January 18, 2013
(9:06 a.m.)
MS. GLYNN:
Q. Mr. Chair, before we start for the morning, there's just a couple of housekeeping items. The consumer advocate has filed the decision of the Regie, which was Undertaking #14, and we do have another Information Item which will be marked as Information Item #21, and that is the series of graphs that Dr. Booth had on the screen as he was doing his direct yesterday.
CHAIRMAN:
Q. I think we're ready to commence - you're finished with your Examination-in-Chief, so it's over to Mr. Johnson, I believe, is that correct.
KELLY, Q.C.:
Q. The other way around, Mr. Chairman.
CHAIRMAN:
Q. Pardon?
KELLY, Q.C.:
Q. Other way around, back to me for Cross-Examination.
CHAIRMAN:
Q. I'm sorry, geez, what am I doing, what am I thinking. I beg your pardon. Okay, sir, go ahead.

DR. LAURENCE BOOTH - EXAMINATION BY KELLY, Q.C.:
KELLY, Q.C.:
Q. Good morning, Dr. Booth.
DR. BOOTH:
A. Good morning, Mr. Kelly.
KELLY, Q.C.:
Q. Dr. Booth, I'd like to start by talking with you about long Canada bond rates, and when we were here in 2009, the rate that you were using for your 2010 test year was 4.5 percent as the anticipated long Canada bond yield, correct?
DR. BOOTH:
A. I think that's correct, yes.
KELLY, Q.C.:
Q. Right, and at that stage, from your testimony you were very confident that long Canada bond rates were going to go up. At one point, you said over the next few years they'll be 5, 5.5 percent over the next few years?
DR. BOOTH:
A. That's correct. That was the consensus at that point in time.

KELLY, Q.C.:
Q. Right, and that obviously didn't happen for reasons which you explained somewhat yesterday, and the point that you pointed to was the downgrades in the United States and the downgrade, I guess, to a lesser extent in France.
DR. BOOTH:
A. That's correct. I regard the United States problems as part of the sovereign debt crisis.
KELLY, Q.C.:
Q. Okay, and, in fact, you pointed that out in the answer to NP-CA on number 1, that that was something that you couldn't have anticipated when you were giving your testimony back then?
DR. BOOTH:
A. I think it's fair to say that the severity of the crisis, nobody would have anticipated the downgrade of the United States to below AAA. Whenever there's a recession, the government deficits increase, tax revenues go down, spending goes up, debt increases, so that's a normal byproduct of any recession. What's been striking in this period is simply the fact that it's the first major recession when the European countries have been part of the Eurozone, and questions of the ability of those countries or some of those countries to pay back their debt has been a paramount concern in the international financial markets.

KELLY, Q.C.:
Q. Right. So the economic problems which existed began in 2008. Those have morphed, if I can use that phrase, through the Eurozone crisis into the current problems which we have in the United States, including the huge infusion of funds by the Federal Reserve, etc?
DR. BOOTH:
A. That's absolutely correct. The initial crisis came out of the financial system in the US. We had a real recession. Governments responded the way they normally respond, only this time several of the companies, particularly in Europe, basically the debt was already, if I may paraphrase it, at the limit on the credit card.
KELLY, Q.C.:
Q. And the downgrade, of course, in the US is largely in effect as a result, as opposed to

the event in itself?

DR. BOOTH:

A. That's correct. I would say the US downgrade is really not even part of the ability of the United States to pay back its debt. It's really a reflection of the squabbling in Congress between the Republicans and the Democrats, and the willingness of Republicans to basically default on the US Government debt. Nobody would have anticipated that three years ago.

KELLY, Q.C.:

Q. And those problems continue in the United States. I think the next one they're up against is the debt ceiling, and we had the other rating agency, Fitch, out there a week or so ago threatening to downgrade their rating on the United States of they didn't get their act together.

DR. BOOTH:

A. Not just Fitch, Moody's -

KELLY, Q.C.:

Q. And Moody's as well.

DR. BOOTH:

A. Moody's has basically given a very clear

warning that unless Congress gets its act together, they're going to downgrade the US as well, so you'll have a unanimous non AAA rating for the US Government, which I think is remarkable.

KELLY, Q.C.:

Q. So we have these problems continuing through the United States, continuing through Europe and - do we agree with that much?

DR. BOOTH:

A. Oh, 100 percent, yes.

KELLY, Q.C.:

Q. Perfect, okay, and as a result of all that, interest rates didn't go up, the long term Canada yields didn't go up. As you said yesterday, they're now down to 2.5 percent approximately?

DR. BOOTH:

A. That's correct. What I would regard as non-equilibrium interest rates, and most economists say these are unsustainable or they're non-equilibrium.

KELLY, Q.C.:

Q. Now the problem that I'm going to suggest to you is, of course, there's no certainty where

this is going any time soon, is there?

DR. BOOTH:

A. Yes, there is certainty. As I think I mentioned three years ago, booms follow recessions, recessions follow booms. There's a regular sequence to the business cycle. What we have now is more akin to the 1930s. We are having a long drawn out recovery from what we call a balance sheet recession, which was the amount of debt that consumers got into and that's the adjustment that we're going through. The difference is that in previous recessions, the governments have had the capacity to undertake fiscal policy to offset that, and as a result, we've had normal recoveries. This time, we're essentially having no government fiscal policy that's offsetting that recession. So we've got the absence of fiscal policy. Monetary policy has almost shot its bolt and we're having a slow recovery. So that's the difference now, but nothing in economics stays the same forever. We will get a recovery, it's just going to be longer than was anticipated three years ago.

