**RH-4-92 - Volume 2**

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# NATIONAL ENERGY BOARD

# OFFICE NATIONAL DE L'ÉNERGIE

## Order No. RH-4-92

## Ordonnance N$^{o}$ RH-4-92

### Trans Quebec & Maritimes Pipeline Inc.

### an Application by Trans Quebec & Maritimes Pipeline Inc. for certain orders respecting tolls specified in a tariff pursuant to Part IV of the National Energy Board Act;

**Hearing held at**
**Audience tenue à**

**Montreal, Quebec**

**2 December 1992**
**2 décembre 1992**

**Volume 2**

Canada

I

ORDER NO. RH-4-92

ORDONNANCE No RH-4-92

IN THE MATTER OF the National Energy Board Act and the Regulations made thereunder; and

IN THE MATTER OF an Application by Trans Quebec & Maritimes Pipeline Inc. for certain orders respecting tolls specified in a tariff pursuant to Part IV of the National Energy Board Act;

RELATIVEMENT a la Loi de l'Office national de l'energie et ses reglements d'application; et

RELATIVEMENT a une demande de Gazoduc Trans Quebec & Maritimes Inc. concernant les droits en vigeur au 1er janvier 1993 et au 1er janvier 1994.

\- - -

Hearing held at Montreal, Quebec on Wednesday, 2 December 1992

Audience tenue a Montreal, Quebec, le mercredi 2 decembre 1992

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PANEL:

| | |
|---|---|
| J.-G. Fredette | President/Chairman |
| R. Priddle | Membre/Member |
| A. Cote-Verhaaf | Membre/Member |

II

# I N D E X



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## UNDERTAKINGS/ENGAGEMENTS

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To advise as to how Column 3 on RAM-7, page 1 of 3, was arrived at.

- - -

III

## E X H I B I T S
## PIECE JUSTIFICATIVES



- - -

## TRANSCRIPT CORRECTIONS/
## CORRECTIONS A LA TRANSCRIPTION

Volume 1 - 1 December 1992

| Page | Line | |
|---|---|---|
| 15 | 15 | "Messieur" should read "monsieur" |
| 29 | 10 | "try and do" should read "try to do" |
| 48 | 2 | "bottomline" should read "bottom line" |
| 121 | 15 | "assumable" should read "unassumable" |
| 131 | 3 | add "your" at the end of the line |
| 140 | 3 | "data" should read "beta" |

- - -

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Montreal, Quebec
Wednesday, 2 December 1992

Le mercredi 2 decembre 1992

--- Upon commencing at 8:30 a.m./A l'ouverture de l'audience a 8 h 30

LE PRESIDENT: Bonjour, mesdames et messieurs; good morning, ladies and gentlemen.

Me LECLERC: Bonjour, monsieur le President, madame et monsieur les membres.

Vous vous souviendrez qu'hier, lors du contre-interrogatoire de monsieur Morin par monsieur Yates, monsieur Morin s'etait engage a produire certaines modifications ou revisions a sa preuve. Je crois comprendre, monsieur le President, que ces revisions ont ete distribuees a toutes les parties interessees hier soir vers les 7 ou 8 heures. Je les ai devant moi ce matin, et j'aimerais donc les deposer comme peice au dossier.

Pourrions-nous avoir un numero, s'il vous plait?

LA GREFFIERE: Ce sera la peice B-25.

--- PIECE No B-25: Document intitule "Update - November 1992" produit par nom de la requerar

Me LECLERC: Ce sont les seules questions preliminaires que j'ai ce matin. On peut donc continuer avec le contre-interrogatoire de monsieur Morin.

LE PRESIDENT: Merci, maitre Leclerc.

Maitre Yates, s'il vous plait.

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MR. YATES: Merci, Mr. Chairman.
R.A. MORIN: Rappele

CROSS-EXAMINATION BY MR. YATES (Continued):

Q. Dr. Morin, I want to start today talking to you about business risk.

Do you recall what you said about that topic in your Evidence in the last case, the 1990 case?

A. Yes, I do.

Q. What you said in that case was that, in your view, since the previous Decision, the 1988 case, the overall risk of TQM had gone up because of an increase in business risk.

Do you recall that?

A. Yes, I do.

Q. What I think you also indicated was that the long-term risks had gone up due to deregulation.

Do I have that right?

A. Yes, sir, you do.

Q. And that was essentially what you had indicated to the Board in the 1988 case.

Yes?

A. That is correct. Deregulation is typically accompanied by an increase in



business risk.

Q. And when you made that position known to the Board in the 1988 case, they did not agree with you. Right?

A. On what do you base that assertion?

Q. On the RH-2-88 Decision, page 8, where the Board states, and I quote:

> "The Board finds that neither the Company's short-term nor longer-term business risks have increased since last year."

A. Yes, I recall that now.

Q. And in the 1990 case, the Board also took the view that there had been no change in TQM's business risk since the Company's last toll proceeding, being the proceeding in 1988.

Do you recall that?

A. Yes, I do.

Q. Would you agree that your evidence on the risk environment in this case is essentially the same as it was in 1990?

A. It is substantially the same, but with one important exception, and that is that we are now in a recessionary restructuring style

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of economic environment. The economics of the current case are quite different than they were two years ago for the industry in general, and for all industries, for that matter.

Q. Doing a comparison of the section of your Evidence in 1990 on business risk and your Evidence in this case on business risk, it is essentially word for word, with the exception of the paragraph on page 18 which talks about the permanent restructuring of the economy.

Am I right?

A. That is correct.

Q. And the conclusion is just slightly different in wording, at least in the sense that in 1990 you expressed the view, on page 22, that "since the last rate of return Decision, TQM's overall risk has increased slightly because of increases in business risk" -- and we have already talked about that -- whereas this year, on page 17, you say, "since the last rate of return decision, TQM's overall risk has not changed significantly".

Right?

A. That is correct. And the conclusion on business risk is stated on page 19,

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on line 22, where I discuss the business risks of TQM -- but relative to the industry, as opposed to in an absolute sense. And here it is concluded that TQM's business risks are in fact slightly below average, relative to the industry.

Q. And that is essentially the same conclusion as you reached the last time around, except that, in 1990, you limited that conclusion to short-term business risks. Yes?

A. That is correct.

Q. I think we had gotten to page 17, lines 8 and 9, where you say: "...TQM's overall risk has not changed significantly." Yes?

A. Yes, that is correct -- on page 17, lines 11 and 12.

Q. And you say that, notwithstanding your view, as expressed on page 8, that business risks in the gas industry have increased since 1990?

A. In an absolute sense, that is correct. But TQM's relative position versus the other members of the industry is unchanged.

Q. And the rest of this stuff on business risk is essentially the same as it was in 1990. Am I right?



A. Except for the all-important discussion on recession and restructuring, which has drastically altered the Canadian industrial scene.

Q. That is the one paragraph on page 18 that we talked about before, lines 12 to 16?

A. Yes, sir.

Q. But all of this expression of concerns about Gaz Metropolitain, they are in the same words as the last time around.

Right?

A. That is correct. But the problem is exacerbated in the current recession-style environment.

Q. Are you making a distinction between the phrase that you have just used, the "recession-style environment" and the word "restructuring" which you use on page 18?

A. Yes, sir, I am. The word "recession" implies a cyclical phenomenon, with probability of recovery from the recession to an expansion phase, whereas "restructuring" refers more to a chronic exodus of industries or disappearance of certain industry members due to



restructuring efforts, cost reductions, efficiency drives, plant closings.

In a nutshell, "restructuring" is of

a permanent nature, whereas "recession" is of a temporary cyclical nature.

Q. When you said "chronic" a moment ago, in the context of restructuring, I do not think you really meant to say "chronic", did you?

"Chronic" means recurring, does it not?

A. "Chronic" to me means congenital; part of the structure. Something innate in the fabric of the Canadian economy that is appearing on a permanent basis.

Q. And it does not mean, at least as you use it, "recurring"?

A. Correct.

Q. In your view, regulatory risk is part of business risk?

A. Yes, sir. Regulatory risk is such an important and vital component of business risk that a lot of analysts isolate it as a separate risk consideration.

Q. And you say that TQM's regulatory risks are average relative to other



Canadian utilities. Yes?

A. Yes, sir, I do.

Q. And that is the same position that you put forward, in the same words, in 1990?

A. That is correct.

Q. Except that this time around, you got some Information Requests from the Board?

A. Yes. I got a voluminous amount of Information Requests from the Board.

Q. The specific one I wanted to talk to you about is Information Request No. 2, Item 38, which can be found in Exhibit B-18.

A. I have it.

Q. This is where the Board asked you for an explanation of "deregulation" as used in the context of your discussion of "regulatory risks".

Do you recall that?

A. Yes.

Q. In response to the request for an explanation of "deregulation", you talk about long-term contracts, in the Response to 38(A).

Correct?

A. Yes, sir, I see it.

Q. And you talk, in that Response,

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about provisions for prices being set annually by negotiation or arbitration?

A. Yes, sir.

Q. Do you understand that one of the reasons for the deregulation of natural gas markets and prices in Canada was to come closer to a market-oriented environment, involving price flexibility?

A. Yes.

Q. And you recall, do you not, that one of the reasons for deregulation was that the long-term fixed price contracts with transmission companies that you refer to in your Response were not market sensitive?

A. That is correct.

Q. And you had the U.S. transmission companies essentially saying, "I can't take, and I won't pay, so sue me"?

A. That is correct.

Q. And what happened with deregulation is that effectively we now have price flexibility involving prices being set periodically -- whether annually or not -- by negotiation or arbitration?

A. That is what I state here.

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Q. And one of the significant impacts of deregulation is that you now have flexible pricing in contracts, which has the effect of allowing those contracts to work over time? That is two words, "over time".

A. Yes, I agree with your statement. End-users have more alternatives in seeking the best possible prices. They have to look after their own optimal portfolio of supply.

Q. And the result has been that more gas has been taken by those end-users. Yes?

A. That is correct.

Q. Are you aware that most of these contracts, if not all of them, that involve arbitrated or negotiated prices also involve those prices being subject to regulatory approval?

A. I am not intimately aware of contractual features of gas contracts. This is not my area of expertise.

Q. When you talk about the "risk that the arbitrated or negotiated prices will be less readily accepted by regulatory authorities", what do you mean?

I should give you the whole sentence. This is from Response (A) on the first



page of your Response to Question 38(A). In the third paragraph, you state:

"There is a risk that the arbitrated or negotiated prices will be less readily accepted by regulatory authorities than were prices set by government authorities."

A. Yes. I was referring to possible second-guessing by the regulator. A certain provincial Board might say: "Well, we do not really appreciate the contractual negotiations that you undertook."

This happened here in Quebec with the Regie recently.

And what happens if natural gas prices climb, as they have recently, and suddenly there is a return from transportation back to firm contracts but the distributor does not negotiate for the appropriate supply: is the regulator going to declare that that distributor is the supplier of last resort?

These are the kinds of risks that I had in mind in making the statement that deregulation brings with it its own set of risks.

Q. When you are making the



statement about the risk that the negotiated prices, for example, would be less readily accepted by regulatory authorities than government-imposed prices, you are simply saying that there is an aspect of judgment involved in the approval by the regulatory authority -- again, I won't say "tribunal" -- of the negotiated prices?

A. This is what I am saying -- coupled with the fact that suddenly the gas utility might be declared the supplier of last resort.

Q. And the impact of that is what...?

A. It brings with it a totally different approach to the gas supply portfolio composition.

Q. What do you mean when you say a "more competitive gas supply gas environment", on page 2 of your Response?

The specific phrase is "more competitive gas supply gas environment".

A. The fact that end-users have considerably more choices in procurement of their gas: the spot market, the long-term market, a



variety of suppliers.

Q. And why do you see that as creating a risk that the gas supply contracts will be less readily accepted?

A. Because switching back and forth between firm and transportation contracts confers risks that now the gas distributor has to assume that were not there before, particularly the notion that the utility might be deemed to be the supplier of last resort.

Q. This is the gas distributor, not the gas transmission company, you are talking about?

A. That is correct.

Q. You talk about bypass in your answer to Question (C). Do you see that?

A. Yes.

Q. How do you define "bypass"?

A. Shortcircuiting the traditional transmission and distribution route, going through an alternative route.

Q. And what are the alternative routes that you refer to when you talk about the possibility of bypass of TQM?

A. Excuse me, I did not hear you.

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Q. What are the alternative routes that you have in mind when you talk, in this Response, about the possibility of bypass of TQM?

Your specific phrase is: "The possibility of bypass of TQM in favour of gas imports through alternate connections exists".

A. This was a generic statement. I did not have any specific network or pipeline route in mind when I made that statement.

Q. Are you aware of any specific networks or pipeline routes that could bypass TQM?

A. I am not prepared to answer that question. This is not my area of expertise, other than that there is an economic threat of bypass.

Q. So your answer to the question is that you are not aware of any specific routes that could be used to bypass TQM?

A. The answer is "I do not know".

Q. The answer is you are not aware of it, because you do not know anything about it.

Is that right?

A. That is correct.

Q. What do you mean when you say: "The Quebec market will compete with other markets, raising the possibility of a shrinking

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market for TQM with a lower utilization rate."?

A. If Quebec end-users, particularly large industrial gas users -- pulp and paper, petrochemicals, metal -- have alternative supplies through the United States, it obviously has implications for TQM.

Q. So you are not trying to express some concern about a lack of gas supply causing a shrinking demand for TQM services. You are still, in this sentence, talking about the threat of bypass, as you see it?

A. That is correct. I am talking about the possibility of a shrinking market for TQM, with a lower utilization rate on TQM's pipeline, as a result of alternatives from the U.S. for Quebec end-users.

Q. And what do you mean when you say: "This would accentuate the pressures for modifying the current ratemaking practice of incorporating TQM's costs as part of TCPL's costs of service."?

A. To the extent that you have these pressures on TQM's market, this would clearly influence TQM's utilization rate, its volumes, and the practice of rolling in TQM's

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costs as part of TCPL's cost of service would come under more intense scrutiny. I think Intervenors would begin to question this practice.

Q. Are you aware of any suggestion of questioning that practice at the present time?

A. Not at the present time.

Q. And is your concern about this arising from the fact that the "ratemaking practice", as you call it, was in fact questioned some five or six years ago?

A. Yes, that is one concern. But economic pressures bring to bear on the issue one more time because of the effect of recession and restructuring on TQM's major client, Gaz

Metropolitain.

Of course, in the last few years, in an expansionary economy, that concern was relegated to the background. But given the new industrial concerns here in Quebec with Gaz Metropolitain's market, that issue resurfaces again, or could resurface again.

Q. You are aware that the issue of the toll methodology of TQM was dealt with by this Board in the RH-3-86 TransCanada PipeLines Decision. Yes?

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A. If you are referring to the Board's reaffirmation of the rolled-in pricing methodology, yes, I am very aware of that.

Q. And you are aware that that was a Decision of this Board in respect of TransCanada PipeLines in the RH-3-86 Decision?

A. Yes, sir, I am.

Q. Do you recall the terms in which -- firstly, let me ask you this: Do you recall what the proposal was?

A. Essentially the Board, after making a pronouncement ---

Q. I am sorry, going back one step: Do you recall what the proposal was in respect of the TQM toll methodology?

A. No, I do not.

Q. If I were to suggest to you that the Canadian Petroleum Association proposed that TQM be treated as a separate pipeline and that, under that methodology, the TQM revenue requirement would be billed directly to shippers on the TQM system, does that jog your memory?

A. Yes, I recall that. It was a while ago.

Q. Do you, then, recall the fact

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that the Board rejected that proposal?

A. Yes.

Q. And do you recall the reasons

why the Board rejected that proposal?

A. No, not specifically.

MR. YATES: If I show you that section of the Decision, I am sure you will remember it, Dr. Morin.

--- (Document handed to witness/Document remis au temoin)

Q. What I have asked Mr. Leclerc to hand to you are stapled copies of certain pages of the Decision of this Board in the RH-3-86 proceeding, being the cover and pages 54 through 57, which are the pages that deal with the TQM Cost of Service issue.

Do you recall having read this now, Dr. Morin?

A. This was a long time ago. I did not participate in this Hearing. But I have just read the Decision; at least the last page.

MR. YATES: It was a fun hearing, I can tell you.

THE WITNESS: Yes. I have heard the echoes and the reverberations of that hearing to



this day.

Q. What I wanted to address your attention to is the actual "Decision" of the Board on page 56.

But you do recall that the proposal of the CPA, and actually the second proposal made by IPAC and Dome, as it then was, keyed off the fact that deregulation had occurred.

Do you recall that?

A. No, I do not. I was not involved in that hearing at all.

Q. If you look on page 55, Dr. Morin, you see in the left-hand column there is a statement about the three arguments which were used to support the CPA, IPAC and Dome proposals, one of which was that Quebec customers were only paying about 20 per cent of the cost of the TQM system, and the assertion was that that was not fair because it resulted in a cross-subsidy of sales off the TQM system.

Do you see that?

A. Yes.

Q. And the second argument, a little further down on the page, related to the change of circumstances and the fact that direct

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sales were a reality in Quebec.

Do you see that?

A. Yes.

Q. And then at the top of the next column, on the same page, you see that the position was that the proposals would be more consistent with the new market-determined pricing regime, since they would provide more accurate signals on the cost of transportation.

Do you see that?

A. Yes.

Q. And it was because of those assertions that I suggested to you that the proposal was actually made post-deregulation and in a time of deregulated prices and markets.

Can you agree with that now, on the basis of looking at this?

A. Yes, I agree with that.

Q. And the Board rejected each of those arguments. Correct?

A. Yes, they did, in the last page.

Q. And they say, on the last page, that they were "primarily concerned with the fair and equitable allocation of sunk costs".

Do you see that at the bottom of the

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left column of the "Decision"?

A. Yes, the last sentence on the left.

Q. And they were also concerned with the different treatment between TQM and the other pipelines that form part of the TCPL system, specifically Great Lakes and Union.

That appears on the right column?

A. That is correct.

Q. And then at the end they say, and I quote:

"The Board recognizes that the existing Eastern Zone dimensions were established in the light of past economic, political and investment decisions made to achieve objectives which at the time were developed in the public interest of the country. In the Board's view, the setting of Eastern Zone tolls on the basis of allocating the costs, principally embedded costs, equally to all users in the Eastern Zone continues to be just and reasonable and in the public interest."

