will you agree with me, Mr. Armstrong, that design is almost entirely governed by standards?

MR. ARMSTRONG: I don't think that $I$ would necessarily design that it is entirely governed by standards. I think that standards play a large role in the design of pole lines. But $I$ think what also goes into a design is not just how tall or how heavy or how thick the poles are or how far -- or how far -- deep in the ground they are buried. I think in terms of design what we are also talking about is where the poles go. Where the poles are located to serve the customers of the owner of the pole. Q. 395 - Well, we have already heard other than New Brunswick -- or sorry, northern New Brunswick, one pole line, there is a joint use pole everywhere you want to go, isn't that right?

MR. ARMSTRONG: Well, I think that if Rogers had input into the design at the same -- the same level -- I will say as
an owner -- input to the same level as an owner has, that at least $I$ would expect that certain times of -- certain times of construction of a pole line, those poles would be placed where Rogers -- where they are beneficial to Rogers.

Rogers designs its network based on the poles that are there and based on the poles that are being constructed, not based on the most beneficial way -- or a beneficial way for Rogers to --
Q. 396 - Well let me ask you this. If you were an owner, how would you design the poles differently?

MR. ARMSTRONG: Well, we might -- I mean you are asking a regulatory guy to be an engineer for a moment.
Q. 397 - Well, I am just looking -- it's your evidence.

Question 2, page 2?

MR. ARMSTRONG: And what $I$ would say is that we might serve a subdivision in a different -- from a different direction than perhaps Aliant and Disco might -- might do it. We might suggest that spans be longer or shorter than what Disco and Aliant do.
Q. 398 - All right. Well let's stop there for a minute. Spans are dictated by property lines, aren't they, where you can place the pole? Or you get permission to place the pole, isn't that right?

MR. LAWRENCE: If I could just perhaps add some context to that for the Board's help?
Q. 399 - Sorry. Mr. Lawrence, if you could just let Mr. Armstrong answer, then $I$ am happy to take anything supplementary you might have to say?

MR. LAWRENCE: Well, as you said, I am not sure that John has all -- as much information that I may have to help the Board with this question.
Q. 400 - Like I am happy to hear your evidence, but $I$ am going through his at the moment. So I promise I will come back to you.

MR. ARMSTRONG: Well, Mr. Ruby, I would like Mr. Lawrence to help me out with this. My understanding is that the evidence of Disco is that property lines determine span lengths. I am not sure. I don't know one way or another whether that's entirely true or not.
Q. 401 - When you say design and location, you really don't have anything more to tell me to back that up. I have to turn to Mr. Lawrence, is that right?

MR. ARMSTRONG: I think I have given you everything I can give you.
Q. 402 - Okay. Thank you. So Mr. Lawrence, I am happy to hear your answer?

MR. LAWRENCE: Well, I guess Mr. Armstrong actually has
touched on a couple of them. I mean with our facilities being as wide as they are, I mean one of the things that we would certainly look at is trying to install fewer poles. We would also look at areas where like right now -Rogers is a residential company primarily. And there are a lot of areas of the province where there are business customers and both Aliant and Disco may have other reasons for going into those areas than Rogers would. Now we would -- we would be part of those discussions. And we would decide whether or not we actually want to build -- let's say through a business area to get to a rural -- to get to a residential area, excuse me. So those discussions now are made in isolation by Disco and Aliant. Rogers has no choice. That's one issue. The second issue is the way the architecture of our network is built, it may be much more beneficial from a cost point of view for us to come into a subdivision let's say from one side as opposed to coming in from another. But for Disco and Aliant, they may have facilities that dictate that it makes sense for them to enter that subdivision from a particular point. However, none of those decisions at this point ever

- 4882 - Cross by Mr. Ruby -
include Rogers. So if we were part of this discussion from the start, we would have influence into those discussions. Another way that would impact us is whenever facilities are being relocated or let's say Department of Transport is dealing with an area where they are rebuilding or they are replacing a pole line, we would certainly like to know about that as early as possible up front. We may be working in that area and we may be incurring costs there. We may be doing things there that we just wouldn't do.
Q. 403 - Disco does consult you when it's building new pole lines, doesn't it?