KELLY, Q.C.:

Q. Right, and I'm not really disagreeing with you there. What I'm trying to focus on is the question of any kind of certainty as to where and over what period of time long Canada bond yields are going to change because -

DR. BOOTH:

A. That I'll agree with. Three years ago, we were confident that interest rates would recover pretty quickly. As I pointed out, even when I put together my testimony from May of this year, I went back to the summer of 2011 and sort of asked myself what would I have done in 2011 to forecast 2012, and at that point RBC or the forecasters were forecasting a back to normal, that interest rates would be up at 4.55 percent by 2014, 2013. That hasn't happened. What we're going to have is a slower recovery, interest rates are going to be lower for longer periods of time than we anticipated because of the actions of the global policy maker, and there is more uncertainty surrounding those interest rates.

KELLY, Q.C.:

Q. Right, and that's the point that I want to get to. Now in your report, I tried to figure out what you think the current interest rates are going to be for 2013, and I didn't really find a clear answer to that because at the end of the day, you come to the conclusion, well, I've got to adjust it to 380 because that's - I've got to get at least there before it's going to make any difference.

DR. BOOTH:

A. I think your reading is absolutely correct, Mr. Kelly.

KELLY, Q.C.:

Q. Okay.

DR. BOOTH:

A. When I re-read my testimony in May, I said I'm pretty clear what I would have recommended for 2012. For 2013, when I wrote that testimony, it was already the spring of 2012, and we had the sign of a significant drop in interest rates, and I said there's a lot of uncertainty surrounding interest rates. So even though the forecast long Canada rate at that time, I think, had already dropped to 3.5 percent, at that time I said for 2013 there's so much uncertainty surrounding those interest rates,

I'm quite happy to keep my recommended ROE at 8.15 percent, even in the face of a significant drop in long Canada rates.

KELLY, Q.C.:

Q. And I think we can we can sit here today and say with a fair degree of confidence that interest rates on average in 2013 are going to be significantly below 380?

DR. BOOTH:

A. I'd recommend you don't buy long Canada bonds, Mr. Kelly.

KELLY, Q.C.:

Q. Okay.

DR. BOOTH:

A. I agree with you.

KELLY, Q.C.:

Q. Okay. My next question then is what are you saying in relation to 2014 because I look, for example, at the consensus forecast, Mr. McDonald has done a nice summary in his report out through 2013 and 2014, and he still only has a 3.04 percent average through '13 and '14, so the consensus forecast would seem to be we're not going to 380 even through 2014?

DR. BOOTH:

A. I think it's fair to say that when Alan Greenspan was Governor of the Fed, we used to say he was the strongest man in the world. If he got out of a limo and he coughed, everyone would say what's the meaning of that, because everything hinged around the Fed. Right now that's exactly the same situation that Governor Ben Bernanke is in. He just came out a couple of weeks ago to clarify the US Fed's policy. They've announced they're going to keep interest rates low, not just indefinitely, but until the US unemployment rate drops to 6.5 percent. What we regard as the non-accelerating rate of unemployment in the United States, which is sort of full employment, the lowest rate is about 5.3, so that's not a particularly low unemployment rate in the United States, but there's 6 percent spare capacity in the US, and that clarification, people have looked at that and said, well, 6.5 percent unemployment indefinitely keeping their overnight rate or the Federal Funds rate in the US at between 0 and 25 basis points, indefinitely buying 85 billion dollars worth of securities every

month, or that translates into the fact that the global policy maker, the Fed, not the capital market, is going to be driving long term interest rates for at least the next two to three years.

KELLY, Q.C.:

Q. Exactly, and that's a good explanation. Not quite an answer to my question which is, I take it from that explanation, you're not expecting interest rates in 2014, and maybe not even out into 2015, to get up to 3.80, 4 percent?

DR. BOOTH:

A. That's correct. In terms of the Chairman's question of what's normal, the only thing about capital markets at the moment that is abnormal is the state of the long term bond yield, which is being driven not just by the Fed, but also by the European Central Bank and the -

KELLY, Q.C.:

Q. Driven low, and you expect it to stay there for several years out into the future?

DR. BOOTH:

A. That's correct, which is why when we look at

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that, I think that's a disconnect between the basic trade off between risk and return that we see in the capital market between private investors, and what we're seeing is that risk return trade off does not reflect, in my judgment, current long term Canada bond yields of 2.5 percent, because it's not being driven by private investors.

KELLY, Q.C.:

Q. So as a result of the disconnect then, don't we have a disconnect between long Canada bond yields and what a utility's return on equity is going to be, which is why you've built the floor into your type of mechanism?

DR. BOOTH:

A. That's correct. I don't think at the current point in time that if you did what I call a naive CAPM, which is just take the forecast long term Canada bond yield, add in a typical market risk premium, it gives a reasonable estimate of the investor's opportunity cost for investing in a utility, and as I explained yesterday, we can see that because of the yields on preferred shares that are not directly affected by these global policy

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makers.

KELLY, Q.C.:

Q. I'd like to come back to the naive CAPM discussion in a few minutes later on. Let me move to another area I want to explore a little bit with you. I went through your evidence, including the RFIs, and I didn't find anywhere that you suggest that there's any change in Newfoundland Power's risk profile from the last hearing in 2009. Have I got that correct?