Have I read that correctly?



A. Yes, you did.

Q. That Decision suggests to me, Dr. Morin, that the prospect of successful pressure, shall I say, for changing the TCPL/TQM toll methodology is pretty slim.

Would you agree with that?

A. I think in the short term, I would agree with you. But in the longer term, regulatory forces typically succumb to economic forces, and the economic environment in the 1990s is drastically different than it was in the mid-1980s.

Q. So your view is that, notwithstanding the manner in which the Board has dealt with this issue in the past, you still see a risk that they will change their minds, or their collective mind, and change the TCPL/TQM toll methodology?

A. I see this as a longer-term concern, not a short-term concern.

Q. Is that also how you see the generic investigation into incentive regulation?

A. I see this as a longer-term concern. Whenever the rules of the game threaten to be changed, clearly it results in higher

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risks.

But do not interpret from that that I do not concur with the idea of incentive regulation. On the contrary, I am a very strong proponent, and have been in the United States. In fact, I do a national seminar for the entire industry and regulators on incentive regulation.

So, do not infer from that comment that I do not advocate the loosening of the regulatory process. I merely view this as a source of longer-term risk.

Q. We have established that this is the third TQM case in which you have appeared.

A. That is correct.

Q. And before you, the Rate of Return witness and Cost of Capital witness utilized by TQM was Dr. Sherwin. Am I right?

A. Yes, that is correct.

Q. And Dr. Sherwin and Ms. McShane still do appear for TCPL, though not TQM. Correct?

A. That is correct.

Q. Are you aware of the views of Dr. Sherwin and Ms. McShane on the magnitude of the appropriate risk premium?

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A. Very broadly. I know, from having worked with Ms. McShane, that they do subscribe or use the risk premium method, and I think, from very, very broad knowledge, that they use a risk premium of some 4 to 5 per cent over long-term Canadas.

But I cannot entertain you or discuss the details or exhibits of their Testimony.

Q. But you would accept, subject to check, that the view of Dr. Sherwin and Ms. McShane was 4 1/2 per cent in the recent TCPL case?

A. Over long-term Canadas?

Q. Risk premium, yes.

A. Over long-term Canadas?

Q. Yes.

A. I will accept that, subject to check.

Q. Is your number that will be comparable to that the 6 to 7 per cent range that appears in your Evidence?

A. If you assume a market risk premium of 6 to 7 per cent for an average risk investment, and if you accept the idea that utilities are approximately half as volatile -- in

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other words, that they have a beta of .5, approximately speaking -- if you take the 6 to 7 per cent range and multiply by the relative volatility of utility stocks, which historically has been of the order of .5 to .6, you get a risk premium of approximately 3 1/2 to 4 per cent, which I believe is similar to the Sherwin "raw" risk premium; what they refer to as the "bare bones" risk premium.

Q. I am sorry, Dr. Morin, I may not have expressed myself correctly. I had understood that the 4 1/2 per cent of Dr. Sherwin and Ms. McShane was the market risk premium, which compared to your 6 to 7 per cent.

Is that an understanding that you share or do not share?

A. I do not share that view at all. The market risk premium, based on historical studies, and based on prospective analysis of the market, is considerably higher; it is 6 to 7 per cent.

Q. I was not asking you to agree with their market risk premium; I was asking you to simply agree that yours is different from theirs.

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I think we started with you saying it

was between 4 and 5; I said 4 1/2.

I am just trying to get you to tell me whether your understanding is that their 4 1/2 is comparable to your 6 to 7?

MR. LECLERC: If I may, at this point, Mr. Chairman: My colleague is asking information about Dr. Sherwin's risk premium in TransCanada's Evidence, and the witness has stated that he has broad knowledge of it.

If he has the Evidence, could he submit it to the witness and see if that is his understanding.

We are arguing as to what a witness has said in another hearing. If he has it, we possibly could go further on, and faster, if the information were provided to the witness.

MR. YATES: Mr. Chairman, we are not arguing about what a witness said in another hearing. We established that several questions ago, when I asked Dr. Morin if he had an understanding, and he said "between 4 and 5 per cent".

My understanding of that response was that Dr. Morin was aware that the market risk



premium of Dr. Sherwin and Ms. McShane was 4 1/2 per cent.

I am simply asking him whether his understanding is that their 4 1/2 per cent is a view that they hold that he, as I think he has already told me, disagrees with because his is 6 to 7.

I just want to know what we are comparing. We are not arguing as to whether Dr. Sherwin and Ms. McShane are right, or not. We are simply trying to understand what the difference in views is between Dr. Morin and Dr. Sherwin.

MR. LECLERC: If Dr. Morin's understanding of what my friend has just said is correct, I have no problem. But I thought, from his answer, that he was disputing that, sir.

THE WITNESS: Let's get to the bottomline. Again, this is broad knowledge. Dr. Sherwin is recommending rates of return in the

13 to a 13 1/4 per cent range. Long-term Canada Bonds are yielding 8.75. So right there you have a risk premium of 4 1/2 per cent.

As a generic matter, I think current Dr. Sherwin recommendations imply a risk premium

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of approximately 4 1/2 per cent over long-term Canadas -- for utilities; not for the market as a whole.

If you are recommending a utility risk premium of 4 1/2 per cent, it implies that the market risk premium, for an average-risk investment, will be considerably higher, of the order of 6 to 7 per cent.

Does that help?

My testimony is totally different than Dr. Sherwin's.

MR. YATES:
Q. Yes, I understand that.

Let me put it this way: If Dr. Sherwin's market risk premium is in fact 4 1/2 per cent, then you would disagree with it as being too low and inconsistent with your market risk premium of 6 to 7 per cent?

A. If that is indeed his recommendation, his recommendations are not consistent with that. If he is using a risk premium of 4 1/2 per cent, and utility stocks are half as volatile, he should be recommending an 11 per cent return.

Q. I did not want to get into a

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discussion of Dr. Sherwin's Evidence. I take Mr. Leclerc's point on that.

I simply wanted to make sure that what I understood was this -- and I will just put the question again: If Dr. Sherwin's market risk premium is 4 1/2 per cent, then you would disagree with that, because yours is 6 to 7 per cent. Correct?

A. On the average stock, yes.

Q. I want to get some of your

long-term views, Dr. Morin. For that purpose, I provided to you yesterday, through your counsel, a copy of an article which was written by Mr. Peter C. Newman and which appeared in the November 23rd issue of Maclean's Magazine, entitled "The Lasting Pain of a Sharp Recession".

Did you read that last night?

A. No, I did not have a chance.

Q. I am not going to ask you to confirm anything, but I do want some of your views on some statements made by Mr. Newman, as to whether you agree or disagree with him.

Perhaps I can direct you to the specific statements and you can tell us what you think.

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Can we proceed on that basis?

A. Yes, sir.

Q. The article is entitled "The Lasting Pain of a Sharp Recession".

Do you see that?

A. Yes.

Q. It begins with the rhetorical question, and I quote: "So what, exactly, is going on here?"
Right?

A. Yes.

Q. And down at the bottom of the first column, it says, and I quote:

> "And yet something very different is going on. And what's different is that this is much less of a business cycle than a serious restructuring of the Canadian economy."

I take it from our earlier discussion today that you would agree with that comment.

Would you?

A. Yes, I agree that this is not a typical recession. It has more chronic or restructuring consequences.

Q. In the next column, there is a

statement about the federal deficit; that it was supposed to be $27 1/2 billion, but is "likely to end up just under $35 billion, the second-worst figure on record".

A. I see that.

Q. Is that your understanding of what we are told by the Press we are to hear from Mr. Mazankowski today?

A. I would not be surprised.

Q. In the right-hand column there is a paragraph which perhaps I should just read, starting with "The best description...".

Do you see that?

A. Yes, sir.

Q. It states, and I quote:

> "The best description of what's gone wrong was in a recent column by David Blake of the weekly European. 'As the word economy has sunk deeper in the mire,' he wrote, 'its leaders have pursued three varieties of Marxism -- those associated with Harpo, Groucho and Chico. In the first, Harpo, phase, they were struck dumb. Ministers and international organizations did not



> talk about the recession, like people walking around a dead body without mentioning its presence. When that failed they switched to denial, a phase reminiscent of Groucho's retort when caught in an obvious lie: 'Who are you going to believe? Me or your own eyes?' Denial having failed, they now moved on to the third, Chico, phase. This involves greeting all criticism with a resolute, 'Not me, boss.' As every piece of bad news feeds out, the fashion now is to say that the government in question cannot be blamed because there is a worldwide problem."

I take it that you would agree that

there is a worldwide problem? Or would you not?

A. Yes, I would agree that there is an economic malaise worldwide. But I do not prescribe to the "gloom and doom" views of certain journalists. It neglects the will and resolve of both the American and the Canadian people to grapple with the problem, to come to grips with it, to do the necessary cost cutting, to be competitive on the world market. And this is

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exactly what we have seen in the U.S.

We have reached a point in the United States where the cost-competitiveness of the U.S. now rivals that of Japan in the early 1970s.

I think the same kind of passion will take hold in Canada. I am not a "gloom and doom", prophet of doom, and "we have all these serious problems and we have no way out". I think we will get out of them eventually.

A restructuring has a very healthy consequence, and that is that we become more competitive and we are better able to come to grips with the new information age and the new information society.

We are just going through this transition right now from an industrial economy to an information-based economy, in the same way that we had the Industrial Revolution, going from an agricultural economy to an industrialized economy.

So I think that this is very pessimistic. It assumes complete stagnation on our part and on the part of governments.

Q. In fact, this economic change is referred to a little earlier in this article, at

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the bottom of the first column, the start of the second column, about the "shift away from manufacturing is as deep and permanent as the turning away from predominantly agricultural to industrial economies which took hold a century ago". Right?

A. Yes. That is essentially what I paraphrased.

Q. Do you agree that the prospects for recovery -- to use the phrase in the third column -- "will be grievously hindered by the astounding losses being suffered by Canada's corporate elite", and you see there is reference there to Stelco, Canadian Pacific, the Royal Bank, Hudson's Bay, et cetera?

A. The industrial pecking order will definitely be altered. There will be a shift or re-industrialization in Canada, much the same way that we are seeing in the U.S. We will see perhaps a new industrial policy on the part of this government which will target certain key futuristic industries -- telecommunications, computers, service, to name a few -- which will enable Canada's economy to get going again.

So I am not as pessimistic as



Mr. Newman on the prospects of the Canadian economy. I have been looking at a lot of long-term forecasts in preparing for this proceeding by WEFA, or DRI, or the Conference Board.

Q. I am sorry, "WEFA" is an acronym for what...?

A. Wharton Economic Forecasting.

I do not see this same pessimism in the long term for Canada, as this article would imply.

Q. That is where I was trying to end up, Dr. Morin: whether you would care to give us your views on the statement, which is really the highlight of this article, that the 1990s will be a decade of -- and his words are -- "snail-paced growth". That is kind of catchy. But I am more concerned with the statement that the 1990s will be a decade with the gross domestic product moving from plus to minus 2 per cent in growth.

Do you have a long-term view about that that you would share with us in this context?

A. Yes. If you like catch phrases, I will give you one ---



Q. I do not like catch phrases. I

just want to know whether you agree with the prospect of growth in the 1990s being plus or minus 2 per cent.

A. I will give you the catch phrase anyway. I think the Canadian economy will be characterized by "piggedly piggedly" growth -- meaning bumping along between 2 1/2 to 3 per cent growth in real gross domestic product. Not nearly as robust as we have seen in the past expansion phase, but nevertheless some positive real growth.

We are not going to throw the towel in, as Mr. Newman seems to imply.

Q. I did not take that message from him. But I recognize that you are not as pessimistic as he.

MR. YATES: I do not know, Mr. Chairman, whether you want to mark this as an exhibit because we have been talking about it.

Certainly it is not being presented to prove what it says. It was merely presented to get Dr. Morin's view on the issues that it discusses.

I am happy to mark it as an exhibit,



if you would like.

THE CHAIRMAN: Go ahead.

THE CLERK: That will be Exhibit No. C-1-8.

--- EXHIBIT NO. C-1-8:
Maclean's Magazine article by Peter C. Newman, entitled "The Lasting Pain of a Sharp Recession".

MR. YATES: I will obtain more copies, Mr. Chairman.

Q. Could we turn for a moment to your Update, Dr. Morin, which I believe was marked as Exhibit B-25.

A. I have it.

Q. The title page says that it is dated November 1992.

I take it, though, that it was

prepared in this form yesterday, in December.

Am I right? Or does it pre-exist that?

A. Yes, you are right. This was actually prepared last night.

Q. Can you look at the second page in, where we have RAM-2, page 1 of 1?

A. Yes.

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Q. And this is the exhibit that replaces the RAM-2 which was in your Testimony.

Yes?

A. That is correct. This is the end result of the same identical filter which was used in my original Testimony to identify comparable risk companies.

Q. And part of what you do in RAM-2, page 1 of 1, is calculate or compute adjusted betas.

Correct?

A. Yes, sir, that is correct.

Q. I am told that the adjusted betas that appear in this table are computed utilizing the formula of 0.35 plus 0.65 beta, which is the ValueLine formula?

A. That is exactly right. This is the same approach used by both ValueLine, and Merrill Lynch, and most other commercial beta services.

Q. Thank you.

And RAM-3, which is the next page, is entitled "Average Return on Equity 1982-1991 and Risk Measures". Yes?

A. Yes.

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Q. And you have an indication of the ten-year mean return on equity for 12 utilities?

A. Yes, sir.

Q. And I am correct, am I not, that the present returns on equity for all, or virtually all, of these utilities are somewhat less than the 10-year mean?

A. If you mean authorized or current allowed rates of return, you are correct. They vary, depending on the date of the last award, anywhere from 12 1/4, 12 1/2, to 13 1/2, roughly speaking, which would be lower than the ten-year average.

Q. And just for a point of reference, the present numbers appear in Dr. Waters' Table 16. You are aware of that?

A. Yes, Dr. Waters does compile systematically the currently authorized rates of return for Canadian utilities.

Q. What do you consider to be the relevance of any of the values that appear on RAM-3, page 1 of 2, in light of the current awards that have been made by the regulatory authorities?

A. None whatsoever. RAM-3, page 1,



is simply a representation of utilities that come out of the sample which, in a sense, proves or corroborates the validity of the filtering process because the utilities emerge from the filter.

The key piece of information on that exhibit is the next-to-last column labelled "Adjusted Beta", which shows that the average risk of utilities is of the order of 55, which simply means that utilities are 55 per cent as risky as the market.

This is really the only information that I emphasize in my Testimony.

The important page is the next one, page 2 of 2, which compiles the ROEs for industrials. You can see at the bottom of that particular column of numbers labelled "10-Year Mean ROE" that the comparable industrials have produced a rate of return of 12.78.

Going back to your question on RAM-3,

page 1 of 2, you cannot look to earned or allowed rates of return for utilities. If the Board were to do this, that would be circular in logic.

That is why, in comparable earnings, you always rely on non-regulated companies, or else you would fall into a logical trap. Returns

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would never change.

Q. Can we go back to the first page of Exhibit B-25. This is the summary table, the "Summary of Results".

A. Yes.

Q. I take it that the first page of B-25 is intended by you to replace the "Summary of Results" that appears on page 49?

A. That is correct.

Q. As I understand it, going through this, in fact every number which appeared on page 49 has now been changed on Exhibit B-25.

Correct?

A. Yes. The rates of return have decreased by 25 basis points, generally.

Q. Increased or decreased?

A. Decreased by 25 basis points.

Q. Just going to the Comparable Earnings number, you have a range there now of 12.78 to 13.58 per cent.

Right?

A. That is correct.

Q. Where did the 13.58 number come from?

A. If you look at RAM-3, page 2 of

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2 -- still in B-25 here. So it is RAM-3, page 2, the first column of numbers entitled "10-Year Mean ROE", you see at the bottom that the average is 12.78. To get the 13.58, a lot of analysts argue -- and I subscribe to that view -- that financial

institutions, or mutual funds style of companies, or management companies are really not that comparable to utilities. Utilities are very capital-intensive, whereas financial institutions are not.

So if you remove from the computation of the average the four financial institution/ mutual fund style of companies, such as Canada Trust, CT Financial Services, Laurentian Bank, and National Trustco, you obtain an average of 13.58.

Q. I am sorry, Dr. Morin, which ones were the companies that you removed?

A. I believe it is Canada Trust, which is number 2; number 6, CT Financial Services; number 9, Laurentian Bank; and number 12, National Trustco.

MR. YATES: If I may just have a moment, Mr. Chairman.

--- (A short pause/Courte pause)

Q. Dr. Morin, what sort of a

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corporation is United Corporations Ltd.?

A. I do not know the corporate profiles, in detail, of each of those companies.

Q. What I was just seeking ---

A. I will gladly remove that company if you want.

Q. I was just wondering whether you would have removed it, or not, it having passed or failed your filter with respect to financial institutions or real estate companies.

A. I believe it is a diversified holding company, involved in very disparate activities.

Q. So the 13.58, if I work through the numbers, would be the average of the companies on RAM-3, page 2 of 2, eliminating companies 2, 6, 9 and 12?

A. I believe that is correct. But I will verify that during the break.

Q. If you would, I would appreciate it.

Would you just look at page 35, for a

moment, of your Testimony. You have an equation on page 35 that is at line 20.

A. Yes, I see it.

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Q. That equation includes a variable that is identified as "beta"?

A. That is correct.

Q. Can you tell me whether that is a raw beta value or the adjusted beta value?

A. All of the betas in my Testimony, as is typical in corporate practice as well, are adjusted betas.

MR. YATES: Thank you, Dr. Morin.

Thank you, Mr. Chairman.

THE WITNESS: Thank you, Mr. Yates.

THE CHAIRMAN: Ms. Moreland, please.

MS. MORELAND: Thank you, sir.

MR. YATES: Before we proceed with Ms. Moreland, I can advise that I have, through the good offices of Mr. Fournier, succeeded in getting additional copies of Exhibit C-1-8 for filing and for distribution to others.

THE CHAIRMAN: Ms. Moreland, please.

MS. MORELAND: Thank you, Mr. Chairman.