MR. LAWRENCE: Only as a tenant. Basically you either go or you don't.
Q. 404 - Right. And if you don't go, you don't pay?

MR. LAWRENCE: Obviously.
Q. 405 - Mr. Armstrong, going back to that first bullet again, you also talk about timing of any pole installation. I have to admit that one confused me, because I think it's a bit hard to watch television before you have power. No one needs cable TV, do they, before they get power, is that right?

MR. ARMSTRONG: I am not sure how many people in New Brunswick are not on the grid. But I imagine most of them
are.
Q. 406 - Well for a new subdivision, for example?

MR. ARMSTRONG: Right.
Q. 407 - You know, even when you replace a pole, when it's replaced the customer needs power before it can watch television, right?

MR. ARMSTRONG: Even when it is replaced.
Q.408 - So timing doesn't really come into it, right?

MR. ARMSTRONG: Well --
Q. 409 - There is no difference? It's the reality of your use of electricity to supply your service?

MR. ARMSTRONG: No. I think that where timing enters into
it is if Disco is deciding to replace a number of poles, it says, Rogers, you have $X$ number of days to move your facilities. And we might, if we were an owner, have more leeway to say to them, we can't get to that within the number days you have provided us, but perhaps if we can -we would like to do it at different time.
Q. 410 - Right.

MR. ARMSTRONG: I think that's what $I$ meant by timing.
Q. 411 - And do you ever ask Disco for a little more time? Mr. Lawrence, maybe you can help out here?

MR. LAWRENCE: Sure, all the time.
Q. 412 - And they give it to you sometimes and sometimes not?

MR. LAWRENCE: I would say that's a fair assessment, yes.
Q. 413 - Now, Mr. Armstrong, you also mentioned cost in that bullet, the first bullet, controlling cost of construction and maintaining facilities. Now you are talking about the cost of the joint use pole, right?

MR. ARMSTRONG: Right.
Q. 414 - Which has to be built and designed to accommodate everybody, right?

MR. ARMSTRONG: Right.
Q. 415 - You are not suggesting Disco, for example, runs up the price on its pole so that it can charge you more in an access rate?

MR. ARMSTRONG: What $I$ am suggesting is that -- I am suggesting that we might have a different approach to maintenance or a different approach to construction that, you know, could reduce costs.
Q. 416 - So can you move to your second bullet, please? You say right at the beginning, neither Aliant or Disco need to apply or obtain permission to use the various spaces here.

Now correct me if $I$ am wrong, but doesn't Aliant pay for space on every Disco joint use pole, in kind, I think is the word we used last day, isn't that right?

MR. ARMSTRONG: I think Aliant installs 43 percent -- or

- 4885 - Cross by Mr. Ruby -
installs and owns and maintains 43 percent of the pole population as $I$ understand it. And in return for that, it gets access to the remaining 57 percent that are installed, owned, maintained by Disco and vice versa.
Q. 417 - So essentially they reserve for themselves a spot on every joint use pole? Both of them do, Disco and Aliant, right?t?

MR. ARMSTRONG: Right.
Q. 418 - Rogers in contrast does not reserve a spot on every single joint use pole, right?

MR. ARMSTRONG: Right. We need to apply for a permit in order to get access to a pole.
Q. 419 - Right. And that's because you don't pay for and use every pole, right?

MR. ARMSTRONG: No. I would say that's because we are not an owner. We are a tenant.
Q. 420 - Well if as a tenant you bought a spot on every single pole whether you used it or not, there wouldn't be any need for you to need a permit would there?
A. I have no idea whether or not Aliant and Disco would want us to get a permit or not. I can't speak for them. Q.421 - Okay.

CHAIRMAN: Mr. Ruby, is this a good place to break?
MR. RUBY: I am in your hands, Mr. Chair. CHAIRMAN: We will break and reconvene tomorrow morning at 9:15.
(Adjourned)

Certified to be a true transcript
of this hearing, as recorded by me, to the best of my ability.

Reporter