DR. BOOTH:

A. I think that's correct, Mr. Kelly. Normally, intervenor witnesses rely upon the company's business risk testimony. So for example, we went through in great detail Ms. McShane's business risk testimony for Terason Gas FEI, and normally the company - normally, to be absolutely honest, the companies always say their business risk is increasing - not always, but at least frequently. Then there's the question sort of how do you react to the risk factors that the company put forward. My observation was that Newfoundland Power didn't put forward any increased risk factors, and,

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in fact, the discussion of the business risk of Newfoundland Power, I would suggest, was rather skimpy because they don't feel that it was increasing, and from that assessment, I honestly can't see anything in the business of Newfoundland Power that would indicate anything unusual. It's the company that would put forward something that's unusual, and they haven't done that.

KELLY, Q.C.:

Q. And so you're not suggesting any change in the overall risk profile for Newfoundland Power since the last hearing in 2009?

DR. BOOTH:

A. I don't see any substantial changes. The provincial growth rate probably is a little bit greater because of Hebron and some of the major construction projects, but - so the provincial economy may be slightly stronger, but apart from that, I don't see anything.

KELLY, Q.C.:

Q. Dr. Booth, can I take you over to PUB CA-32, where you were asked by the Board staff a question on, "Have you compared the use of deferral accounts by Newfoundland Power to

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those of other Canadian utilities, other than Nova Scotia Power, and if yes, provide details". Your answer was, "No". In other words, you hadn't done that comparison and the rest of the answer is on the screen.

DR. BOOTH:

A. I'm glad I said, "no", because the answer is no.

KELLY, Q.C.:

Q. Okay.

DR. BOOTH:

A. I tend to - I think I mentioned yesterday that you can get bogged down into the minutia of individual risk differences between utilities and we tend to get dragged into that area and through qualitative discussion. I prefer to look at the objective factor whether they earn their allowed ROE. That's the output, the result of all of this regulated protection.

KELLY, Q.C.:

Q. So many of your comments about deferral accounts and mechanisms like that are what I'd call somewhat impressionistic because what you've really focused on is whether the utility, whether it's this utility or some other utility, has earned its allowed return or not?

DR. BOOTH:

A. That's right, but there's two factors that go into that. It could earn its allowed ROE because there's absolutely no uncertainty whatsoever, or it could earn its allowed ROE because there's a lot of uncertainty and the regulator reacts to that uncertainty by allowing extensive regulated protection. So that's why -

KELLY, Q.C.:

Q. Can I suggest - I'm sorry, go ahead.

DR. BOOTH:

A. That's why I mentioned, for example, the TransCanada Mainline, I would put that as probably the riskiest utility in Canada at the moment because of the emergence of supply basins that has basically bypassed the mainline. It does not show up in TransCanada's ability to earn its allowed ROE because of the extensive regulated reprotection that the NEB allows it, but sooner or later there's limits to what the regulator can do, and that's exactly what's

facing the NEB at the moment.

KELLY, Q.C.:

Q. Right. Can I suggest, Dr. Booth, that in addition to the two factors you mentioned, which were kind of lack of uncertainty and good regulation, there's actually a third factor which is the utility can earn its allowed return if it has good management that actually works hard to earn the return and provide the service, do you not concede that there's an important managerial role in that?

DR. BOOTH:

A. I would concede that. It's the job of the CEO of the company to hire people to manage the utility and they get paid for doing that, and incidentally, I was struck by Mr. Ludlow's comment about the 1.4 or the 1.8 million dollar 2002 extra expenditures because - I forget what it was, but a hurricane or whatever.

KELLY, Q.C.:

Q. Hurricane Igor.

DR. BOOTH:

A. That hit Newfoundland, and he said that unlike other utilities, he didn't ask for a deferral

account, he just hunkered down and got the job done, and by deferring ONM expenses elsewhere to make sure that Newfoundland Power came in and earned its ROE, but that's what you would expect of good management, and the shareholders shouldn't be rewarded because of good management doing their job.

KELLY, Q.C.:

Q. But in order to earn the return, amongst the factors you mentioned, is also good management?

DR. BOOTH:

A. That's absolutely correct. If you look at this and you have hopelessly incompetent management that keeps making mistakes, then you would get unstable earnings and then you're in a paradox to then give the equity holders a higher rate of return because they hired incompetent management.

KELLY, Q.C.:

Q. Right, now to come back to the discussion about deferral accounts and other mechanisms, take it you haven't looked at American utilities and their particular use of deferral accounts. You haven't done any type of

analysis of American utilities, have you?

DR. BOOTH:

A. That's correct, Mr. Kelly. I've been dragged, not quite screaming, into looking at the American utilities, but I fundamentally believe that the US is a foreign country, which I think everybody would accept, and it has different laws, procedures, and cultural factors, and I've been very loath to look at the US, as are most regulators in Canada, but forces have basically dragged me into looking at US utilities because we frequently get primarily US witnesses presenting US evidence which is what they're familiar with. I started looking at a set of utilities that were common to Ms. McShane and Dr. Vilbert simply to avoid saying, well, how did you choose these utilities. Basically, my answer is I didn't choose them, they're the nexus or the intersection of two groups of low risk utilities, so I don't think that's controversial. In the same way, I've now started looking at the ability of US utilities to earn their allowed ROEs. I'm being dragged into looking at US utilities to counter testimony before the Board.

KELLY, Q.C.:

Q. My question, to come back to it again, is you haven't done an analysis of deferral accounts, operating mechanisms, recovery mechanisms, across utilities in the United States?

DR. BOOTH:

A. That's correct, for the same reason I haven't done it in Canada. I look at the output, Canada allowed ROE, how unstable are their ROEs. That's what investors are concerns about. They want to know if this utility earned 5 percent and it was allowed to earn 10 percent, that's a bad thing to some extent. I mean, obviously, they're concerned about what generated that substandard ROE, but to a great extent, it's the variability in those profits that the investors look at.