CROSS-EXAMINATION BY MS. MORELAND:

Q. Dr. Morin, if I held Mr. Yates' gun to your head, do I take it that you would agree with me that Comparable Earnings would not

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be the test that you would select if you were isolated to just using one test?

A. Provided Mr. Yates did indeed hold a gun to my head and was not shooting blanks, I would definitely rank that one as my least preferred test.

Q. And would you do so on the basis that the Comparable Earnings Test does not generate a market-based number?

A. That is correct. It is not a true measure of opportunity costs, in the market sense.

Q. In fact, is it fair to say that the Comparable Earnings test ignores capital markets all together?

A. Yes. That is almost an exact quote from my book. That is one of the disadvantages of the test, that it ignores capital markets.

Q. So it is a historical number that is achieved through the use of accounting data, not market data.

Is that fair?

A. That is correct.

Q. Is it also true, Dr. Morin, that



one cannot factor inflation in properly when doing the Comparable Earnings Test; that is another one of the disadvantages in proceeding with a comparable earnings analysis?

A. That is correct. We have had three Royal Commissions in the Western World, including Canada, the United States and England, trying to agree on some form of inflation accounting, and we have been unsuccessful thus far in adjusting ROE or comparable earnings for inflation.

Q. So not only do you have the problem of it being accounting data, it is accounting data that you cannot adjust for inflation properly?

A. It is very difficult to adjust accounting data for inflation. It involves replacement cost estimates, it involves foreign exchange losses and gains. It is a very, very complex area.

Q. Is it true, Dr. Morin, that you have characterized the Comparable Earnings Test virtually as a dinosaur?

A. Yes. In the U.S. context, one rarely, if ever, sees Comparable Earnings employed

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by witnesses, whether they are company witnesses, or staff witnesses, or consumer witnesses. It is not something that you see very often.

In Canada, you see it a lot more, in part because it is so much more difficult to implement the other tests, such as DCF or CAPM.

Q. Do I take it from that last response that you do not regard the Comparable Earnings Test as being quite so prehistoric in the Canadian context as in the U.S.?

A. I think it is more useful in Canada because the other technologies are much more difficult to implement, and also we have a posity of samples or observations with which to conduct our DCF and the CAPM tests, which is not the case in the United States. So it is more useful in Canada.

Q. Do I understand that you are telling me that it is more useful in Canada simply because there is a posity of other data that you would otherwise have when you are undertaking your analyses in the United States?

A. That is correct. The prime example is when you are doing a DCF analysis in the United States, you have the luxury of having

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analysts' growth forecasts, so the growth term is much easier to come to grips with.

Also, you have an infinite supply of comparable utilities to get your betas, if you want to use the CAPM.

So it is a little bit easier, in terms of sample size, in the United States, but not so in Canada.

Q. But the criticisms that we have been discussing with respect to the conceptual validity of the Comparable Earnings Test, the accounting data model, the inability to deal properly with inflation, those conceptual problems exist both in Canada and the United States.

Is that fair?

A. Yes, that is fair enough.

Q. So the conceptual validity of the Comparable Earnings Test cannot, and does not, turn on what other tests are available or what other data might be available, or might not be available, so that you can undertake other tests?

A. Yes. I think the final criticism of Comparable Earnings is an economic one. It is not really a conceptual one.

You characterize it as a "conceptual"

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shortcoming. It is more of an economic shortcoming.

It still makes sense to me to be concerned with fairness, and this Board historically and traditionally is very concerned, as it should be, with fairness. It is a theme of a lot of their Decisions.

One can still argue that Comparable Earnings is a test of fairness; that even though it does not jibe or does not fit very well with the very narrow economic viewpoint of market opportunity costs, it still remains a "fairness" test. If the Board deems it to be fair to give TQM the same rate of return as was achieved by comparable risk companies, so be it.

Finance professors and economists do not have a monopoly on fairness. We let the Board define fairness.

Q. But having just told me that the Comparable Earnings Test is useful in the context of the fairness standard, you are not disagreeing that in the United States it is not used?

A. We do not need it as much because the implementation of the other tests are so much more powerful.

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Q. So the Comparable Earnings Test is more useful in Canada because of the lack of other data that you can use to do an assessment of cost of capital?

A. I think that is a fair

statement.

Q. But in an absolute sense, the test is no more useful in Canada than it is in the United States. Fair?

A. It is relevant evidence, which focuses on fairness, not on economic validity.

Q. Dr. Morin, your concern with the shortcomings of the Comparable Earnings Test has caused you to place less weight on it in this proceeding than in the past.

Is that fair?

A. No. I have always used Comparable Earnings as one of eight or nine or seven tests, the others being market-oriented.

So I would not say I have shifted weight. But clearly if it is one out of seven or eight tests, it has the weight of one-eighth.

Q. That is a fair qualification. Of your seven tests, six of them are market-based; the remaining test is the Comparable Earnings?



A. I agree with you.

Q. I would like to talk to you for a moment about your DCF tests. I would like you to go to page 40 of your Evidence, if you could.

A. I have it.

Q. And to summarize a bit, without repeating too much of what Mr. Yates went through with you yesterday, you do three DCF analyses.

Correct?

A. Yes, I do.

Q. The first is for industrials?

A. Yes.

Q. And we can find the results of that at RAM-11, in the Amended RAM-11 that you filed this morning?

A. That is correct.

Q. Secondly, you do a DCF analysis

of comparable energy utilities. Right?

A. That is correct.

Q. And that is found at RAM-9?

Q. RAM-9, that is correct.

Q. And that has not been updated?

A. No, because I do not use it in any event.

Q. And lastly you do a comparable

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telephone utilities DCF. Correct?

A. Correct. That is RAM-10.

Q. And that has been amended by Exhibit No. B-25 this morning?

A. Yes, that is correct.

Q. In respect of the comparable energy utility DCF test that you do, I think you told Mr. Yates, yesterday, that, to use his word, you "pre-truncated" these results. Right?

A. I did not place any weight on DCF results ranging from 12.6 to 18 per cent. I did not think this was reliable.

Q. In fact, you said that those results were "unreasonably high and unreliable," at page 46.

A. Yes. I believe 18 per cent is outside reasonable limits of probability.

Q. So we are left then with two DCF analyses, the results of which you used and the results of which we find at what has been twice amended and is now your Summary Table at page 49.

Is that fair?

A. That is correct.

Q. In respect to the DCF analysis that you do for the telco's, you have a discussion

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of that in the text of your Evidence starting at page 46. Right?

A. Yes, I do.

Q. And what you have undertaken here, Dr. Morin, is a DCF analysis for a group of telephone utilities. How many companies are in that sample?

A. Five.

Q. And what are the average returns on equity that you generate as a result of doing that analysis?

A. They range from 12.33 per cent to 13.2 per cent, for a midpoint of 12.75.

Q. What I would like you to do, Dr. Morin, is to go to RAM-10, please.

Do you have that?

A. Yes, I do.

Q. I am looking at page 1 of 2. Could you also get in front of you your exhibit filed this morning, Exhibit B-25 which updates RAM-10, page 1 of 2. That is four pages in from the back of that exhibit.

A. I have it.

Q. If I look at your Amended Exhibit B-25, I see that the fair return average



that you have generated is 13.17 in respect to dividends, when you are using dividends per share as the growth factor.

Is that fair?

A. That is correct.

Q. And if I look at your original RAM-10, page 1 of 2, that fair return number is 13.81. Correct?

A. That is correct.

Q. What I am interested in, Dr. Morin, specifically is for you to look at

Column (7) which is entitled "Historical 15-Year DPS Growth", on these two exhibits.

A. Yes, I have it.

Q. And I would like you to put them side by side, if you would, and confirm for me that what this depicts is the 15-year growth rate for dividends per share for this sample of five telco's. Right?

A. Correct.

Q. If I look at the original -- and maybe I can back up for a minute.

That is a 15-year growth rate ending in the year 1991.

Is that right?

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A. That is correct.

Q. If I look at the original RAM-10, page 1 of 2, I see the historical growth rate for the first company of 3.90 per cent.

Correct?

A. And it has gone to 3.81, in your Update.

A. Correct.

Q. Perhaps we could just run through these.

For the second one, Island Telephone, you are now showing 8.38 per cent. Correct?

A. Correct.

Q. Whereas previously you were showing 8.70?

A. Correct.

Q. Quebec Telephone, 5.39 per cent, versus 5.50. Correct?

A. Correct.

Q. Maritime Tel, 5.92, versus 6.10. Correct?

A. Yes.

Q. New Tel; 5.75 versus 5.70.

A. Correct.

Q. I am sorry, 5.90. Is that

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right, 5.90?

A. That is correct.

Q. What I am interested in understanding, Dr. Morin, is how your growth rates have changed as between the filing of your original RAM-10 and the updated RAM-10.

You are still using a 15-year period for growth ending in 1991. Can you explain how you have generated different growth rates?

A. Yes. In the updated, we simply computed what we call the OLS, or "Ordinary Least Squares", or what some people call the "Log Linear" growth rates using the raw dividend data from the Financial Post database instead of relying on their computation of growth rates.

Q. Just so I am clear: In the original RAM-10 you had in fact calculated those growth rates from the raw data?

A. No. In the original, I simply extracted the growth computations made by the Financial Post database, whereas in the updated exhibits, we simply looked at the raw data and did the work ourselves to see if it was the same, or correct.

Q. Can you tell me what accounts

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for the difference? Do you have any idea what might account for the difference as between what FRI reports and what you have calculated, based on use of the raw data?

A. Yes. I believe in the FRI database, they compute growth rates based on logarithms of dividends per share to the base ten, whereas the more appropriate way of doing it is to use natural logarithms, which assumes continuous compounding instead of annual compounding.

Q. Dr. Morin, why did you make the change as between your original Exhibit RAM-10 and the Update? Why did you simply use the FRI results for the original and calculate from the raw data when you went ---

A. Over the last couple of years I have noticed a few puzzling discrepancies in the Financial Post database, I simply wanted to corroborate or replicate their data by doing the work myself.

Q. Let's go over, Dr. Morin, to Exhibit RAM-10, page 2 of 2, both in your original and the Update. If we were to go through this exhibit -- which is "DCF-Comparable Canadian Telephone Utilities", showing the growth rates

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based on earnings per share. If we were to go through the same exercise, we would come up with different growth rates in respect of your Update than were originally filed.

Will you agree with that, by looking at the numbers?

A. Yes. There is one little difference, too. In the original, we used FRI's published growth rates, whereas in the Update we did the work ourselves with the raw data. The only difference is in the case of Bruncor. In the original Testimony, you see a negative growth rate.

Q. You have gone from a minus 1.30 to a positive 3.81.

A. Yes. In this case we simply decided to use the historical growth rate in dividends because it is implausible that a company would grow negatively forever under the auspices of the DCF model. Where you see the minus 1.3 per cent, in the Update we simply used the same growth rate as dividends, because it does not make sense that earnings will grow negatively forever and dividends will grow positively forever.

Q. Dr. Morin, have you ever in

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previous testimony actually calculated the growth rates yourself, rather than simply relying on the FRI data?

A. Historically I have depended on

the FRI data, but I have noticed in the last year a lack of -- well, let's call it lack of effort on the part of FRI, or a few puzzling holes in the data in 1991, which led me to do the raw work myself, and also in response to cross-examination from some of your predecessors.

Q. That is a kind way of saying I am not a member of the "long in the tooth gang"?

A. My esteemed colleague, Dr. Waters, has raised one or two issues in talking to me about these things, and I therefore decided to do the work myself.

Q. Could we go for a moment, Dr. Morin, to your Exhibit RAM-11. Again, I would like you to have before you your original RAM-11, as well as the updated RAM-11, which are the last two pages in the Update which was filed as Exhibit B-25.

I am correct, Dr. Morin, that what what we see in the updated RAM-11 is a different sample than the original. Correct? It is a



different composition of companies that made it through the same filter process?

A. That is exactly correct.

Q. What I would like to do is again have you look at the column entitled "Historical 15 Years". I am at RAM-11, page 1 of 2, and this is dividends per share?

A. Correct.

Q. What we have done, Dr. Morin, is selected those companies in your updated exhibit which were also members of the original sample.

The first of those would be Corby Distilleries, No. 3. Is that fair?

A. Yes.

Q. And what you show in your Update is an historical 15-year dividend per share growth of 14.42 per cent. Correct? I am looking at the updated RAM-11, page 1 of 2, Column (7) -- I apologize.

A. I see 8.7 per cent.

Q. That is correct. We will come back to this.

Let's go to No. 5, CT Financial Services. That survived?

A. Yes, that is correct.

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Q. What you are showing on your amended Exhibit is a growth rate of 15.14 per cent.

A. That is correct.

Q. And in the original Exhibit RAM-11, the growth rate shown is 12.10.

A. That is correct.

Q. Let's go down to the next company, which is Dover Industries. That has survived?

A. Yes.

Q. Originally it had a growth rate of 11.03?

A. Yes.

Q. And an updated growth rate of 12.20?

A. That is the reverse. It was 12.20; and with more recent data, it is 11.03.

Q. Thank you.

The next company is Hawker-Siddeley, which shows, now, 5.86 per cent. Correct?

A. Versus 6.

Q. Versus 6. If we go down to No. 11, which is National Trustco: you were showing 8.6. Correct?

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A. Correct.

Q. And you are now at 8.30?

A. That is correct.

Q. The next company is Oshawa Group. You were showing 14.10, which is now 12.91. Correct?

A. Yes.

Q. And for Scott Paper Ltd., you were showing 11.9, you are now at 11.25?

A. Correct.

Q. And for UAP, which is company No. 15, you were showing 5; you are now at 4.88?

A. Correct.

Q. And No. 16, finally, United Corporations, you were showing 10.7, and that has been recalculated to 8.98. Correct?

A. Yes. And what is happening here, so that we do not get lost in the shuffle, when you include 1991 results -- remember the original was prepared in May 1992. When you incorporate 1991 earnings and dividend results -- because this was a recession year, a lot of the companies either maintained their dividends or even lowered them and, therefore, that depresses the growth rates a little.

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That is why you see, in the Update, in general, lower growth rates than you saw in the original, coupled with the fact that if you measure growth rates using natural logs instead of base-ten logs, you will get a slightly lower compounding effect.

Q. I understand the second half of your answer, Dr. Morin -- that you have calculated the growth rates based on the raw data in a different way than FRI has done. Correct?

A. That is right.

Q. That accounts for these changes in the growth rates.

So that I am clear on the first part of your answer, you have not changed your 15-year period. It is still the 15-year period ending 1991. Correct?

A. Yes. But in the case of companies that did not have reported data for 1991 as of May 1992 -- and there are a lot of those --

what FRI basically did was omit that particular observation in computing the 15-year growth rate. They just left it as "N/A" or "Not Available".

A lot of companies have fiscal years that end in the middle of 1992. So this is not

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that unusual.

MS. MORELAND: May I have just a moment, Mr. Chairman, please.

--- (A short pause/Courte pause)

Q. Dr. Morin, on the point that you have made with respect to what FRI does if it does not have all of the 1991 results, when you were asked by CAPP to indicate over what time period your growth rates were being calculated, as I recall your Response to CAPP 10.1, the answer was "15 years ending 1991", without qualification.

Correct?

A. That is correct.

Q. Why was that response not qualified to indicate at that point what you have just told us on the record; that is, that the FRI data might not include all of the 1991 results to the extent they were not available?

A. Well, they labelled it as "15-year growth rates", but upon further scrutiny, and prodding on my part, they said: "Well, for those companies that we did not have reported data on for 1991, we simply omitted them from the computation, instead of putting in a zero." That was their reply.

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Q. Dr. Morin, when did you do that prodding of FRI?

A. During the fall.

Q. Prior to or after the filing of the Information Response to the CAPP?

A. I just do not recall. I would say in the last five or six weeks. I just do not recall the exact moment. Some of my staff undertook that work, too.

Q. Dr. Morin, we have just gone through RAM-11, page 1, which is "Dividends Per Share". Correct? That is the exercise that we just went through with the "before" and "after" numbers?

A. That is correct. And RAM-2 is "Earnings Per Share".

Q. Before we go on to "Earnings Per Share" -- which we will -- can you tell me whether or not the dividends for 1991 would have been reported and complete.

This is harkening back to our discussion about the differences that you have explained between the growth rates being driven, in part, by the unavailability of 1991 data.

I presume that the 1991 dividends



were all in at the time of the filing of your Evidence.

A. Yes, but perhaps not the Financial Post database. If you manually compile the dividends from dividend publications or dividend news, then, yes, they would have been available. But I think what FRI and the Financial Post does is they update the entire database as all the data comes out of annual reports.

Q. So, the 1991 dividends from which FRI was calculating its growth rates in the fall of 1992. Correct? That is the timeframe. You are looking at 1991 dividends for the purposes of FRI calculating dividend growth rates. Fair?

A. Yes.

Q. That is in June of 1992?

A. That is correct.

Q. And you are suggesting to me that perhaps those dividends were all in but FRI simply had not gotten around to compiling them all.

A. Yes, because the annual reports were not all in yet. A lot of companies have a fiscal year-end that is in the middle of 1992.

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My experience has been, in the last 15 years, that it is not until mid-summer, July or August, that the data is in, in a comprehensive fashion, for all Canadian companies.

Q. Your point to me, Dr. Morin, is that the dividends are not necessarily reported on a calendar-year basis but are reported on a fiscal-year basis. Is that what you are saying?

A. That is correct. That is what FRI does.

Q. Finally, can we go over to RAM-11, page 2 of 2, to complete the "before-and-after" analysis. Again, what I am interested in is the historical 15-year growth. And this is for earnings per share, rather than dividends per share.

A. Yes.

Q. Let's go through the same analysis that we undertook in respect to dividends per share. I will just run through the numbers with you, and you can stop me if you disagree with any of them.

No. 3, Corby Distilleries: before, 12.5; after, 11.80?

A. No, I do not agree with that.

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Corby was not in the original sample.

Q. I am sorry. Was it CHUM, then, that was in the original sample?

A. Yes, that is correct.

Q. And that is now showing 8.79, and was showing 12.50?

A. It is now showing 11.8, versus 12.5.

Q. I am sorry, I had the numbers right before, the Company wrong. Let's get the record clear.

You are now showing, for CHUM, an earnings per share of 11.8. Correct?

A. Yes.

Q. And you were showing an earnings per share of 12.5?

A. Correct.

Q. The next one is CT Financial Services: before, 13.6; after 12.02. Correct?

A. Yes.

Q. The next, Dover Industries: 11.8 then; 10.42 now. The next, Hawker-Siddeley, you were showing negative .01; you are now showing positive 1.78; no. 12, Oshawa Group: you were showing 19.10; you are now showing 14.63.

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Next, Scott Paper: you were showing 9.6; you are now showing 9.17. Next, UAP: you were showing 9.5; you are now showing 7.8. And lastly, United Corporations: you were showing 10.14; you are now showing 8.79.

Are all of those right, Dr. Morin?

A. Yes, ma'am, they are.

Q. And again you will explain those differences by suggesting to me that what you have done is you have gone back and calculated the new growth rates from the raw data, whereas you just used the FRI data for the purposes of your original exhibits. Correct?

A. That, and the availability of 1991 final reported earnings for some of the companies that was not available in May.

Q. Again, when you gave the CAPP the Response to the Information Request asking you for the growth rates over the 15-year period, you gave the CAPP the growth rates which we see in the original exhibit, without a qualification that some of those earnings might not have been available.

A. That is correct. I had not performed that investigation.

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MS. MORELAND: You will happy to know that that is the end of the "before-and-after" analysis.

THE WITNESS: I thought you would be very pleased that the DCF numbers turned out to be considerably lower under the revised numbers.

Q. Let's go back, Dr. Morin, to talk about your Telco analysis for a moment. Each of the companies that we find in your Telco sample, which we find at RAM-10, as amended, is a regulated utility. Correct?

A. That is true.

Q. And regulated utilities' returns are set by regulators. Correct?

A. Correct.

Q. So by definition, would you not agree with me, Dr. Morin, that the results of your Comparable Canadian Utilities DCF must be affected by the decisions that regulators make with respect to allowed return to those companies?

A. I would agree with the notion that investor expectations in terms of growth and dividend potential is clearly influenced by the rates of returns that are allowed by regulators.

Q. Would you take the next step

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with me, Dr. Morin, and agree that the DCF analysis that you used in respect of your telephone utilities -- and, for that matter, your energy utilities -- which uses historical growth rates, suffer from circularity, to the extent that the returns allowed these companies are returns which are set by regulators?

A. Yes. I discuss that in the technical appendix on DCF: that one of the disadvantages or shortcomings of the technique is that there is a circular logic involved in the DCF, in that the growth expectations of investors are driven, in part, by what they think the regulators are going to do. But then the regulators say: "Ah-hah, investors take what we do into account, so we are going to fool them."

So there is kind of a "gaming" circular logic that goes on that casts a bit of a shadow on the DCF analysis. That is one of the shortcomings.

Q. The circularity of logic is one

of the shortcomings of undertaking a DCF analysis for regulated utilities?

A. That is right. That is why you want to do DCF on other samples that are not

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regulated; and this is why you want to do other tests, as well.

Q. To the extent, Dr. Morin, that your DCF analysis, which is based on regulated utilities, suffers from this circularity problem, would you agree with me that this Board should give it little weight?

A. It should give the same kind of weight that it has given everything else. I think DCF analysis is relevant. It should be aware of its shortcomings. But DCF is deeply rooted in regulatory tradition, rightly or wrongly. It is a well-accepted test. It is almost a universal test. And I think the Board should give it its due weight, keeping in mind the circularity problem.

All of the models have shortcomings and advantages, and the DCF is no exception.

Q. So you are saying that the Board should have regard to it because it is relevant, but the Board should also keep in mind this flaw in respect of a DCF analysis undertaken with utilities, and that is the circularity of reasoning?

A. It should be aware that that is

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one of the limitations of DCF.

Q. When you say that the Board should take it into account...

I understand the caveat that you have given me, Dr. Morin. But I think my question was: If the Board is going to take it into account, should it not give it very little weight as a result of the circularity problem, in a utility-based DCF?

A. No. It should give all the tests equal weight. All the models have limitations of their own. They are all simplifications of reality; they are all abstractions of social phenomena. Inherently, they have these limitations.

Q. So being a CAPM and E-CAPM fan, as I think you told Mr. Yates yesterday, you are suggesting that the Board should give a utility-based DCF analysis -- which has, admittedly, a circularity problem associated with it -- the same weight as you would suggest the Board give to the CAPM and E-CAPM?

A. Perhaps in the back of their minds they should say: "Well, the CAPM results are perhaps slightly more reliable."

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It is not as if the CAPM is immune to problems of its own. All the models have limitations. That is why I use an array, an arsenal of techniques, to try to gauge investor expectations.

We do not know, empirically, to what theory or what models investors subscribe. Absent any evidence on what investors actually subscribe to and what they do to select stock and make investment decisions, use all the relevant evidence available to you.

Q. The point I am interested in, Dr. Morin, is your views about what weight, what relative weight, the Board ought to give this test, measured against the other tests that you perform. And I think you told me the Board should give it equal weight, notwithstanding the circularity problem, because all of the other tests have got problems of their own.

Is that fair?

A. I think the best way to answer that question is to look at my Summary in Exhibit B-25. The DCF results represent two methodologies out of seven. I think that is representative of the weight that I would accord the DCF, and the

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Board should follow suit.

Q. Let's back up, then. You show two out of seven. So you are saying that the DCF Test here should get two-sevenths of the weight that the Board will accord each of these tests?

A. That is what I do in my testimony.

Q. I would assume you are doing that in your testimony, because you are recommending that the Board ought to do the same, or the Board ought to be persuaded of your way of weighting these tests.

A. I am recommending that the Board look at this Summary and think: "This is good. We believe this. It is using an array of techniques. It is methodologically sound. It is not dogmatic or doctrinaire. It seems to indicate results of 12.75 to 13.25. Let's award 13.0."

That is what this says. This is my recommendation.

Q. I appreciate that, Dr. Morin. Perhaps we can go back. Looking at your Summary results, you will agree with me that the DCF industrials test that you undertake does not suffer from the circularity problem we have been

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discussing because you do not use utilities as your sample. Correct?

A. It does not suffer from the circularity problem, but it does suffer from another problem that is pretty severe.

Q. For the time being, we are talking about the circularity issue in respect to a utility-based DCF. Right?

A. It does not suffer from circularity.

Q. So the DCF Telco test suffers from circularity. We have agreed upon that.

When we are weighting this, the Board should have regard to the fact that this analysis, the DCF Telco's, has this particular weakness.

Fair?

A. No, not really. The Board should have in mind that weakness, but should also have in mind another weakness, in that a DCF model does not fit industrial stocks very well. The whole world of constant growth in earnings, constant growth in dividends, constant growth in valuation -- which is the guts of the DCF model -- is an assumption that is much more applicable to utilities than it is to industrials.

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Sometimes it is very difficult to take a constant growth model and transpose it to industrials, which are characterized by anything but constant growth.

This is the trade-off. Yes, it has the circularity problem if applied to utilities, but the model fits the shoe better.

For industrials, there are no circularity problems. But the model using the assumption of constant growth is more questionable for industrials. This is the trade-off.

Q. Perhaps we can close off on this weighting issue this way, Dr. Morin. I take it you will agree with me that the last time you gave evidence in respect to TQM in RH-2-90, you undertook two utility-based DCF tests, the same as this time, telco's and energy utilities?

A. Yes, I did that. I remember that.

Q. Do you recall last time whether or not you pre-truncated or discarded your energy utility DCF, as you have done this time?

A. I did include them last time.

Q. So you had two DCF utility-based analyses last time. Right?

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A. Three. Last time I had energy, telco's and industrials. I did not discard the energy results last time.

Q. Perhaps I misspoke myself. I was asking whether you had two utility-based DCF analyses last time, that being the telco's and the energy utilities.

A. My mistake; not yours. Yes, I did that. Two utility samples.

Q. If I look at page 15 of the Board's Reasons for Decision in RH-2-90 -- perhaps I can just read this into the record.

"Further, the Board placed little

reliance on the utility related results
relied upon by TQM's witness given the
problems inherent in assessing the
reasonableness and the reliability of
data derived from such relatively small
samples as well as its concern with
possible circularity of reasoning
involved."

Do you have that before you, Dr. Morin?

A. No, I do not. But I recall the language and I did heed the Board's advice and did

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not include the energy DCF results this time in this formal Summary. They did not form part of my recommendation.

Q. I thought you did not include the energy DCF results because they were unreasonably high.

A. That is correct.

Q. I do not think you said anything about their being circular and you were therefore excluding them.

A. They were unreliably high; they were unreasonably high. That is why I did not include them.

Q. Just so that I am clear, they have not been excluded from your recommendation based on concerns about circularity. Your concern is with the result being unreasonable.

A. That is fair.

Q. If we can go back for a moment, the Board at least, last time around, in RH-2-90, expressed some concern about the weight it ought to give to a utility-based DCF test.

Correct?

A. Yes, it did.

Q. Can we go on for a moment,

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Dr. Morin, to talk about your general DCF model -- and we have already gotten into a little of this in respect of the changed growth rate numbers.

You do use 15-year growth rates for both earnings per share and dividends per share.

Correct?

A. Yes.

Q. And that is a 15-year period ending in 1991. Correct?

A. Correct.

Q. And the reason that you tell us that you use a 15-year period is that a longer historical period is more representative of long-term growth rates required by the DCF model.

That is at page 43, line 24 of your Evidence.

A. That is correct. The guts of the DCF model, or the growth component, is that it is a perpetual infinite growth model. The very foundation of the DCF model requires a long-term growth rate.

Q. And you say, in the middle paragraph at page 43 of your Evidence, that you have to make three decisions when you are computing historical growth rates, and the second



of those decisions, which I find on line 16, is "over what past period".

So that is the issue of whether or not you select a 15-year growth rate period.

Is that correct?

A. That is correct.

Q. And in RH-2-90, the last TQM case, you did, as I think you just told me, the same three DCF tests that you have done this time, industrials, telco's and energy utilities?

A. Yes, I did.

Q. And in RH-2-90 you relied on a ten-year growth rate for the purposes of working your DCF model.

Is that right?

A. That is right. Two or three years ago I employed 10-year growth rates, and approximately a year ago I switched to 15-year growth rates because they were more representative of long-term trends.

Q. The last time around at TQM you said that you used ten years at that time because, and I quote: "The ten year historical average better captures the normalized long-term trend of growth which is what is required on the DCF

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model."

That is from your previous appearance. I think that is the essence of the answer that you just gave me in respect to 15-year growth rates.

A. It is the same answer, except that it is even more true today than it was then.

Q. How do you know that, Dr. Morin?

A. If you include the earnings experience and the dividend experience of the last couple of years for telephone utilities, these growth rates have been depressed by start-up operations into cellular, into diversified activities, up-front investments and marketing cellular properties, and the like. This has retarded or diluted the short-term earnings before these investments come to fruition, and produced growth rates that were artificially low.

Therefore, to better capture the long-term nature of the DCF model, I decided to switch to 15-year growth rates.

Besides, using 10-year growth rates produced results, or equity costs, that were roughly the same as bonds yields, which is not a reasonable result anyway.

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Q. So you are saying you have gone to 15 years for two reasons: the first is that were you to use ten years, you would get unreasonably low results. Correct?

A. Yes. In some cases the equity costs were less than the bond yields, which is not a circumstance that was very credible to me.

Q. The essence of your answer is "yes"; one of the reasons that you moved to a 15-year growth rate is the unreasonableness of the result that that generated?

A. Yes, plus what I just narrated a minute ago about the dilution from investments into cellular and to other related activities.

Q. That being your second reason?

A. That is correct.

Q. Essentially, you are saying there have been atypically low earnings over the last several years because of these start-up issues?

A. That is fair enough.

Q. Do you recall, Dr. Morin, in RH-2-88, which was the second-to-last TQM Case, the time before last, the Board stated that there was some merit to the position which was advanced

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at that hearing that investors future growth rate expectations would likely be closer to growth rates experienced in the most recent five-year period.

Do you recall that?

A. I recall that. But if you were to pursue that philosophy -- to take an extreme example, Bruncor has experienced negative growth rates in the last five years. This would produce a negative rate of return, or one that is close to the risk-free rate. So that would not be unreasonable, at least in today's context, because of what has happened in the telephone environment in the last three or four years.

Q. Your comments in respect of these atypical issues in the telephone environment, do they extend beyond the telephone milieu, to industrials, to other members of the corporate sector?

A. Not to the same extent. The telephone companies have been trying to catch up to the information revolution by making these large investments into cellular investments, and other unregulated activities. By virtue of making these start-up investments and incurring start-up

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costs and capital investments up front, this has diluted or retarded near-term earnings and growth.

Therefore, if you use that for DCF, you are really getting a downward-biased estimate of the long-term growth potential of these companies. The reason they are making these investments is to partake in the productivity gains in the cellular, the digital age and the FAX machine usage and the like.

So if you are looking at near-term earnings growth, you are missing the long-term growth potential of these companies, which is what the DCF model requires.

Q. But when you are looking at the near-term, you are talking about the telephone industry.

Is that fair?

A. In my analysis, I have used a telephone group for DCF. So, yes.

Q. Does the same rationale in respect of the unreliability, or the atypically low performance in the recent past, apply similarly to your industrial group, for instance?

A. It applies, but not to the same extent. If you were to look at short-term growth

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rates of any company, they have been artificially depressed by restructuring efforts -- and, of course the devastating impact of the recession -- and these growth rates are downward-biased proxies for the long-term growth prospects of these companies in general.

Q. Would you expect, Dr. Morin to the extent that one has experienced atypically low performance, that it would all tend to average out; that is to say, if you look at a period ---

A. Yes, I would agree with that. That is why you use a long-term growth rate, to try to smooth out the cyclical aberrations.

Q. When one looks at your sample, your industrial sample, for instance -- let's look at your telephone sample. You are telling us we should look at long-term growth rates because of atypically low performance in the recent past.

Correct?

A. That is correct; and the start-up investments that you and I discussed earlier.

Q. If one looks over a longer term -- for instance, even taking the 10-year term that you used in your last appearance before this

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Board in TQM -- would you not expect that those results would tend to be smoothed out over the term, the low results?

A. Even the 10-year growth rates are unduly affected by the last three or four years' earnings experience and the dilution that I spoke of a moment ago. I would be a lot more comfortable with the 15-year growth rates as representative of the new potential in the telecommunications field.

Q. In respect to your telecommunications sample, where are the bad results emanating? Are they emanating from the regulated components of the utilities.

Where do they come from, is the question.

A. I have been very careful in my sample to censor the sample so that it would exclude companies with very high diversification content. BCE, or Bell Canada, is not in the sample, nor is BC Tel, because those companies have ventured into unregulated arenas.

The telephone sample that I have retained consists of companies that are fairly homogeneous. You would not characterize them as

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diversified. They are driven, primarily, by their regulated activities.

Q. Bruncor is one of your telco companies, is it not?

A. Yes. That is the marginal one where I show the results both with and without Bruncor.

Q. And did Bruncor not experience some significant losses in both real estate and in chancellor finances?

A. Yes. They ventured into leasing real estate activities, which were not very successful, which is one reason why I show both sets of results, with and without Bruncor.

Q. Still with your telephone example, Dr. Morin: Does the CRTC, which regulates these utilities, not reflect -- let me back up.

Does the CRTC not allow these utilities to earn a return on their operations?

A. Let's back up one step here. Quebec Telephone is not regulated by the CRTC.

MS. MORELAND: Fair enough.

THE WITNESS: To answer your question, the CRTC focuses on the regulated



components of their activities.

Q. Yes. In respect, for instance, to the capital investments that a Telco would make -- for instance, in the cellular world -- does the CRTC not allow that utility to earn a return on the capital being employed to promote that new technology?

A. That is correct, that would not be part of the rate base determination of the CRTC. But investments that they make in modernization of networks and digitization of networks, that is definitely fair game for inclusion in rate base.

Q. When you tell me that it is not fair game for inclusion in rate base, are you suggesting to me that cellular operations are not part of the regulated utility?

I asked you whether or not the CRTC is allowing these utilities to earn a return on the capital employed, and you are saying to me "no" ---

A. I am not sure I understand your question.

The CRTC does not regulate the

unregulated activities: real estate leasing and

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the like. That is not part of the rate base.

Q. Let's back up and be very general. We understand that real estate and leasing are not part of the regulated operations of these utilities?

A. That is correct.

Q. Therefore, those corporations, to the extent they take a bath on those sorts of endeavours, do so, and therefore you get a "Bruncor" kind of experience: poor results based, in part at least, on misadventures in the unregulated world. Fair?

A. I agree with that statement.

Q. To the extent that a telecommunications company is, as you say, engaging in new technologies, for instance -- start-up costs involved in new technologies -- is the capital employed to promote those new technologies not something upon which the utilities will earn a return?

A. Yes, it is.

Q. Thank you. If we can go back for a moment to RH-2-90, which was last time, you said then, Dr. Morin, that you were mindful of what the Board had said in the previous TQM

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Decision about the five-year recent experience being a fairly good expectation as to investors' future -- let me back up.

You said at that time you were mindful of what the Board told you about the relevance of the near term or five-year growth rates as a proxy for investors' future expectations.

Do you remember that?

A. Not exactly. But I definitely did not agree with the five-year historical horizon.

If you were to do that today, because of flat earnings and flat dividends, you would get estimates of equity costs which would be equal to the dividend yield, almost, which is not a very credible circumstance to me.

So that would not be applicable today.

Q. What you told the Board last time was that you disagreed with what the Board had told you about five-year growth rates in the previous Decision?

A. I disagreed then, and my disagreements are even more profound today.

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Q. Consequently, your growth rates have increased by five years. Correct?

A. Yes, that is correct -- because the results produced would be totally untenable.

Q. What you told the Board last time is that you thought ten years was more representative of growth expectations, which I think you have just told me.

A. Yes. A lot better than five, at that time.

Q. And that the growth rates of utilities over the previous five years were very anemic and very low?

A. I recall that language, yes.

Q. Essentially, what you are telling us today is the same thing.

Is that fair?

A. Yes. The anemia continues, so to speak. 15-year growth rates I think is a fair representation of longer-term prospects, particularly of the telecommunications industry.