KELLY, Q.C.:

Q. And I'm glad you came back to Canada, because even in relation to Newfoundland Power, you haven't done a detailed analysis of Newfoundland Power's operating deferral accounts and mechanisms, have you?

DR. BOOTH:

A. No, it's like looking at a cake. I'm tasting the cake and telling you what the cake looks like. I'm not telling you what goes into the cake.

KELLY, Q.C.:

Q. The reason I ask that is because yesterday in your opening comments at page 181, if we just go there for a second, at about Line 5, you made a comment about pass through accounts and suggested that - I'll wait until Chris brings it up on the screen. Do you remember the discussion? It's at about line 5, "In fact, if you look at my testimony, you'll see that when we go back to the 60s and 70s, utilities were a higher risk than they are now, and that's because we didn't have the amount of regulated protection, etc".

DR. BOOTH:

A. Yeah.

KELLY, Q.C.:

Q. Do you know, for example, when Newfoundland Power first got its weather normalization?

DR. BOOTH:

A. No.

KELLY, Q.C.:

Q. But it's actually in the company's evidence that it's way back in the 1960s, 1968.

DR. BOOTH:

A. Yeah.

KELLY, Q.C.:

Q. So -

DR. BOOTH:

A. But to short circuit this, Mr. Kelly, can I take you to Appendix C of my testimony where I've actually got beta coefficients for utilities going back to the 60s, and it's quite clear that the beta coefficients, the relative risk of utilities was significantly higher in the 60s and 70s, and -

KELLY, Q.C.:

Q. My question is not about beta coefficients. Mine is about the detail of analysis, if any, of the actual mechanisms in place. I take your answer is that you haven't done that?

DR. BOOTH:

A. That's true. As I said, I look at the output of these measures, which is what the stock market looks at, and there's no question that utilities were regarded as a lot riskier back in the days before they had future test years

and a lot of these mechanisms, and I agree with you - I didn't look to see when weather normalization can into effect for Newfoundland Power.

KELLY, Q.C.:

Q. Right, okay. Now the next area I want to talk to you about is an area that I'm puzzled as to exactly what you're recommending, so I want to be sure we understand what your position is here. In your report, you recommend a rate of return for Newfoundland Power, as I read it, at 7.5 percent for 2013?

DR. BOOTH:

A. Correct.

KELLY, Q.C.:

Q. That's what I read in your report.

DR. BOOTH:

A. That's correct.

KELLY, Q.C.:

Q. And if I - I'll take you to page 64 of your report because it's probably worth putting this on the screen, because I have a bunch of questions that kind of flow out of it. 64, Chris. Go down a little more. Okay, if you'll stop there. If I go to line 14, Dr. Booth,

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you make that comment of the range of 6.95 to 8 percent for 2013, but I didn't find in your report a test year analysis for 2014.

DR. BOOTH:

A. That's because I recommend that the Board use an adjustment mechanism, which would basically then key off what the 2014 should be based upon the starting point of 7.5 percent and whatever happens to spreads and long term interest rates for 2014.

KELLY, Q.C.:

Q. Right, so you haven't actually made a recommendation then for 2014 per se, except -

DR. BOOTH:

A. Well, I have two recommendations, Mr. Kelly. One is that I think an adjustment mechanism solves a lot of the problems of repetitive hearings. If the Board decides that it's not appropriate to have an adjustment mechanism, I made an alternative recommendation for 8.25 percent fixed for an indefinite period, and I was asked in - I forget who asked the information request, but I was asked how long is indefinite, and I said five years because that's generally - I don't think any Board

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would allow the ROE to be fixed for a longer period than five years. There are some contractual relationships between companies, but five years, I think, is long -

KELLY, Q.C.:

Q. In this jurisdiction, under Section 80 of the Public Utilities Act, the Board has to set a return - the utility is entitled to earn the appropriate return annually. So fixing it for a period becomes problematic from a jurisdictional point of view, and I won't get into a debate on the law with you.

DR. BOOTH:

A. That's right. Generally, there, Mr. Kelly, when I've been questioned on that, I've said my understanding is the utility always has the right to come in and question an award based upon the fact that it feels it is unfair or unreasonable. So even if, for example, like the AUC fixing it at 8.75, or 9 percent back in 2009, my understanding is that if the interest rates dramatically increased, for example, they could say, look, this is unfair, we need a hearing.

(9:30 a.m.)

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KELLY, Q.C.:

Q. So even on your alternative approach, you would say the Board could fix it at a - set a particular rate, and the utility could apply if circumstances got out of - came to a different conclusion?

DR. BOOTH:

A. That's right, my understanding is legally the company has that right.

KELLY, Q.C.:

Q. If circumstances changed is perhaps the best way to put it.

DR. BOOTH:

A. And I think I mentioned somewhere, this is what we call a free option in finance. It's valuable to the utility because essentially if interest rates come down, they'll say, well, we'll take the 8.25 and we won't come in, but if the interest rates come up, they're going to say we're going to come in and get a higher rate of return.

KELLY, Q.C.:

Q. And the corollary, of course, is the Board can always call the utility in if it feels that the rate of return needs to be reviewed?

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DR. BOOTH:

A. That's true, but the idea of fixing it either through an adjustment mechanism of a fixed rate is to allow the Board to focus on other areas, and rarely do I see boards actually bringing utilities in, other than on sort of a prefixed schedule. Like, the OEB has a five year period when it says it would review its formula, as did the AUC.

KELLY, Q.C.:

Q. That's to review the formula.

DR. BOOTH:

A. Well, yes, but reviewing the formula is reviewing the ROE, Mr. Kelly.

KELLY, Q.C.:

Q. Now where I want to go next with this discussion, because this is what kind of set up the piece that's puzzling me, if I take you ahead to page 68 in your testimony, this is the discussion you had with Mr. Johnson - can we bring it up a little bit further, Chris, the other way, so we get the table in there. There we go. What I tried to figure out - I'm just a lawyer, but I also tried to get some Newfoundland Power people to try to figure this out, this is based off the NEB, of course, which now doesn't have a formula in place, in any event, but -

DR. BOOTH:

A. Well, it does, Mr. Kelly. It still publishes a formula and there are still companies that get their ROE fixed by the NEB formula. What the NEB has simply said is we will not use the formula to set the ROE in new hearings.

KELLY, Q.C.:

Q. Right, and I don't want to get into the quibble over that.

DR. BOOTH:

A. It's not a quibble. There are pipelines in Canada that get their ROE set by the NEB formula.

KELLY, Q.C.:

Q. The point I want to come to, Dr. Booth, is in this mechanism here, you start from in 2010 with 8.92, which from the discussion yesterday, I take it, you take it as essentially 9 percent that the Board awarded for 2010.

DR. BOOTH:

A. Yes, I'm just saying that that's close enough

to 9 that, I mean, would the Board have brought the - would the Board have considered that difference between being material, and we asked Ms. Perry, and she didn't regard it as material. I don't regard 8 basis points as being material. Given the range of my estimates for 2013, it would be difficult for me to say 8 basis points is material.

KELLY, Q.C.:

Q. But your recommendation at the time for 2010 was 7.75 percent, correct?

DR. BOOTH:

A. That's correct. These are not my recommendations, Mr. Kelly.

KELLY, Q.C.:

Q. Right, and that's where I'm puzzled because you take us to this and the implication almost appeared to be that you were recommending 9 percent for 2010.

DR. BOOTH:

A. No, I'm not.

KELLY, Q.C.:

Q. That's not the case?

DR. BOOTH:

A. No, that's not the case. What I've done here

- there's two issues the Board has to face. What is a fair rate of return, which might be regarded as the entering ROE for an adjustment formula, and how do we adjust that in the future, and those are separate issues. I think I say somewhere that the Board can accept what I'm suggesting as an adjustment mechanism, even if it doesn't accept my ROE.

KELLY, Q.C.:

Q. Right.

DR. BOOTH:

A. And in order to look at the validity of what I'm recommending as adjustment formula, I went down and used the data that Ms. McShane provided in the Line 9 hearing, to avoid any controversy over the numbers, and we used the NEB formula, (a) because it was before the NEB, and (b) because it's the longest period of data that we have. The only other one would be the BCUC, but they kept changing their adjustment mechanism.

KELLY, Q.C.:

Q. But what seems to be the corollary out of that, Dr. Booth, is to use this mechanism and to have these numbers come up, you would have

to use it with parameters for 9 percent in 2010, is that not correct?

DR. BOOTH:

A. Can you rephrase that again? I think I missed the -

KELLY, Q.C.:

Q. In order to apply the formula, as you've kind of set out here, and to have it come up to 9 percent or 8.92 percent for 2010, you'd have to have parameters in the formula to generate a 9 percent rate of return, not 7.75 or 7.5?

DR. BOOTH:

A. That's right. I mean, just to clarify, all I'm doing here is saying when NEB set its formula in 1994 for the 1995 test year, we didn't have good data on spreads. In fact, when the information went before the AUC in 2003/2004, they said we're not going to do anything with corporate spreads because there isn't good data, there isn't a good series that's reliable enough to base anything off corporate utility costs. So that's partly why we never did that earlier on, it's partly why we had a one factor model, the ROE is only affected by forecast long Canada yields. All

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have gone back and said, well, if the NEB had made the sort of adjustments the regulators made in 2009 in the face of the financial crisis, which I would say was close to 50 percent of the change in the spreads, what would the ROEs have looked like over this previous period, and if the NEB had done that, the NEB formula would have predicted something close to what this Board allowed for 2010 for NP. So that's all I'm saying here is that you can fix up a formula so that it basically mimics what regulators did in 2010, and that was the situation up until the summer of 2011, and I think Ms. McShane and I would both agree on that.

KELLY, Q.C.:

Q. And that's putting inputs into it to make it historically go back to have the same result?

DR. BOOTH:

A. That's right, and that's what the Regie said was very important, that you have to - if you change your formula, you have to sort of back test that formula to make sure that it gave in, say, 2003 results that we felt were fair and reasonable in 2003, and if it ends up giving results that are significantly higher or significantly lower, it's implicitly saying that what we did then was wrong, and the Regie didn't like the idea that Ms. McShane's formula that she proposed in Gazifere implied the decisions that it made prior in previous years were wrong.

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KELLY, Q.C.:

Q. Okay, now -

DR. BOOTH:

A. It was mine basically rubber stamped, within a small difference, that what they did in previous years was correct.

KELLY, Q.C.:

Q. Okay, what I wanted to turn to next is to talk about the methodologies of how we go about getting ROEs, and you and I had some of this discussion in 2009, and we have substantially the same Board here, so I think a lot of it we can cover -

DR. BOOTH:

A. Quickly.

KELLY, Q.C.:

Q. Quickly, because we discussed this the last time. Now you used CAPM exclusively to generate your recommendation, correct?