Q. What about for the industrial industry?

A. I believe that would be correct, because it captures longer cycles.

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If you want to put a picture in your mind, picture the earnings of a company as the letter "S" resting on its side and you want to draw a line through the letter "S" to even out the cyclical highs and cyclical lows.

That is what is required, fundamentally, by the DCF model. It is the long-term normalized earnings growth potential of the Company; and I think going back 15 years does a better job of that.

Of course, if I had my way, I would much rather have analysts' long-term forecasts, which we do have in the United States. This is what I use in the U.S. In Canada we do not have that luxury, and so you have to rely on historical growth rates.

Q. Would it be fair, Dr. Morin, to say that the rationale that you are giving this Board today for the use of the 15-year growth rate is identical to the rationale you gave the Board in the last TQM case for using a ten-year growth rate?

A. Yes, I think that is a fair statement.

Q. In fact, having heard what this



Board had to say about the relevance of five and eight-year growth rates, last time you chose to keep your ten-year growth rates. Correct?

A. Correct.

Q. And this year you have given us an additional five years, and you are now up to 15 years.

A. Yes. But don't forget since the last rate case we have had a major recession/ restructuring experience, which has depressed earnings and dividend growth to companies in general. So it is even more relevant today to take a longer-term view. That is what the DCF model requires: a long-term growth rate.

Q. And you go back and you include five previous years, five years previous to the years that you used for your growth rates in the RH-2-90 Case?

A. Yes, but two years later, because the last rate case was two years ago.

Q. Dr. Morin, I would like to discuss with you a Table that was provided to you through your counsel two days ago. The first one I would like to discuss with you is the Table entitled "Comparison of Growth Rates for

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Dr. Morin's Samples".

Do you have that?

A. Yes.

MS. MORELAND: Perhaps this should be entered as the next exhibit.

THE CLERK: That will be Exhibit No. C-11-3.

--- EXHIBIT NO. C-11-3:
Two-page document entitled:
"Comparison of Growth Rates for
Dr. Morin's Samples".

MS. MORELAND:
Q. Dr. Morin, looking at page 1 of 2 of Exhibit C-11-3, I would like to go through what all of this is with you. The first page -- I will wait until the Board Members have it in front of them.

--- (A short pause/Courte pause)

Q. Looking at page 1 of 2 of Exhibit C-11-3, what we have here, Dr. Morin, are three sets of samples, the first being your low-risk industrial sample -- and this was your original sample, Dr. Morin, as unamended. All right?

A. Correct.

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Q. The second is your comparable energy utility sample, and the third is your comparable telephone utilities sample. Correct?

A. Correct.

Q. What we have at the top of page 1 of 1, is "Earnings Per Share"; and those earnings per share were provided in response to CAPP Information Request 10.3. That is the raw data that you provided in response to that request.

Is that correct?

A. Yes.

Q. What you see on the extreme right-hand side of the page is a heading "Log-Linear Growth Rates".

Do you see that?

A. Yes.

Q. And it is showing 1977 to 1991, which is the 15-year period that you utilized for growth rates. Correct?

A. Correct.

Q. Column (a) is shown as "Dr. Morin", with a series of growth rates shown under that column. Correct?

A. That is correct.

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Q. Those were the growth rates that one finds in your original Testimony, RAM-9, 10 and 11.

Is that right?

A. That is correct.

Q. Am I correct, Dr. Morin, that those growth rates are simply growth rates that you are reporting?

Are these FRI growth rates?

A. Yes, the column labelled (a) are growth rates extracted directly from FRI. Column (b) is what you computed.

Q. Column (b) is entitled "CAPP" -- it should be entitled "CAPP/APMC" -- being growth rates which have been computed from the raw data that we find in the body of this exhibit.

Correct?

A. Yes. I presume they were calculated using OLS.

Q. Yes. Dr. Morin, you have had

this exhibit since you arrived yesterday. Have you undertaken the exercise of recalculating these earnings per share your way since you have now undertaken that actual calculation yourself? Have you recalculated these earnings per share to come

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up with your own growth rates, as opposed to the reported FRI growth rates?

A. Yes. In the updated information that we discussed, you and I, half hour ago, I think this would reconcile the two sets of results to a very large extent. Where you see discrepancies that are significant -- for example, Gendis, or Labatt, or Oshawa Group -- a lot of these companies do not survive the screen, if you include current data.

I think we are a lot closer in our growth rates now with the new filter. Again, the problem stems from the column entitled "1991". When did I this in May 1992, a lot of the 1991 results, particularly for earnings, had not yet been reported for these companies, which explains a large part of the discrepancies between the two columns.

But I think the updated growth rates that I supplied to you in Exhibit B-25 will alleviate any concern in that regard.

For the Telephone utilities, which is shown on the lower panel, we are in total agreement, to within .001 agreement, on these growth rates. So that one is okay.

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The comparable energy growth rates, which is shown on the middle panel, I do not rely on those results in any event. So that is academic.

Q. Have you recalculated them, just out of interest, to see if they match, in respect of the comparable energy utilities?

A. No, I did not have time to do that. This is a pretty extensive statistical exercise to compute all of these log-linear growth rates for all these companies.

Subject to check, we will accept the validity of your computations, particularly if they were performed by Dr. Waters.

MS. MORELAND: I can assure you I did not perform them, Dr. Morin.

Mr. Chairman, I do not know when you wanted to take your break this morning.

THE CHAIRMAN: About this time.

MS. MORELAND: I am happy to break or to proceed at this point, as you wish.

THE CHAIRMAN: How long do you have remaining?

MS. MORELAND: I suspect, Mr. Chairman, that I have probably half an hour to

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45 minutes remaining.

THE CHAIRMAN: We will break now, then.

--- A Short Recess/Pause

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--- Upon resuming/A la reprise de l'audience

THE CHAIRMAN: Ms. Moreland, please.

MS. MORELAND: Thank you, Mr. Chairman.

CROSS-EXAMINATION BY MS. MORELAND (Continued):

Q. Dr. Morin, still at Exhibit C-11-3, and going over to page 2 of 2, can we confirm that that page is simply a comparison of the growth rates for your samples based on dividends per share as opposed to earnings per share.

Is that correct?

A. That is correct.

Q. And that has been calculated in the same fashion as we discussed in respect of page 1 of 2 for the earnings per share.

Correct?

A. Yes. Page 2 is the analogue of page 1, using dividends per share.

Q. Thank you. I would like to have you look at a second document, Dr. Morin, which you received a couple a days ago through your counsel.

That document, Dr. Morin, is entitled "Comparison of Growth Rates for Dr. Morin's

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Samples, 15-Year and Selected 10-Year Periods".

Do you see that? Do you have that in front of you?

A. Yes, I do.

MS. MORELAND: Before we discuss this, perhaps we can have it marked as an exhibit, please.

THE CLERK: That will be Exhibit No. C-11-4.

--- EXHIBIT NO. C-11-4:
Two-page APMC-produced document headed: "Comparison of Growth Rates for Dr. Morin's 15-Year and Selected 10-Year Periods".

MS. MORELAND:
Q. By way of explanation of Exhibit C-11-4, again we see your original samples for low-risk industrials, comparable energy utilities, and comparable telephone utilities.

Correct?

A. Yes.

Q. And if we go to the extreme right of the page, we see log-linear growth rates. Correct?

A. Yes.

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Q. And what has been repeated there, in the 1977 to 1991 columns is identical to what we have just been discussing in respect to Exhibit C-11-3. Right?

A. That is correct.

Q. So the only new information on C-11-4 are the three extreme right columns.

Correct?

A. That is correct.

Q. And what has been calculated there, Dr. Morin, are 10-year growth rates for three periods: 1980 to 1989. Correct?

A. Yes.

Q. 1981 to 1990. Correct?

A. Correct.

Q. And 1982 to 1991. Correct?

A. Correct.

Q. Will you agree with me, Dr. Morin, that had you undertaken a 10-year growth rate analysis, you would have undertaken a 1982 to 1991 analysis, 1991 being the most recent year?

A. Yes. If I had performed a 10-year analysis, I would have utilized the data shown in the last column, which is labelled



"1982-1991". And if you look at the average growth rate for low-risk industrials, you will see the number 6.01 per cent.

Q. As opposed to...?

A. As opposed to something between 9 and 10 per cent. If you were then to add this to the dividend yield of industrials, which is of the order of 3 per cent, you would get a cost of equity of 9, which is less than these companies' borrowing rates.

To me, that is a glowing testament as to why perhaps 10-year growth rates should not be relied upon.

That is why I did not do that, and that is why Dr. Waters does not do it either.

Q. I appreciate your explanation, but what I would like to do is just mechanically go through these various results.

You have indicated that had you used the 1982 to 1991 period, you would have had an average for your industrial sample of 6.01 versus what you originally calculated as 10.24?

A. That is correct.

Q. And if we look at your new sample, your update on Exhibit B-25 ---

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A. Yes.

Q. -- am I correct that the new average growth rate that you are showing is 8.93 for that sample?

A. Yes, you are quite correct.

Q. If one were to make a comparison between the 1982 to 1991 number of 6.01 with your new sample, your new sample's growth rate is still higher at 8.93. Correct?

A. That is correct. That is the proxy for long-term growth.

Q. And just going down to "Comparable Energy Utilities", the growth rate for 1982 to 1991 is minus 0.10 ---

A. Which again is excellent reason why you should not use 10-year growth rates.

Q. I appreciate the caveat that you have given me. I just want to get through these numbers, Dr. Morin.

-- versus 4.63, which is the growth rate you show using your 15-year period. Correct?

A. Yes.

Q. And you have not changed that sample at all?

A. No, Ma'am, I have not.

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Q. And finally, in the Comparable Telephone Utilities, we see a 10-year growth rate of .56 versus a 15-year growth rate of 4.18 for your original analysis.

Correct?

A. That is correct.

Q. And if you are to take into account the growth rate that you have shown us in your Update, B-25, will you agree with me that that number becomes 5.08.

This is on your new Exhibit RAM-10.

A. That is correct.

Q. If you can flip over to page 2 of 2 of Exhibit C-11-4, this is the same analysis done in respect to dividends per share growth rates. Correct?

A. Yes. Page 2 is the analogue of page 1, using dividends.

Q. If we can go through the same averages, what would have been the growth rate, if you had used 1982 to 1991, is 8.70. Correct?

A. That would have been the case, yes.

Q. On your old example, you arrived at a growth rate of 9.91. Correct?



A. Correct.

Q. And under the new exhibit RAM-11, you have a 9.39 growth rate. Correct?

A. That is correct.

Q. When you go to the Comparable Energy Utilities sample, a 10-year period would have given you a 6.08 growth rate. Correct?

A. That is correct.

Q. The sample is unchanged, and so the 15-year growth rate that you have shown us is 9.53. Correct?

A. Correct.

Q. And finally, on the Comparable Telephone Utilities, a 10-year growth rate period would have given you 3.74. Correct?

A. That is correct.

Q. Versus 6.02, originally. Correct?

A. That is correct.

Q. And 5.85, according to your new Schedule RAM-10?

A. That is correct. Now you can certainly appreciate why I did not use 10-year growth rates.

Q. Dr. Morin, what period for

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growth do you use in your U.S. testimony? Do you use a 15-year growth rate?

A. No. In the case of all of my telephone company testimony, I use five-year, for the simple reason that these companies emerged following the divestiture of AT&T.

When I use historical data, I tend to go back to 1984, because that is when these companies began operation.

More typically in the U.S., I put a lot more weight on analysts' forecasts of long-term growth.

I am not talking about earnings per share forecast for next year; I am talking about long-term growth forecasts, because they are available from many analysts.

When I use historical growth rates, for the reasons that I have just given, it is typically five years for telephone utilities.

Q. What about for non-telephone utilities where you do not have a date for the spinoff?

A. When I use historical growth rates, it is 5 and 10.

Q. I would like to move to a

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discussion of another component of your DCF model, and that is the quarterly model concept.

THE WITNESS: I thought you would never ask.

MS. MORELAND: Maybe I ought not to.

Q. You employ a quarterly version of the DCF model. Correct?

A. Yes.

Q. Why do you do that?

A. Because in the real world, dividends are paid quarterly. I do not see the point of using an annual DCF model, when dividends are in fact paid quarterly.

Q. So you say that a quarterly model recognizes the concept of quarterly dividends.

Is that fair?

A. That is correct. To put it in layman's terms, when you look at the Globe and Mail or you look at the stock prices quoted on the Toronto Stock Exchange, these stock prices correspond to a stream of quarterly dividends to the investor.

So, how can I take a price based on a quarterly dividend stream and insert that price



into an annual DCF model which assumes dividends are paid annually?

There is an inconsistency there.

The version of DCF that I use recognizes the fact that dividends are indeed paid quarterly, by most companies.

Q. Is the effect of using the quarterly model versus an annual model an upward adjustment to your DCF estimates?

A. It turns out that the annual DCF understates the true return by approximately 20 to 30 basis points.

It depends on the magnitude of the dividend yield component. The larger the dividend yield component of return, the larger will be the adjustment. And, of course, conversely.

Q. So the answer is "yes", it results in an upward adjustment -- and what you are telling me is 25 to 30 basis points, but that is dependant on the size of the dividend yield?

A. I would like to characterize it in reverse: the annual model results in an understatement.

Q. Fair enough. I think the concept is on the record.

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Does the quarterly model take any account of the fact that the return, for instance, for TQM is based on an average annual rate base?

A. No, it does not. The investor is looking at a stream of cashflows, which, for him or her, is dividends that are paid quarterly. That is the only basis that the investor has to make a judgment on the price.

Q. Would you use a quarterly model, Dr. Morin, and make this adjustment that you make, even if TQM was operated on the basis of an historic Test Year? Would that make a difference?

A. Yes, I would. But then that raises the whole spectre of "regulatory risk". I would think that a utility ---

(Referring to music being played in adjoining meeting room): The sound of music always complements the discussion of the quarterly timing model. It is so entertaining a topic that we have background music. I am glad it is not the funeral march of Haydn.

--- (Laughter/Rires)

To go back to your question: If a jurisdiction -- like Manitoba, for example -- was using a historical Test Year, I would account for

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that through the risk increment, the "regulatory risk" discussion. But of course the historical Test Year is an even more convincing reason for using the quarterly DCF model.

Q. So if I understand your answer, you are telling me that you would use a quarterly DCF model, regardless of whether or not the utility was regulated on an historic basis or, for that matter, on an average annual rate base?

A. Yes. All of that is reflected through the earning power of the utility, and therefore its dividend power, which are the flows received by the investor in any event. So all of that is reflected in the earning potential and the dividend-paying potential of the utility, which is what stock prices are based on. So it all works out.

Q. Dr. Morin, I would like to read for you an excerpt that I am sure you are familiar with. This is an excerpt from the CRTC's AGT Decision 92-9. This is in respect to the quarterly DCF model.

Before we start, you appeared in that case, did you not, Dr. Morin?

A. Yes.

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Q. And you appeared on behalf of whom?

A. AGT.

Q. And you were recommending a quarterly DCF model in that case, or utilizing one?

A. I have always utilized a quarterly model.

Q. The CRTC had this to say about the quarterly model, at page 70 of that Decision:

> "The Commission has stated in previous Decisions that the use of a quarterly compounding model with the rate base used by the Commission..."

Parenthetically, what is that rate base, Dr. Morin?

A. Forward test year.

Q. "...would result in a significant overstatement of the investors' required growth rate. As demonstrated in CRTC Exhibit 9 and AGT Exhibit 83, the use of a quarterly DCF model and an average annual rate base will overstate the cost of common equity for the Company.

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> The Commission considers the use of the quarterly DCF model with an average annual rate base inappropriate. The Commission notes that this issue has

been addressed on numerous occasions in past proceedings. In future, the Commission will expect expert witnesses using a quarterly DCF model to make an appropriate adjustment to their results to reflect the use of an average annual rate base."

Are you familiar with that excerpt, Dr. Morin?

A. Yes. And in the following case before the CRTC, which was Newfoundland Telephone, a lot of the material in the testimony attempted to provide the necessary foundation for the rate base/rate of return match-up, so to speak. And we made some progress in that particular proceeding.

If I recall, to paraphrase the Commission's Order in that case, they said something like: Well, we have made some theoretical conceptual progress here. We think it is theoretically correct to use a quarterly model, but we are still not quite convinced about the



rate base construct being matched with the rate of return.

I plan to put the final nail in the coffin in the next CRTC rate case and try to provide even more information to convinve them that dividends are paid quarterly and that you have to take that into account.

Q. Let's go to the Newfoundland Telephone case.

First of all, when did you give evidence in that case, Dr. Morin? Do you remember?

A. I think it was January 1992 or early February. I do not recall.

Q. Were you cross-examined in June of 1992?

A. Did you ask me when I prepared the Evidence, or when I testified?

Q. When did you testify?

A. I think it was mid-summer, or early summer.

Q. Would you agree with me, subject

to your checking, that you were cross-examined on
this issue on June 19th of 1992?

A. Yes, I remember that.

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Q. And do you remember, in the
context of that proceeding you were read, by
Commission Counsel, the same quote from the AGT
Decision that I just read you.

Is that correct?

A. Yes. That quote follows me
everywhere.

Q. This is no exception. You were
asked in that case:

"In light of the Commission's statement
in this Decision," -- (that being AGT)
-- "why have you not adjusted your DCF
results for this hearing to take into
account that position of the
Commission? I realize, when you
originally filed your evidence it
predated it, but the Decision predated
your Update. So it is in light of that
Update I am also asking the question."

Do you recall what your response
was, Dr. Morin?

A. Not quite -- but I can imagine
what it was.

Q. I will read to you an excerpt of
that, which is found at page 861 of the transcript

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of June 19th, where you stated:

"Obviously, when I prepared this I did
not have the hindsight of the AGT
Decision. If I have the opportunity of
appearing before this Board in the
future, I will definitely heed to this
advice and provide you with a more
formidable rationale as to why the rate
base construct employed by the
Commission should be matched with the
rate of return construct that is
matched with it to be consistent."

Does that accurately sum up what you
told the CRTC about the use of the quarterly DCF
model?

A. Yes, it does.

Q. Do you remember what the CRTC said about that in its Reasons for Decision in the NewTel case?

A. No, I do not.

Q. At the risk of being labourious, I will refresh your memory. At page 53 of that Decision -- and that is CRTC Decision 92-15 -- the Commission says, the bottom column:

"The Commission recognizes that most of

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the evidence in this proceeding was prepared prior to the issuing of Decision 92-9..."