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DR. BOOTH:

A. No.

KELLY, Q.C.:

Q. Okay, I'll give you an opportunity to -

DR. BOOTH:

A. What's changed since 2009, Mr. Kelly, I used CAPM, I would say, as a framework, and I don't think anybody objects to the idea that there are three basic principles in finance; time valued money, risk free rate, risk valued money or risk premium, and the tax valued money, that, in fact, rates of return are affected by taxes, and I think I said in 2009 because I've been saying it for decades, that the first two principles are captured in the CAPM, that there's a risk free rate and there's a risk premium. All that CAPM says is that that risk premium is a market risk premium and a beta coefficient. It doesn't say where the market risk premium comes from. It doesn't even say what the risk free rate is. So it's up to witnesses and experts to put content into the CAPM formula. In 2009, I think I - I'd have to go back and see what I was doing, but, I mean, I'm pretty sure I was looking at the historic risk premium in Canada because there is information of what has happened in the past, and I started using the survey data from Professor Fernandez. What's happened since then is really illustrated where in now compare on page 61, if I can take you to that, the risk premium model with the discounted cashflow model, and I would say that in 2009, I wasn't putting much emphasis on discounted cashflow models, and what I've started to do is look at what I call a naive DCF model, and DCF just means the dividend yield plus the growth, and a naive risk premium model, I call it CAPM, but it's really just a risk premium, the risk premium over the long treasury yield - the long Canada yield, and these should be exactly the same. Theoretically, they should be exactly the same, but by doing this, you can see that there's been periods, extensive periods, when there's been substantial divergences between the DCF estimate and a risk premium estimate. In particular, if you look at the graph, the last five years the DCF has been significantly

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higher than the risk premium model, which is why I now look at my estimates and rather than just using the historic risk premium, or even the survey data, I use the DCF model to estimate what is a reasonable return on the market, which hinges all of the CAPM estimates. So it's not totally CAPM. The final analysis looks like a CAPM, but it's a question of the data that goes into those values. So I'm putting much more greater emphasis on DCF now than I did three years ago.

KELLY, Q.C.:

Q. And while you got the graph on the screen, you pointed out that there are periods where DCF has been higher, but do I take it, it also shows that CAPM has been higher?

DR. BOOTH:

A. Absolutely. In fact, if you look at it, I would say one of the reasons the Boards in Canada downplayed DCF estimates was in the early 1990s, we had a collapse in inflation, we had very high real interest rates, and as a result, the risk premium estimates were significantly higher than DCF estimates.

KELLY, Q.C.:

Q. And, of course, the difficulty is we talked about a few minutes ago is the Board has to set a rate of return annually, like, for -

DR. BOOTH:

A. True.

KELLY, Q.C.:

Q. Under Section 80 of the Public Utilities Act. So there may be periods where tests diverge, and so the question is what's - how do you deal with that issue. That's the nub of the problem we're now currently dealing with in terms of the fact that, to use your language, a mechanical application of the CAPM gives low numbers.

DR. BOOTH:

A. I would say mechanical application of any model gives -

KELLY, Q.C.:

Q. Has the potential to give low numbers.

DR. BOOTH:

A. Or high numbers, and all I'm doing is pointing out here, and I listened to some of the witnesses, and I'm not responding to these particular witnesses, but I've been asked

several times about the role of judgment, and my standard answer is if you want somebody to add up a bunch of numbers, go and hire a statistician; if you want somebody to interpret those numbers and tell you what happened to generate those numbers, you ask an economist, and I'm here not just simply to add up numbers, I'm here to tell the Board what generated those models and why we've had problems in the past with DCF estimates, and why we've had problems with the CAPM, and I fully acknowledge that I would judge a simple application of the CAPM under current market conditions as giving unrealistic low estimates to the fair rate of return.

KELLY, Q.C.:

Q. Right, in fact -

DR. BOOTH:

A. And it's not just a question that I'm saying I think it's low. I'm providing the reasons why I think it's low, and I think they're entirely consistent with any reasonable understanding of current capital markets.

KELLY, Q.C.:

Q. And it becomes why you have to exercise

judgment in the parameters, do you agree with that?

DR. BOOTH:

A. I've always exercised judgment, Mr. Kelly. One thing that's characterized my testimony is a lot of discussion and a significant amount of judgment. I don't think this is just a question of just adding up number.

KELLY, Q.C.:

Q. Exactly the point. Now I want to come back to that discussion again in a moment or two, but let me take you to this next piece of discussion. Can we agree that since the last hearing before this Board, in other words 2009, that there has been a shifting emphasis among regulators from CAPM towards DCF, and I'm not by the question suggesting that other regulators have simply embraced DCF, but that there has been a shift in emphasis across the country in terms of the use of DCF with CAPM?

DR. BOOTH:

A. I agree with that. I think it's fair to say that regulators - generally they're pretty sophisticated. They know what's going on, they read the newspaper, and they can understand that when somebody puts together a simple CAPM model, whether or not that makes sense, and they've sort of felt their way towards a reasonable decision, and in this discussion all I'm doing is providing the economic back drop that supports the fact that I would regard current risk premium estimates, naive ones, as being too low. You have to put some judgment into them, which is what I've done.

KELLY, Q.C.:

Q. Now can we then go over to NP-CA-05, and if you'll scroll down, Chris - this deals with the BC Utilities Commission. Perhaps if you can take it - back up to the top of it. There we go. If you go to line 19, you were asked to confirm, "That in arriving at its 9.5 percent ROE for TGI, it gave most weight to the DCF approach, lesser weight to the ERP and CAPM approaches, and a very small amount of weight to the CE approaches", and - can you scroll down to the answer, please. You confirmed that that's correct, though you thought at the time it was a bit of an outlier.

DR. BOOTH:

A. I still think it's a bit of an outlier. It was the second highest allowed ROE in Canada that year.

KELLY, Q.C.:

Q. I'm not worried - I'm not asking you, though, Dr. Booth, about the rate of return. I'm asking about the methodology that in British Columbia, they gave most weight to the DCF approach.

DR. BOOTH:

A. That's correct, and that was an outlier because no other regulator has put that sort of weight on the DCF, and here I would have to qualify, Mr. Kelly, I did not put a lot of weight on individual DCF estimates. I think for individual companies, they're highly unreliable, and I think we heard that yesterday from Dr. Vander Weide when he said don't look at any one, look at the sample. I would go even further than that and say, well, the unreliable DCF estimate is what TD Economics does, RBC does, and what Mercer does, which is look at the overall economy, what sort of growth rates, what sort of

dividend yields, what are reasonable long run rate returns for the capital market as a whole, and that's where I put my emphasis on the DCF.

(9:45 a.m.)

KELLY, Q.C.:

Q. We'll come back to your DCF a little bit later, I'm not going to forget it. Can we go next to NP-CA-15. If you - this deals with the Ontario Energy Board, and the quote from the 2009 decision, "The use of multiple tests to directly and indirectly estimate the ERP is a superior approach to informing its judgment than reliance on a single methodology", and if you could scroll down to the answer, you confirm the answer, but then you pointed back to an OEB decision all the way back to 2004, before we got into all this financial trouble.

DR. BOOTH:

A. All the way back sort of implies it was a long way, Mr. Kelly, but I'll -

KELLY, Q.C.:

Q. It was before the -

DR. BOOTH:

A. I remember 2004 very well.

KELLY, Q.C.:

Q. But 2004 was before the crash, before the market collapsed and we got into the difficulties we're currently in.

DR. BOOTH:

A. That is correct, but all I'm referring to here is the fact that one panel of the OEB combined another, and we have one panel that decided that the most important thing was to use the correct methodology rather than multiple tests and then five years later we had another panel of the OEB saying we should use multiple tests.

KELLY, Q.C.:

Q. Right, but the five year span is now 2009, once we're into the current mess that we're in economically that we talked about earlier - Chris, can you scroll down to -

DR. BOOTH:

A. We're not in a mess economically, Mr. Kelly.

KELLY, Q.C.:

Q. Sorry?

DR. BOOTH:

A. We're not in a mess economically. Canada is now almost back to full employment.

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KELLY, Q.C.:
Q. I was speaking in a global sense. In this one, Dr. Booth, at line 18, you say, "In this respect, the 2009 statements of the OEB are an outlier compared to its previous decisions". So we got the BCUC being an outlier, and the OEB being an outlier, we can't have too many outliers because there's only a few boards.
DR. BOOTH:
A. Well, all I'm doing is - I mean, I'm just saying an outlier is pretty obvious that the OEB changed its decision.
KELLY, Q.C.:
Q. Exactly my point. We now have the OEB and the BCUC saying let's look at multiple tests, correct?
DR. BOOTH:
A. That's correct, and I have no problem with that. I'm looking at multiple tests.
KELLY, Q.C.:
Q. Okay, and in the recent decision, and Mr. Johnson took you to it - took several of the witnesses to it, in 2011 in Alberta, the Alberta Board looked at both CAPM and DCF tests, didn't they?

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DR. BOOTH:
A. Well, I think it's fair to say that there was a variety of tests put before the Alberta Board and they commented on all of them, and they used their own CAPM, and then they made adjustments. They also looked at bond ratings and things.
KELLY, Q.C.:
Q. And they looked at DCF and gave weight to all of them?
DR. BOOTH:
A. I can't remember exactly what weight the applied to the different tests, but that wouldn't surprise me.
KELLY, Q.C.:
Q. Right, okay. Now I want to come back to the discussion that we were having about judgment that goes into these, and if we talk about CAPM for a moment, there are the three elements. There's the market risk premium, the beta, and, of course, the risk free rate, and all of those require an exercise of judgment.
DR. BOOTH:
A. Correct.

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KELLY, Q.C.:
Q. Okay, and if I understand you correctly now in this hearing, you're saying that more judgment is required in today's environment than back in 2009? Can we go to PUB-CA-18.
DR. BOOTH:
A. That's correct. I would say that it is the normal - we're not - as I've sort of repeatedly said, I think capital markets in Canada are normal, except for the level of the long Canada bond yield, and unfortunately, that is one of the core ingredients for the CAPM, the way in which regulators have applied it. It's not a core ingredient of the CAPM for many other uses of the CAPM.
KELLY, Q.C.:
Q. And this is an answer that you gave to a request for information from the PUB staff, where they were asking you about the application of CAPM in current conditions, and you challenged the assumption built into it, but you go on to say, "Dr. Booth states that a simple mechanical application of the CAPM results in estimates that are not appropriate at the moment. He is still relying on the

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CAPM formula, only more judgment is required at the current point in time since the capital markets are dominated by the actions of the global policy maker". Agree?
DR. BOOTH:
A. Absolutely. I think that's been the theme of everything I've said today and yesterday.
KELLY, Q.C.:
Q. Okay, and if we then go - let's just go to the next one, PUB-CA-19, where the PUB staff asked you another question, and you were asked, "Please explain whether your adjustments to the standard CAPM formula are supported by finance theory, and if yes, provide details", and again you said there's a misunderstanding in the question, "Dr. Booth is using a standard CAPM formula, finance theory does not support any particular estimation method for the parameters that go into that formula", and then you go ahead and comment further. Well, if finance theory doesn't tell us what to put into the parameters, doesn't it become the judgment of the person applying the model?
DR. BOOTH:
A. To some extent, yes, Mr. Kelly. I've