Which is AGT. Correct?

A. Yes.

Q. It goes on to state:

"...However, the Commission wishes to reiterate that it considers the use of the quarterly DCF model with an average annual rate base to be inappropriate and that expert witnesses using this approach in future proceedings will be expected to make an appropriate adjustment to their results to reflect the use of an average annual rate base."

Do you recall that, Dr. Morin?

A. Yes.

Q. So when you say you are going to "put the nail in the coffin" the next time around at the CRTC, are you suggesting that the language of this Decision is telling you that the CRTC is being persuaded that a quarterly DCF model is acceptable to it?

A. It will be in the next case,

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because I will show them that in a forward rate base, or a forward rate base construct that they employ, as in the case of this Board, they assume accumulation of earnings at a different rate -- namely, at the annual rate -- than the quarterly timing model would suggest.

So, there is a mismatch between the rate of return, which is a quarterly phenomenon, versus the rate base construct, which assumes accumulation of earnings or buildup of equity at an annual rate. There is a total mismatch there.

I plan to show them, in a simple numerical example, how to reconcile that mismatch.

Q. Do you see any inconsistency with your position -- that is, that you will persuade the CRTC of your way of seeing things ---

A. I will try.

Q. But do you see an inconsistency, Dr. Morin, in suggesting that the CRTC is prepared to be persuaded on the quarterly model, in light of the fact that it has said that it "expects expert witnesses to make an appropriate adjustment to their results to reflect the use of an average annual rate base"?

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If there are two moving parts to this, the average annual rate base and the quarterly DCF model, are they not saying to you that you are expected to make the adjustment to your DCF model?

A. Yes. I will do that next time, if that is their wish. But my job here, and in those cases, is to figure out investor return requirements. And this is what I have done.

Q. Dr. Morin, TQM utilizes an average annual rate base. Does it not?

A. Yes, it does.

Q. Are you aware, Dr. Morin, of any other expert financial witnesses who appear before this Board and who use the quarterly compounding model that you use?

A. I am not aware of any before this Board, but I am aware of a multitude of witnesses that use quarterly timing in the United States.

Q. Are you aware of any who use it in Canada?

A. No. There are not too many of us around. I am sure Dr. Sherwin does not use it, for example. I know Dr. Waters does not use it,

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either.

Q. Dr. Waters discusses this concept, does he not, Dr. Morin, in Appendix VIII to his Evidence?

A. Yes, he does.

Q. Moving, briefly, to what is almost the last topic: Dr. Morin, you employ a flotation allowance, do you not, in your analysis?

A. Yes. I always have.

Q. And what is that? What is the magnitude of that?

A. Again, it depends on the magnitude of the dividend yield component of the DCF model. As a rough order of magnitude, it is 30 basis points.

Q. Would you agree with me, Dr. Morin, that the entirety of what this Board, or any regulator, allows as a return on equity to a regulated utility is earnable by that utility; that the utility has the opportunity to earn all of it?

A. Yes, I agree with that.

Q. So the 30 basis point adjustment that you make for flotation allowance is, consequently, part of the return on equity; it is

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a component of that number and is earnable by TQM.

Is that fair?

A. Yes. It is compensation for the costs incurred in the floating of securities and procuring the funds used by TQM. It is like the closing costs on a home mortgage.

Q. When you say it is compensation for costs that are incurred, you mean costs that might be incurred. Right?

A. No. I mean both costs that were incurred in the past and costs that will be incurred in the future.

This Board, and most Boards in North America, as a routine matter, compensate utilities for flotation costs associated with past -- past -- bond issues. It becomes part of the computation of the cost of debt.

In the same way for common stock, we have to deal with a flotation cost associated with past issues of equity or the buildup of the equity on the balance sheet.

So there is a perfect analogy between bonds and stocks here.

Q. Thank you, Dr. Morin.

Finally, I would like to follow up on



a discussion that you were having with Mr. Yates this morning on the Empirical CAPM estimate.

I would like you to look at page 35 of your Evidence, if you could, please, and as well have in front of you the revised Exhibit RAM-3, page 2 of 2, and that is in Exhibit B-25.

A. Can you give me the exhibit number one more time, please.

Q. Your revised Exhibit B-25, and I am looking at RAM-3, page 2 of 2, which is about four pages in.

A. I have that.

Q. Mr. Yates was asking you about the equation that we find on line 20 of page 35, and you confirmed that the definition of "beta" in that equation was the adjusted beta.

Correct?

A. Yes.

Q. If I understand the beta adjustment process that is undertaken by ValueLine, and which you use ---
That is correct? You use the ValueLine adjustment?

A. Yes, ma'am. And the Merrill Lynch. It is the same thing.

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Q. The ValueLine adjustment results in adjusted beta values which are always higher than the raw beta values when the raw beta values are less than 1.0.

Is that correct?

A. That is correct.

Q. And we can see that if we look at Exhibit RAM-3, all of your adjusted betas are higher than the raw betas. Right?

A. That is correct, for utilities -- or, excuse me, for low beta utilities.

Q. For all of the companies in this sample. Is that correct?

A. Yes.

Q. And in fact in all samples. Is that correct?

A. Yes, it is correct.

Q. So what you have here is all of your adjusted beta values being higher than the raw beta values. Right?

A. Yes, that is correct.

Q. So, Dr. Morin, all other things being equal, your use of adjusted betas, rather than the raw betas, results in higher estimates of the cost of capital.

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Is that right?

A. Yes. If you use a higher beta figure, you are going to have a higher cost of equity.

Q. If we can go back to your equation at page 35 of your Evidence, am I correct in stating that the weighting that we see of .25 in the second term there ---

Do you see that?

A. Yes.

Q. -- and a weighting of .75, which we see in the third term, results in a higher cost of capital estimate than if a weighting of 1.0 were given to the third term?

A. That is exactly correct.

Q. So, if the number .75 were changed to 1.0, .25 would become zero?

A. That is correct. And this would collapse to the ordinary CAPM.

Q. So is it fair for me to say, Dr. Morin, that the two weighting schemes that you have used -- that is, the adjustment from the raw beta to the adjusted beta that we see on RAM-3, as well as the weighting of this equation that we see at page 35 -- result in higher cost of capital



investments?

A. For companies with betas less than 1.0, you are right.

MS. MORELAND: Thank you.

Thank you very much, Mr. Chairman.

Thank you, Dr. Morin.

THE CHAIRMAN: Thank you, Ms. Moreland.

Madame Champagne...?

Me CHAMPAGNE: Merci, monsieur le President.

Bonjour, monsieur Morin. J'ai quelques questions pour vous ce matin.

Comme la preuve a ete soumise en anglais, les questions que j'ai pour vous sont en anglais aussi.

LE TEMOIN: C'est a votre choix.

MS. CHAMPAGNE: Thank you.

EXAMINATION BY MS. CHAMPAGNE:

Q. With respect to long-term Canada Bond yields, Dr. Morin, what is the term to maturity that you use for the long-term Canada bonds of 8.75 per cent which you referred to yesterday?

A. Because common stocks have a

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maturity which is infinite, I have used the longest-term Canada Bond possible; namely, 30 years.

Q. Touching on the more general topic of the economic outlook, Dr. Morin, in your Direct Testimony, at page 8, you state, and I quote:

> "In 1990, I recommended a rate of return range of 14.25% to 14.50% for both 1991 and 1992. In the current environment, I am recommending a substantially lower range of 13.25% to 13.50% for both 1993 and 1994, principally because of the significant decrease in long-term interest rates since my previous testimony."

As I understand it, you have now revised your recommendation to 13.0 to 13.25 per cent.

My question, Dr. Morin, is: In your opinion, has the recession of the past several years had any long-term impact on the economy, particularly with respect to the rate of inflation, and more generally with respect to investor expectations?

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A. Yes, it has. The hyper-inflation that we witnessed in the 1970s and early 1980s is behind us. Current inflation numbers are very, very low: of the order of 1.5 per cent for 1992, a little bit higher predicted for 1993 because of the recovery.

Investors, on the other hand, seem to have a long-term expectation of inflation which is of the order of 4 per cent.

The reason I say that is that in Canada we have the luxury of having a government indexed long-term bond, which is indexed to inflation, and that particular bond is yielding currently, something of the order of 4.75 per cent, whereas nominal long-term bonds, that are not adjusted for inflation, are yielding something of the order of 8.75.

The difference between those two numbers is approximately 4 per cent, which suggests to me that investors expect long-term inflation to be in the vicinity of 4 per cent.

But the answer to your question is: yes, there is a profound influence of the recession -- not so much the recession, but the restructuring of the North American economy, in



terms of investor expectations. But we should not be pessimistic and think that because we have had a decimating recession in the last two years, we should be very pessimistic about the future. Let's not forget that there are some very exciting developments that are occurring in the United States, in terms of cost competitiveness, and this will spill over to Canada. Canada will be poised for the recovery, for the global competition, for the new world.

Investor expectations are not morose. They are not dismally low, or anything like that.

I am not sure that I am answering your question. Is that okay?

Q. Yes, thank you.

The next question on that topic is: Does the 125 basis point reduction in your recommended return on equity for TQM fully reflect the changes which have occurred in the economy over the past few years?

A. Yes. Two years ago I was recommending 14 1/4 to 14 1/2. I am now at 13 per cent to 13 1/4, which is 225 basis points lower than two years ago, which is a very substantial



decrease, and it is because of the decrease in interest rates and, in turn, because of the decrease in inflation.

Q. Thank you.

Let me move on to general business risk.

Dr. Morin, referring to Exhibit B-18 and your Response to NEB IR No. 2, Question No. 45 ---

A. I have it.

Q. -- and more specifically the Appendix A that was filed along with that Response, at page 2 of the CBRS credit analysis ---

A. Yes, I have it.

Q. In the first paragraph under the section entitled "Rating Comment" it is stated:

"Gas deliveries are estimated to increase approximately 15%...in 1991, and to continually increase to...116.5 Bcf by 1995."

In addition to that, I direct you to the first page, in the same Appendix, of the DBRS bond rating analysis ---

A. Yes, I have it.

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Q. -- to the section entitled "Gas Deliveries", where it is stated, and I quote:

"While the volume of gas deliveries has no effect on TQM's earnings, the overall gas delivery trend is important to the long-term viability of the pipeline. In 1991, the volume of gas deliveries increased 10.3%, partly due to the addition of new delivery points in the prior year. In 1992, we expect gas delivery volumes to be slightly higher than 1991's levels."

My question, Dr. Morin, is: Would you concur with the statement that "the overall gas delivery trend is important to the long-term viability of the pipeline"?

A. Yes, I agree with that assessment. The utilization of the pipeline is a very important element.

Q. Based on those two statements from the bond rating agencies, from their overall rating summaries, do you have any sense that these agencies perceive a strong risk of the demand for TQM's services shrinking dramatically?

A. No. I concur with the bond

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rating agencies' assessment of business risk, that the demand component of business risk is certainly not very high. That is a definite plus for TQM.

Q. Thank you. In your Direct

Testimony, Dr. Morin, at page 18, you seem to suggest that TQM is facing a somewhat uncertain future.

A. Yes. In the longer term I am very concerned, having terminated a rate case for Gaz Metropolitain and being somewhat familiar with what has happened with some of their very, very large clients -- Sidbec, and some of the very large pulp and paper companies, and petrochemical companies. They are in dire straits. They have experienced severe difficulties. Some are bankrupt; some are closing plants. In fact, GMi is carrying some of those accounts, in terms of bad debt.

I am a little concerned about that in the longer term, to the extent that this is a restructuring of the Quebec economy, as to what will be the impact, in the long term, on TQM's utilization of its pipeline.

In the short run, I would agree with your premise that we should not be concerned with



demand risks. But I am expressing some concern with the longer-term picture.

Q. Thank you. Dr. Morin, do you have a copy of the 1991 TQM Annual Report? Do you happen to have a copy of it?

A. I will get one very quickly.

MS. CHAMPAGNE: If not, I have a copy here.

MR. LECLERC: Did I hear 1981 or 1991?

MS. CHAMPAGNE: 1991. If you wish, I can give you my copy.

THE WITNESS: Okay.

--- (Document handed to witness/Document remis au temoin)

THE WITNESS: I have your yellow stickers and your highlights. I wish all the lawyers would be that cooperative. Thank you.

Q. At page 8 of this Report, it is stated that TQM's pipeline deliveries increased by 10.3 per cent over the previous year, that deliveries to Boisbriand increased by 8.9 per cent, that deliveries to expansion markets outside

Montreal saw a 12 per cent increase over 1990, and
that there is an even greater market for natural

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gas when cogeneration is developed in Quebec.

My question is: Would you agree that
the Company management foresees a positive outlook
for the Company?

A. Yes. As I said earlier, demand
risk for TQM is not very high. And I would share
Management's optimism in that regard for the
future of the gas market for the next few years.

Q. You seem to be depicting a
somewhat uncertain future, whereas the Company
Management foresees a positive outlook.

How would you reconcile both views?

A. Management have a tendency to be
optimistic in Annual Reports. I have never seen a
Management team admit to failure or abysmal
prospects of their companies. This, of course, is
not to suggest that it is.

I am merely concerned about demand
risk over the longer term. I agree with that
assessment for the next two years. I am just
pointing out the fact that if utilization rates
begin to decrease because of the restructuring
going on in Quebec, because of the situations of
some of these very large industrial customers,
which makes TQM a little bit vulnerable, this

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raises the whole issue of whether ratemaking
methodology will in fact be retained.

But this is not a shorter-term
concern for next year. I am more worried about
that for the longer term.

Q. Thank you, Dr. Morin.

Moving along to the financial risk
aspect: In Exhibit B-18, your Response to NEB IR
No. 2, Question 44, paragraph (D) ---

A. Yes, I have it.

Q. -- you state, and I quote:

"TQM's rates are set on budgeted costs
two years prior to actual realization
of those costs. The larger the

interest rate burden, the larger the magnification of an unanticipated deviation from forecast on TQM's profitability. There is no guarantee of payment of interest to creditors."

Dr. Morin, given that changes to the economic climate cannot be predicted with certainty, would you agree that interest rates could be higher or lower than expected?

A. I would agree with that assessment. That comment was more applicable to



longer-term rates. TQM is going to refinance in 1994 at an unknown rate.

For short-term lines of credit purposes, the deferral accounts palliate some of the risks that I was discussing in here. Nevertheless, we do not know at what interest rate they will refinance two years from now. There is some forecasting risk or cost uncertainty, and a very, very small error can be magnified or translate into a very large error on the bottomline because TQM has such a small equity ratio.

That is the point that I am raising here.

Q. Thank you, Dr. Morin.

In the short run -- that is, in the next two years -- is there a real risk that TQM will be unable to make its interest payments?

A. No, I do not believe that that is the case.

Q. I refer you now to your Direct Testimony in respect of your application of the CAPM test. I am not referring to anything specifically; just more in a general context.

You have used a market risk premium



of 6 to 7 per cent. These values for the historical risk premium were calculated using the Hatch & White and the Canadian Institute of Actuaries studies. You have used a long-term

Canada rate of 9 per cent -- which, as of yesterday, has been revised to 8.75 per cent.

In arriving at your final value, you implicitly assumed that the return on the market was in the range of 14.75 per cent, being revised figures, to 15.75 per cent.

Do you agree with this?

A. Yes, I do. If the market risk premium is in a range of 6 to 7 per cent, and if you add to that the long-term Canada Bond yield, you will get the expected rate of return for an average risk investment in the stock market, not for a utility. Yes, I agree with that.

Q. Thank you. If we were to take the historical return on the equity range of 11.26 per cent to 12.54 per cent, taken from the Hatch & White study and the Canadian Institute of Actuaries study, respectively, and then using the long-term Canada rate of 8.75 per cent, we would arrive at a range of 2.01 per cent to 3.29 per cent for the market risk premium.

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TQM Panel No. 2
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Do you agree with this calculation, Dr. Morin?

A. Yes, I agree with the calculation. But that is not the historical risk premium.

The Hatch & White Study shows the risk premium, and I believe I quoted that in my Testimony.

On page 31, lines 11, 12, 13 and 14, I show that in the Hatch & White Study stocks outperformed bonds by 7.86 per cent.

In the Canadian Actuarial study, on line 16, stocks outperformed bonds by 5.93, or close to 6 per cent.

This was part of my basis for assuming a 6 to 7 per cent risk premium, from those studies.

Q. Thank you. Dr. Morin, you have used the Capital Asset Pricing Model to determine a return on equity for TQM. In the equation for the model appearing at line 6 -- now I am directing you specifically to an item within your Direct Testimony: Page 29 of your Direct

Testimony, appearing at line 6.

A. I have it.

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Q. Three variables are used in the equation on the right-hand side. These variables are the risk-free rate, the beta, and the market risk premium.

Is this correct?

A. That is exactly right.

Q. On the first page of your revised RAM-3 table ---

A. I have it.

Q. -- you show the range of betas for 12 utilities?

A. Yes.

Q. Is this the source of your adjusted beta of 0.55 for TQM?

A. That is exactly correct. I have used the average beta of Canadian utilities as a proxy for TQM's beta, which I state is conservative because TQM has a lot more financial risk than all these utilities. But this is the basis for the 0.55, that is correct.

That means, in layman's terms, that TQM is about half as risky as the market.

Q. The range of adjusted betas for the 12 utilities appearing in your revised RAM-3 table goes from 0.39 to 0.67.

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Is that correct?

A. Yes, it is.

Q. Given that TQM is not a publicly-traded company, would you agree that it cannot be said, with certainty, that its beta should be the average for the group of 12 utilities appearing on the first page of the revised RAM-3?

A. It can be said, with a relative amount of confidence, that TQM's beta is at least as large as the average.

In the Testimony -- and I am not going to get into all the technical details. If you look at the whole section starting on page 37 and page 38, what I do is I say: Well, TQM has much more financial risk than any of the other utilities. And I made an adjustment for that.

And it comes out that if TQM was a publicly-traded stock, because of its very, very thin equity base of 25 per cent, it would presumably have a higher beta.

So I was very, very conservative in assuming the .55.

Another way of putting it: If I take that .55 and I purge or remove the effect of



financial risk, I get a pure business risk beta of about .2.

Then if I reintroduce TQM's financial risk -- which is very high -- the implied beta would be in the order of .75 or .8. But for conservatism, I used .55.

Q. Thank you.

Dr. Morin, you have not revised Exhibit RAM-14 of your Direct Testimony. If we look at your original version, it shows the actual betas and equity ratios for 13 Canadian utilities.

Is that correct?

A. Yes, it does.

Q. If we focus on the four utilities appearing on this list having an equity ratio of less than 30 per cent -- namely, BCE Enterprises, Canadian Utilities, Union Energy, and Westcoast Energy -- we note that for two of these companies the total risk levered beta is above the average of 0.55, and for the other two the total risk levered beta is below the average of 0.55.

Is that correct?

A. Yes. I will take it "subject to check".

Q. As a result of this, is it

(Champagne)

consequently possible to identify any relationship between the equity ratio and a firm's beta?

A. Probably not with a sample of four. I think that is simply too thin to make any kind of general statement about betas and equity ratio.

Q. Thank you.

In the context of ECAPM, Dr. Morin, in your Direct Testimony on page 35 -- and I think you people sort of skirted around this. We had a more specific question.

You have given an alternative model to the CAPM model -- namely, the ECAPM -- and the latter model relaxes some of the restrictive assumptions of the CAPM model.

In your ECAPM model, how did you arrive at the constant values of 0.25 and 0.75, and what do these constant values represent?

A. On page 35 of the Testimony, line 20, your question is why the weights of .25 and .75?

MS. CHAMPAGNE: Yes.

THE WITNESS: The answer is that we let the markets speak for themselves. We simply looked at the past relationship within risk and

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return and plotted it on a graph and fitted the line. Then this particular equation was almost a perfect approximation to the observed relationship between risk and return.

So this provides a quick and dirty approximation, which saves you from having to estimate returns on all kinds of stocks and their risks. This is a very, very, very good approximation of the observed risk return exchange on capital markets.

Q. Thank you. Now ---

A. Can I go back to your earlier question about equity betas and exhibit RAM-14. I want to make sure that I understood it properly.

If we look at BCE, Canadian Utilities, Union Energy, and Westcoast Energy, which have low equity ratios, and you look at their betas, which are .64, .52, .51 and .69, I have an average which is roughly .6, which is higher than the .55.

So it would seem to suggest that utilities with lower equity ratios -- more financial risk -- have higher betas, which makes intuitive sense.

Q. That is fine. Thank you,

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Dr. Morin.

Dealing with risk premiums now: Dr. Morin, you have used U.S. gas utilities to perform a risk premium analysis, as it was discussed in your Direct Testimony at pages 25 to 28, as well as shown in Exhibit RAM-6 of your Direct Testimony.

A. That is correct.

Q. On page 26 of that Testimony, you state that the U.S. gas utilities are a comparable risk to TQM.

Have you applied the four risk measures you used for your Comparable Earnings Test to the Moody's Gas Utilities Index to see if they are genuinely of comparable risk?

A. The only two checks that I have performed are the beta risk measure -- and the average beta for Moody's Gas Utilities Index is approximately .60. I have used .55 for TQM. And two minutes ago we argued that this was conservative. So they are in the same ballpark.

And number 2, the average bond rating for the typical gas utility in the United States is Single-A. TQM is B-Plus-Plus, which would correspondence to Triple-B in the United States.

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So, if anything, one can argue that Moody's, at best, is about the same risk as TQM, and possibly less risky -- again, because of the tremendously low equity ratio of TQM.

Q. Can you say with certainty that the companies in Moody's Gas Utilities Index are a comparable risk to TQM?

A. In my field, you can never say

anything with certainty. You can say things with high probabilities.

I think it is highly probable that TQM and Moody's gas utilities risk profiles are comparable.

Q. Dr. Morin, what is the current relationship between interest rates and risk premiums? Is it a positive or a negative, and has it ever changed?

A. The question is: What is the relationship between the magnitude of the risk premium and interest rates?

Conventional wisdom is that the relationship is negative, and the folklore behind that is when interest rates are going up and up and up, bondholders become very concerned with interest rate risk, with capital loss, and

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increase their rate of return faster than stock holders increase their return requirements. So the risk premium between the two shrinks.

Conversely, when interest rates descend, bond holders are not concerned with interest rate risk, with capital loss, because interest rates are coming down, and therefore the risk premium widens between bonds and stocks.

That is the conventional wisdom -- which makes intuitive sense.

If you look at it empirically, with the Hatch & White studies or any of the other historical studies, it is very, very difficult to observe that relationship.

I tend to subscribe to the view that the risk premium is essentially, to use a phrase from my field, "a random walk", meaning it is a stochastic process -- meaning the best estimate of that risk premium is the mean. It's sort of like playing dice or tossing a coin: you expect 50 per cent heads/50 per cent tails. On average, if you toss the risk premium dice, so to speak, you will get an average risk premium of between 6 or 7 per cent.

That is the best that I can do on

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that one.

Q. Thank you.

Then, you don't think, Dr. Morin, that risk premiums have cycles?

A. I think they do, but I have a hard time locating them empirically. I think there is a cyclical behaviour of risk premiums. In recession, they expand; and in very booming expanding economies, they shrink. But empirically, it is very hard to demonstrate that.

Q. Is it more appropriate to match current interest rates with current risk premiums, rather than with risk premiums over a very long period of time?

A. I think it is more appropriate to utilize risk premiums over very long time periods, because they exhibit no trend; they exhibit no what we call "serial correlation" in finance, which means time dependent behaviour.

So the best estimate, according to a lot of experts and academics, is to use the mean, the average, over long time periods.

One more comment: If you begin to try to use risk premiums over sub-periods, like recession periods and expansion periods, you have

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no assurance whatsoever that these realized returns were what investors expected at the time. It is only over long, long time periods that expectations of investors and realizations converge, or else they would never invest any money.

Over shorter periods, it could very well be that investor expectations were not realized.

So that is a second reason for going back over long, long time periods if you are going to do a Risk Premium Study.

Q. Thank you, Dr. Morin.

You have used, Dr. Morin, the years

1980 to 1991 inclusive for your Risk Premium analysis, as calculated in Exhibit RAM-5 of your Direct Testimony.

Could you explain, or elaborate, why you chose this time period for your Canadian Telephone Utility Risk Premium Analysis?

A. A good question. After having just said that one should utilize long, long, long time periods to assess risk premiums, going back to Adam and Eve if we could, you are asking me: "Well, why is it that in RAM-5 I am only going

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back to 1980?"

There are two reasons for that: Number 1, this whole analysis of RAM-5 is not a study of realized risk premiums; it is a study of prospective expectational risk premiums, using the DCF model. It does not go back and examine realized rates of returns. It looks at what investors did in fact expect going back to the future every year to 1980.

That is the first answer. The second question is: "Why did I start the clock in 1980?"

The answer to that question is that, in 1980, I need a 10-year growth rate, going back to 1970.

If you look at the middle panel there labelled "Historical Growth Rates", these are 10-year historical growth rates.

In 1980, therefore, I have to go back to 1970. And there is no data before that. So the second answer to your question is: Limitations of available data.

But the first answer I gave you is by far the most important one: these are prospective rates of return, and there is no need to go back

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to 1920.

Q. Thank you.

Dr. Morin, would you agree that the risk premium has decreased substantially over the time period in question relating to your study of Canadian telephone utilities?

A. Yes, it has. I think that is because the DCF estimates were downward-biased in 1991 and 1990 by the use of 10-year historical growth rates.

I am not sure if the reason for that is because the risk premium has shrunk, or because the DCF provides downward-biased answers of equity costs in 1991, 1990.

I think the latter scenario is more plausible.

So I have used the average over the whole period, which is about 3.2 per cent.

Q. Thank you.

Subject to verification, Dr. Morin, would you agree that Exhibit RAM-5 of your Direct Testimony demonstrates that for the period 1986 to 1991 the risk premium for the telephone utilities included in your sample has been, on average, 2.08 per cent, while for the years 1982-1985, it was



4.28 per cent?

A. I agree with that.

Q. In your Direct Testimony, Dr. Morin, at page 24, you calculate a risk premium for Canadian telephone utilities using the historical spread between a utility's share price and A-rated utilities bonds.

Dr. Waters suggests, in his Direct Evidence, that this would not be an appropriate way to calculate the risk premium.

Dr. Morin, my question is: Could you please comment on this apparent difference of opinion between yourself and Dr. Waters on the most appropriate method whereby the risk premium for TQM should be calculated?

A. I hate to do this to you. Can you read me just the first two sentences of your question, about what Dr. Waters does.

Q. Dr. Waters suggests, in his Direct Evidence, that this would not be an appropriate way to calculate the risk premium -- the way you proceed. I would ask you to elaborate on what is the most appropriate method to do this.

A. Obviously, I think this is

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appropriate, or else I would not have inserted it into the testimony.

I think -- and I am speculating here -- what maybe Dr. Waters is concerned with is the choice of period. He may be arguing that this period is perhaps not representative of the current situation, or some argument to that effect.

When you are dealing with historical returns, realized returns, on stocks and bonds, I think you should go back, as we discussed earlier, to very, very long time periods, to ensure that expectations match realizations. But when you are doing a study using expectational or prospective risk premiums, it is okay to look at a shorter period, because you are already dealing with expectations. So you do not have the problem of ensuring that expectations match realizations.

So I believe it is correct to take 1980 to 1981, because data was not available before that, to do a "prospective analysis" of the risk premium.

I really do not know what the objection is to that. Maybe you can help me out on that.

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(Champagne)

Q. I should perhaps read a little more of this, to assist you.

Dr. Waters' reasoning is that the return on equity for individual companies, in narrowly defined industry groups, can deviate, often for long periods of time, from the values which would be consistent with their perceived risks.

A. That helps me a lot. I do agree with Dr. Waters that if you are using realized rates of return for specific companies and industries, you are incurring a risk that these returns were not what investors expected.

But in this particular study -- I reemphasize the point -- I am already dealing with investor expectations, because I am using the DCF model to estimate the cost of equity. That is a prospective/expected return computation.

So I am not vulnerable to the criticism that historical returns do not match expectations. I am already dealing with expectations with that method.

Q. Thank you.

Dr. Morin, using the Hatch & White and the Canadian Institute of Actuaries studies,

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you arrived at a market risk premium of 6 to 7 per cent for your CAPM and ECAPM tests.

Dr. Waters, using the same studies, came up with 4 to 4.5 per cent for his market risk premium.

My question is: How would you account for the difference of 200 to 250 basis points between yourself and Dr. Waters?

A. I will try and put that in one nutshell.

The best way to do that is to go to Exhibit RAM-7, page 1. At the very bottom of page 1, one notes that stocks have outperformed bonds by 7.86 per cent. If you go to page 3 ---

Actually, it starts on page 2. From 1924 until 1990, stocks have outperformed bonds by almost 6 per cent -- 5.93.

I think your question is: How can we both be looking at this data and come up with different conclusions?

Q. Yes.

A. Answer: Dr. Waters manipulates, in a sense -- and I am saying this in a nice sense, not in the negative sense -- the data, in trying to measure expectations.

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What he is basically saying is that when you are looking at the "Canada Long Bonds" column, he is saying that bond holders' expectations were not fulfilled; that they got burned; that that is not what they expected.

So he adds to the "Canada Long Bond" column a premium for surprises, for mistaken expectations that were not fulfilled.

So if I go back to the bottom of page 3 and I look at the average return on bonds of 5.33, philosophically what Dr. Waters is doing is adding something to that 5 per cent to recognize the fact that bond holders' expectations were not realized; that they were burned.

So he gets a much smaller risk premium.

My contention is that stock holders are equally guilty of mistaken expectations.

I do not think it is correct, with all due respect to Dr. Waters, that share holders have perfect foresight, that they are always correct in their expectations and bond holders are always the fools; that they always have mistaken or unfulfilled expectations.

I am saying that if there is a

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correction for surprise or unanticipated events, I think that is equally applicable to stocks as it is to bonds.

That is the fundamental philosophical disagreement that I think we have, in that he makes an adjustment for these unfulfilled expectations of bond holders.

My argument is:  Do the same thing for share holders.  They don't have perfect foresight, either.

Q.   Thank you.

Dr. Morin, I would now like to refer you again to page 1 of Exhibit RAM-7 within your Direct Testimony.

Could you please explain how the values for each of the columns in the Hatch & White study were arrived at?

A.   Yes.  If we go to RAM-7, page 1, your question is: How do Hatch & White measure returns on equities?

The answer is: They take an index,

like the Toronto Stock Exchange 300 Index, and they simply catalogue or tabulate the change in the level of the index, plus the dividends paid in that year, divided by the level of the index at



the beginning of the year.

Let's do a very simple drill here: The Index is 100 in 1950; it is 110 at the end of 1950. There is a change of 10 per cent. So Hatch & White would say: That is a 10 per cent return in that year -- and they would add the dividend yield to that.

Does that answer the question? That is for stocks. So it is just a routine market return calculation based on an index, plus dividends.

For long-term Canada bonds, it is the same kind of test: it is the change in the value of the bond index, plus the coupon interest, divided by the starting value of that index.

I hope you ask the same previous question to Dr. Waters, to make sure I did not misrepresent his position.

Q. Thank you, Dr. Morin.

Going back to the question we were just finishing on, can you elaborate, somewhat, on the third column?

A. The third column is just the difference between Column 1 and Column 2.

Let's take nineteen -- no, it is



not.

I would have to check that; I would have to check to see how they arrived at the market risk premium.

Q. Could you please verify that?

A. Yes, I will do that. I will take that as an undertaking.

I think I have the original Hatch & White study, and I will just check it.

MS. CHAMPAGNE: Thank you.

--- UNDERTAKING (TQM Panel No. 2):
To advise as to how Column 3 on RAM-7, page 1 of 3, was arrived at.

MS. CHAMPAGNE:

Q. In your Response to NEB IR No. 2, Question 49, paragraph (C), you state, and I quote:

"The results of mechanical approaches to estimating ROE are subject to measurement error, small sample bias, and turbulence in capital markets, and I believe that estimating ROE for ratemaking purposes must take a longer term and a more flexible view."

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TQM Panel No. 2
(Champagne)

Subject to verification, Dr. Morin, would you agree that the average deviation above and below the midpoint values of return on equity for the tables shown on page 49 of your Direct Testimony is 32 basis points?

I am speaking now of your original table.

A. I am going to have to ask you to read that to me one more time -- except for the quote.

Q. Yes. Subject to verification, would you agree that the average deviation above and below the midpoint values of return on equity for the table, as shown in your Direct Testimony, the original version, is 32 basis points?

Is that correct?

A. Yes, that is correct. If you look at page 49 and look at the average results on line 25, roughly they go from 13 to 13.6.

So the average deviation from the middle would be about 30 basis points.

To me, that is a very attractive feature of those results, to have that degree of concordance or convergence in the results.

Q. Thank you.

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TQM Panel No. 2
(Champagne)

Given that you feel that these tests are subject to the problems that you describe in your Response to Question 49, paragraph (C), in NEB IR No. 2, do you feel that an average variation around the midpoint of 32 basis points for your return on equity tests reasonably reflects the uncertainty associated with these tests?

A. Yes, I believe it does. The range is reflective of measurement error, the conceptual infirmities of different techniques, and the validity of the proxies, the surrogates, that have been used in implementing those models.

I think 30 basis points is a reasonable range. It really is.

One of my old old professors once told me that judgment was only 50 basis points thick, and beyond that you have got some problems. Here it is 30. That is quite acceptable.

MS. CHAMPAGNE: Thank you, Dr. Morin. Those are all of my questions.

Thank you, Mr. Chairman.



EXAMINATION BY BOARD PANEL:

MME COTE-VERHAAF: Bonjour, monsieur Morin.

LE TEMOIN: Bonjour, madame.

MME COTE-VERHAAF: Monsieur Morin, considerez-vous que le present cycle economique se situe entre l'annee 1982 et l'annee 1991, tout en considerant aussi que la reprise est encore incertaine?

LE TEMOIN: La question est: Est-ce que je considere la periode 1982-1991 representative...?

MME COTE-VERHAAF: Represente un cycle economique complet.

LE TEMOIN: Oui. Vous avez eu des creux et des sommets la, et nous avons enfin un cycle complet depuis 1982 jusqu'a aujourd'hui.

MME COTE-VERHAAF: Et le cycle precedent etait evidemment caracterise par un niveau d'inflation tres superieur a celui que nous avons connu dans le dernier cycle.

LE TEMOIN: Vous avez parfaitement raison. Si on calcule le taux d'inflation de 1982 a aujourd'hui, la moyenne est environ de 4, 4 1/2 pur cent. Et si on examine les anticipations des investisseurs en ce qui terme -- je pense que j'ai fait le calcul anterieurement -- c'est une anticipation d'environ 4 pour cent,

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egalement. Donc, je suis tres confiant que le taux moyen d'inflation des dix dernieres annees est representatif des attentes des investisseurs pour les dix prochaines annees. C'est presqu'a deux decimales pres.

Une deuxieme reponse. Le taux de croissance reel du produit interieur brut canadien depuis 1982 a concorde tres bien avec les projections a plus long terme du taux de croissance de l'economie canadienne pour les dix prochaines annees qui est entre 2,75 et 3 pour cent.

Donc, je suis tres satisfait de constater qu'il y a une concordance entre la periode des dix dernieres annees et les dix annees a venir.

MME COTE-VERHAAF: Monsieur Morin, quand vous employez des statistiques de 1977 a 1991 pour evaluer le taux de croissance historique des revenus par action, par exemple, est-ce que vous ne craignez pas que le fait qu'on ait connu un taux d'inflation beaucoup plus eleve dans le cycle precedent n'affecte vos resultats?

LE TEMOIN: Je sympathise avec votre argument. Des l'instant ou je depasse 1981, 1982, ca commence a m'inquieter parce qu'il y avait des taux d'inflation vertigineux a cette epoque-la qui ne sont pas representatifs des taux d'inflation actuels.

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Alors, c'est une mise en garde, si vous voulez, pour la methode de DCF.

MME COTE-VERHAAF: Je vous remercie.

MR. PRIDDLE: Dr. Morin, yesterday you twice referred to the greater integration which is taking place of Canadian and United States capital markets. I was just looking to find the reference and could not. But do you recall that.

THE WITNESS: Yes, Mr. Chairman, I do.

MR. PRIDDLE: Dr. Morin, does that

apply to equity markets, or really, principally, to markets for long-term debt?

A. It applies to both markets. In the last two years, we have had two fairly significant developments which have resulted in greater integration. The first development is that the law with regards to permissible investment in U.S. securities -- which to this point were restricted to a 10 per cent holding of foreign securities -- has now been relaxed to 20 per cent. There is a transition phase. But essentially Canadian financial institutions have more liberty, more flexibility in buying U.S.



stocks than historically.

The second, and perhaps more important development, is this idea of a multi-jurisdictional prospectus, which makes it very, very easy, and feasible, for Canadian issuers of common stock or debt to issue abroad in the United States without having to comply with the SEC registration statements.

So that, too, results in a greater degree of latitude or flexibility of integration of the two markets.

And the third development is that the statistics tell us that Canadians have funnelled an increasing amount of funds into the U.S. equity markets.

That discussion does appear, to answer your exact question, in my Testimony, if you are interested in reading it, starting on page 26 and going to 28, where I address the relevance of U.S. comparisons, particularly the top of page 28.

MR. PRIDDLE: Dr. Morin, I have been trying to relate that to return on equity for TQM. I presume that the fundamental argument that you would make is that these trends -- the



opportunity for Canadian pension funds to have a higher proportion of their holdings in the American market, and so on -- increase the competition for equity funds in Canada.

Is that right.

THE WITNESS: That is correct. And they also widen the menu of available outlets for Canadian investors in such a way that they do invite comparisons between a U.S. equity investment versus a Canadian equity investment. The portfolio choices have been widened.

MR. PRIDDLE: That is the portfolio choices for the investor.

It had been my impression that Canadian utilities are not widely held outside Canada; that, for instance, TransCanada PipeLines stock is not widely held in the United States.

THE WITNESS: That is correct.

MR. PRIDDLE: But you would argue that that is not a factor for us not to have regard to this increasing degree of integration between the Canadian and U.S. capital markets because it is a question, not of where the stock in a particular utility which we may regulate is held, but just the general ambience of greater



competition and greater competitive opportunities.

THE WITNESS: Yes. I think the thrust of this discussion is that it is appropriate to examine the data from the U.S. when determining the cost of capital, because investors make such comparisons.

So it is not objectionable to look at a sample of U.S. gas companies or U.S. pipelines to gain some insight, or additional insight, into the determination of cost of capital.

MR. PRIDDLE: Dr. Morin, secondly, I was going to go back, once again, to the "Summary of Results", originally on page 49, and that has been replaced by the first table on Exhibit B-25 this morning.

The cross-examiners really have not gotten very far in holding revolvers to your head and using various other expedients to encourage you to say more about a weighting among the seven approaches.

So I am going to go away, I am warning you, with the impression that, notwithstanding what you have said about Comparable Earnings, in your average they each count, as Ms. Moreland established, for 1/7th.

You are saying to us, as Regulators: "Here is the evidence. You make what you will of it. I am not going to give you, as some witnesses in other proceedings have" -- (and you are very familiar with that) -- "a weighting that we should attribute, say, 50 per cent to Equity Risk Premium, 10 per cent to DCF, 40 per cent to Comparable Earnings".

You are not in that mode at all, as I understand it.

THE WITNESS: That is correct. In my 15 years of experience, I have found -- and I am putting myself now in the seat of a regulator -- that regulators that have become, let's say, doctrinaire or dogmatic about DCF eventually paint themselves into a corner.

The New York Commission, for example, is strictly, strictly DCF, and one version alone of DCF, and because of the inadequacies of the DCF model in our current environment, they have really painted themselves into a corner.

So I am suggesting to regulators: Do not be dogmatic. Don't paint yourself into a corner. Look at all of the evidence. Make up your own mind. But do not rule out any given



technology", -- like, for example, the Ontario Board, which has essentially ruled out DCF in favour of Comparable Earnings.

I believe that is ill-advised -- perhaps not today, but maybe a year or two or from now, when the anomalies of the capital markets may invalidate or cast a shadow on one test and another test will come to the fore.

I submit that you should look at all the evidence. Unless you have some very serious concerns about the theoretical merits of a given model, look at everything, including Comparable Earnings.

This Board is very fond of fairness, and I think Comparable Earnings is consistent with fairness as well. And it happens to give results that are very consistent with the general tone of those results on that page.

MR. PRIDDLE: Dr. Morin, when you read "Reasons for Decision" that come from boards such as ours, do you find yourself looking to see whether or not the Board says what weight it has given to various methods? Or are you content just to see that they say: "having regard to all of the methodologies put before us, we think that the

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appropriate rate of return on equity is such and such".

THE WITNESS: If I were a regulator, I would never divulge my recipes. I would never say: "We looked at the DCF. We ruled out the quarterly timing. We think flotation cost is okay", et cetera, et cetera. I would never go into intricate details. And the reason for that is that you become a prisoner of that Order in the future and you back yourself into a corner.

I do like -- and I am not saying that because you are here. But I do like the tone of the Board's Decisions. There is sufficient evidence as to what they do not like, but yet they do not paint themselves into a corner and are not dogmatic about certain technologies, unlike other boards that are doctrinaire.

MR. PRIDDLE: Thank you, Dr. Morin. I found that a very interesting response.

Dr. Morin, just a very minor question arising from yesterday's transcript. At the top of page 126, where you were telling us about Professor Linke and his Arbitrage Pricing Model ---

THE WITNESS: Yes, I recall that.

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MR. PRIDDLE: -- you say: "What he does is he develops a set of companies, like my RAM-11, whose portfolio properties mimic that of TQM, for example."

What I understand you to be saying there is that he is not addressing TQM or anything like that; rather you are telling us how he would approach it.

The word "mimic" stuck in my mind there. I have a lot of trouble envisaging your RAM-11 companies as ones which "mimic" TQM.

Would you like to comment on the use of the word.

It is unfair, I know, to ---

THE WITNESS: No. It is a good question. It is not unfair.

RAM-11 presents a portfolio of industrial companies whose "risk" properties mimic those of Canadian utilities, whose volatility behaviour, whose beta, whose stability of ROE emulates those of Canadian utilities.

What Dr. Linke does is much more rigorous, in a sense. He looks at a utility -- for example, Indiana Gas. He examines the historical behaviour of Indiana Gas's cashflows,

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how it responds to inflation, how it responds to stock market movement, how it responds to interest rates, and he comes up with these response coefficients, and then he develops a set of companies whose response coefficients are exactly the same as Indiana Gas's. It is in that sense that I use the word "mimic".

My RAM-11 is a similar attempt, where I develop a portfolio of stocks whose risk and volatility profile mimics that of the typical Canadian utility.

MR. PRIDDLE: Thank you.

Dr. Morin, you made a comment -- and again I cannot dig it up in the transcript; I have not tried -- suggesting that these modelling approaches to investment analysis -- such as the Capital Asset Pricing Model, and so on -- are used by practitioners in the investment business.

Did I understand you correctly.

THE WITNESS: Yes, you did. That is quite correct.

MR. PRIDDLE: But whenever I see -- and that is not often -- "research", in quotations, that comes from Canadian brokerage houses, I seldom see anything like this.

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Basically, you get price earnings ratios run out and that some stockbroker has talked to the management and is impressed with some technical process that they have developed, or thinks non-ferrous metal prices are going to rise very rapidly in the recovery from the recession, and the stock is a buy or a hold on that basis.

Who is it who uses these? Is it the sophisticated investor from a pension fund?

THE WITNESS: A lot of very large investment advisory services -- ValueLine comes to mind -- supply beta estimates. Merrill Lynch has a monthly risk evaluator service or publication that supplies you with just about all the Greek letters in the financial alphabet, including alphas, and betas, and gammas, and so on, and so forth.

Wells Fargo uses a CAPM-based approach to investment selection. And I could continue to allude to a long list of investment advisory firms that utilize CAPM-based or styled types of approaches.

In Canada, it is not as widely used because we do not have, as yet, a sophisticated database or estimates of beta, for example, as



exists in the U.S. But we are slowly getting there. Some of the universities now are beginning to publish -- the University of Toronto particularly -- some beta estimates for Canadian stocks.

I find that the pendulum is going to swing in that direction.

But why not try novel approaches? Why not use more contemporary techniques?

Regulators sort of get tired of hearing the same thing for 20 years, and they want some new answers to address new contexts. I think it is an interesting approach to look at portfolio contemporary viewpoints on regulation. And one more point: ValueLine now has a Canadian edition.

MR. PRIDDLE: Thank you, Dr. Morin.

Dr. Morin, you are commending this approach -- more sophistication, more mathematics -- not only from your standpoint as a self-confessed academic, but because you are telling us that these sophisticated methods are being used by investors who matter.

THE WITNESS: That is correct, yes; that is exactly what I am saying.

MR. PRIDDLE: Thank you, Dr. Morin.

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THE WITNESS: Thank you.

THE CHAIRMAN: I am going to have to use a little time here, so that we can keep Dr. Waters pristine until tomorrow morning.

I do not know if I have a question or a comment, but I will start out by telling you that I will abide by your advice and not divulge my recipe in arriving at a conclusion on rate of return.

THE WITNESS: I gave you a nice recipe on B-25, the first page.

THE CHAIRMAN: That is what I want to comment on, generally -- and the comments I am going to make are not meant to disparage financial analysts in any way. They probably derive from the fact that I am kind of agnostic concerning all of this.

But you did say some refreshing things a little earlier on, admitting or saying that "all models have their limitations"; that they "are all more or less theoretical, a lot subjective", and that they "should all be given some weight".

That was in reference to your comments on DCF, particularly DCF relating to

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utilities.

Then you went on to say that because you use more -- that is, an array -- techniques and that you are not doctrinaire, you should be more credible and that we should take your 13 per cent recommendation.

My question is: Since you, on the Applicant's side, arrive at an estimate based on hundreds and hundreds of assumptions and on the other side the Intervenors arrive at another estimate, which is based on as many assumptions, why should I believe anybody, apart from the fact that -- that is why I am saying I am an agnostic

-- apart from the fact that there does not seem to me to be a better method of doing things?

That is a question I have been asking myself for a number of years now.

So I put it to you: Why should I believe anybody? And why should I believe you more than the other side?

THE WITNESS: You put me in an embarrassing position here. Let me see if I can make a believer out of an agnostic.

I did mention that all models are simplifications of reality. There are a lot of

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assumptions and limitations. But one way to go around this shortcoming is to use a variety of approaches, each one acting as a cross-check on the other.

If you get an outlyer in one of your eight or nine or ten techniques, then there has got to be something with your implementation, or your proxies, or the model itself.

So I suggest that relying on a menu of technologies is much better than just one model. You are not as vulnerable.

I have heard a lot of regulators and commissioners that come to my seminars in Washington and express similar viewpoints; that they are getting tired of hearing experts disagreeing on geometric versus arithmetic mean and that kind of thing. And I say to them: Perhaps we can loosen up the regulatory framework. Instead of granting a single ROE to a company like TQM, maybe we should loosen up a little the framework and start thinking about perhaps a range of ROE, as an incentive device No. 1; and No. 2, to address the problem you are suggesting, the idea of a range to me is much more pleasant than a single-point estimate, because

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there is no scientific, mechanical fool-proof formula.

Another way to do business is to entertain the idea, perhaps, of a more generic-style of approach and perhaps stipulating on certain issues. Instead of trying to determine what the experts disagree on, ask them what they do agree on.

Dr. Waters and I agree on a lot things: risk-free rate; some of the problems with DCF.

There is agreement, too, between scholars, not just disagreements.

Perhaps a stipulated-type of forum could do that. The Board makes a list of all the issues on rate of return, and says: "Where do we stand on these issues?", and then resolves the balance.

That is very popular now in the U.S.

The last four cases I have done in the last couple of weeks have all been stipulated. I show up at the last minute, and we agree on rate of return. The two experts go in the back room and talk to each other: what do we agree on, and what do we disagree on, and we iron



it out.

That is another comfort zone that you could perhaps pursue.

I think you should believe me because I use everything, and I am not playing the game of: Well, the Board is going to split the apple in two anyway.

I have never played that game. I call them as I see them. Some of my assumptions are even conservative in here.

I hope that comes across in my comments. I call them as I see them.

If I had the pleasure of testifying with Mr. Yates, my testimony would be identical.

Of course, I loose a lot of jobs that way in the U.S. -- but that is the way I feel about it. I do not have an axe to grind, or anything like that. I think these models are correct.

You have to assess the judgment on the basis of the credibility of the witness, and I enjoy a lot of credibility, particularly in the U.S., because of the work I do with commissions.

Does that help a little bit?

THE CHAIRMAN: That helps a little

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bit. Every little bit helps.

In spite of your, as you say, being very objective -- and I believe you when you say that -- and of using all of the instruments and the means at your disposal that you know of, you still arrive at a rate of return which is higher than -- I won't compare it to Dr. Waters at this time -- higher than several of the decisions the Board has taken in the past year.

I am sure you are aware of the Board's Decisions on other natural gas pipeline companies and other pipeline companies in the past six months, mainly.

THE WITNESS: Yes, I am.

THE CHAIRMAN: How do you reconcile your objectivity and the effectiveness of your approach and your objectivity with the actual results of the Decisions of the Board in the past six months, which were obviously based on a similar type of evidence.

THE WITNESS: Yes. The Decisions have been closer to the 12 1/2, 12.25 level of rates of return, because of the descent of interest rates.

What I can say to that is that

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perhaps we should resist the temptation of reacting to short-term movements. We are setting rates today that are going to be in effect for a two-year period. We should not blindly latch on to today's capital markets and today's interest rates. Given the volatile nature of capital markets, you have to have a cushion or a safety mechanism.

My recommendations tend to be much more longer-term oriented than they are timely or responsive to today's interest rates, today's prime rate. I take a much longer-term view of regulation than most people.

So that is one way to reconcile the two.

Obviously, I think some of those Decisions are low. I think some of the Decisions are high. I do give you a range to work with. And if you take the bottom of my range, it is not that far from some of your Decisions in the past.

THE CHAIRMAN: Thank you very much.

Vous avez des questions?

MR. LECLERC: I have two small, questions, Mr. Chairman.

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re-exam (Leclerc)

RE-EXAMINATION BY MR. LECLERC:

Q. Dr. Morin, you will recall being examined yesterday by Mr. Yates on the differences between arithmetic and geometric averages?

A. Yes, I recall that.

Q. And do you recall the two cases that were presented to you, the first case being that for a period of three years there was a return of 10 per cent for each of the years?

A. Yes. I recall that an investor was facing Company A, investing a dollar, growing to a $1.10 in the first year, $1.21 in the second year, $1.33 in the third year, for a return of 10 per cent.

That was the first example.

Q. And the second example...?

A. I recall that an investor had a choice in Company B, investing $1, and I believe it was a 20 per cent loss in the first year, down to 80 cents, and then I believe it was a 55 or 60 per cent return ---

MR. LECLERC: 51 per cent.

A. -- a 51 per cent return in the second year, and then finally, in the third year, a return of 10 per cent, bringing you back to the

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same $1.33.

Of course, the average here was about 13.75.

Q. If an investor were asked to invest in either one of those companies today, sir, and was told he was going to get 10 per cent from both companies, would he be indifferent from one to the other?

A. No, clearly not. There would be nobody in this room who would select Company B for a 10 per cent rate of return because the returns are all over the place, whereas Company A has very, very stable returns.

The investor in Company B will demand a much higher rate of return because of the gyrations, the fluctuations in year to year rates of return.

This is a perfect example that shows the inadequacy of relying on geometric means when measuring the cost of capital or return expectations of investors. Investors look at the profile, the year to year profile of rates of return, and clearly, in case B, they would demand a much higher rate of return -- i.e. 13.75 in Company B -- to be compensated for the added

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risks.

Q. This morning, Dr. Morin, in response to a question by maitre Champagne dealing with the difference between your market risk estimate of 6 to 7 per cent and that of Dr. Waters at 4 to 4 1/2 per cent, you advanced an explanation for the difference as being Dr. Waters's adjustment for the shortfall between what bond holders realized, as opposed to what they had expected.

Is that correct?

A. That is correct.

Q. Is it possible, sir, that the difference could also be explained by the fact that Dr. Waters may have used the geometric average, as opposed to the arithmetic average.

THE WITNESS: Yes. I think I did forget the obvious.

The second reason for the discrepancy is that he uses the geometric mean -- and in my view, that is not appropriate. I use the arithmetic mean.

MR. LECLERC: With that, may the witness be excused, sir?

LE PRESIDENT: Le temoin est excuse,

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et je vous remercie de la clarte de vos commentaires. Ce fut tres interessant.

On ajourne jusqu'a a demain matin a 8 heures et demie.

Me LECLERC: Je crois que c'est une excellente idee. Ayant parle a mes collegues, ils m'ont demande, si on arrivait assez pres du temps d'ajourner, de reporter le temoignage de monsieur Waters a demain matin afin de permettre a ce dernier de leur parler durant la soiree, ce qu'il ne pourrait pas faire si on commencait maintenant.

THE CHAIRMAN: We will adjourn until 8:30 in the morning, and we will sit all day tomorrow, as I think we will probably need to ---

MR. YATES: I am sorry, Mr. Chairman, i did not understand what Mr. Leclerc was indicating to you about tomorrow morning.

MR. LECLERC: I was just telling the Chairman that, after having spoken to Ms. Moreland, given the fact that there is so little time left, where I thought we were at quarter to one ---

THE CHAIRMAN: We used up the time.

MR. LECLERC: That's right.

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THE CHAIRMAN: We will adjourn until tomorrow morning.

MR. YATES: That is fine.

THE CHAIRMAN: As I said, we are prepared to sit all day tomorrow, with an hour's break at noon, to ensure that we can finish on Friday.

MR. YATES: The goal is to finish the evidence tomorrow, I take it, and have argument on Friday.

THE CHAIRMAN: Surely.

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|                  MR. YATES:     Thank you.
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|                  MR. LECLERC:   Thank you.
|   --- (The Witness Withdrew/Le temoin est excuse)
|   ---  Adjournment/Adjournement
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