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consistently said about the CAPM that it's more reliable than, for example, discounted cashflow estimates because it's judgment constrained by facts. I think I said that in 2009, and the facts normally relate to the fact that we have a lot of historic information going back 80 years on the risk return trade off, and that's about, I'd say, 5 to 6 percent, historically in Canada 4. 5 percent, historically in the US 5.7, and so coming along and saying, well, that's 10 percent, that adjustment I would say is not reasonable. We have to be constrained by the facts before us similarly on beta coefficients. If somebody comes along and says the beta coefficient for utilities is .7, I would say, well, there's absolutely no judgement, there's no empirical evidence to support that. So we can look at all of the evidence and then say, well, you got some judgment as to how these would change in the future, but you are constrained by facts.

KELLY, Q.C.:

Q. Now let's next go then to NP-CA-29, and in this one if you go to the answer first, you

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confirmed - take it subject to check, but the summary appears to be correct, it's the summary of the recommendations that you've made since about August, 2009.

DR. BOOTH:

A. Yes, I think that's correct.

KELLY, Q.C.:

Q. And if we go over to the second column on the right, adjustments to base ROE and reasons for adjustment, when we were here in 2009, the only type of adjustment that you made to the CAPM application was a margin of error in the use of the formula?

DR. BOOTH:

A. That's correct, and the reason for that was simply - I mean, if I go back and remember, the Fernandez survey results only came out in 2008, and prior to that, I was looking at historic evidence, 4.5 and 5 percent for Canada, and I was relying upon the 80 years of capital market history in Canada in terms of the risk return trade off. When I get new information, Mr. Kelly, I evaluate it and if it makes sense, I make adjustments, and at that time the Fernandez survey indicated that

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the range of market risk premiums were between 5 and 6 percent, very similar to now, and I said, well -

KELLY, Q.C.:

Q. We're almost -

DR. BOOTH:

A. My judgment is 5 percent, but I'm going to pay attention to the actions or the responses of 800 of my colleagues, and I said, well, I could be low, I'm adding a margin of error, and what I've done since then is simply directly incorporate that into my market risk premium estimates.

KELLY, Q.C.:

Q. And in fact, that margin of error, as you've just explained, simply related to the parameters that you were using?

DR. BOOTH:

A. That's right.

KELLY, Q.C.:

Q. Right.

DR. BOOTH:

A. It's a question of what is the market risk premium. We can look at historic evidence, five percent, and then if you get 7,000

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responses saying it's between five and six percent, I'm not blind to the reaction of all of these other experts in the area.

KELLY, Q.C.:

Q. Okay. Now if we go down then, by June of 2010, which was a year -- not quite a year later, in Quebec you had incorporated a half a percent for the crisis -- what you called the crisis premium, correct?

DR. BOOTH:

A. That's correct. That was essentially the credit spread adjustment, which is what I'm making now, and when we look at these risk premium estimates, we look at these historic estimates. We always accept that there is variability, that I mean, every year, the risk premium isn't exactly the same. So that's why I say historic evidence constrained by the facts and the question is how do you condition or how do you change this risk premium? Some boards don't like you to change the risk premium. The Regie doesn't like extra instability by changing the historic risk premium. And there's a variety of things in the literature that we use to condition or

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change the risk premium, based upon the state of the capital markets, and all I've done here is sort of condition the risk premium based upon the state of the corporateness of the government bond market, the spread.

KELLY, Q.C.:

Q. And the perception at that point in time as to where, in simple terms, the world was going to go and to be more precise about it, where interest rates are going to go?

DR. BOOTH:

A. Exactly, Mr. Kelly. If we go back to the Canadian Financial Conditions Index, those were extraordinary times in 2008 and 2009 and to say that the risk premium was just an historic average understated possibly the severity of the crisis from September 2008 to March 2009.

KELLY, Q.C.:

Q. Right. But now we're up to June of 2010 and let's just go to the next one, which is July of 2011, and perhaps we can look at the next two, September of 2011, and at that point in July, you were using a .325 spread adjustment and in September, half a percentage financial

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crisis premium, which is, I take it, essentially the same adjustments you were making back in June?

DR. BOOTH:

A. That's right. There were just basically a process of going from saying "well, how can we make subjective assessment?" to "how can we incorporate this in an objective way into the estimates, particularly so that they're useful for an adjustment mechanism that somebody might like to use?" and for an adjustment mechanism, it's not good enough to say "well, my subjective assessment is 50 basis points, based upon credit market conditions." You have to have some objective data to make an adjustment.

KELLY, Q.C.:

Q. And as we go down through the right side, let's keep an eye over on the left-hand side for the forecast long Canada bond yield. At that point in time, we're seeing that come down from four and a half percent. Now by September 2011, your forecast out for 2012 was four percent.

DR. BOOTH:

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A. That's right. You need to see a drop in the forecast interest rates.

KELLY, Q.C.:

Q. Okay.

DR. BOOTH:

A. And I mean, that's my forecast but it's -- obviously I do not rely totally on my own judgment. I use RBC and I use a consensus as well.

KELLY, Q.C.:

Q. Now, come down to the next one, which is March of 2012, which is -- at that stage, I take it this is the first time that you incorporate a full one point -- what I would call your full 1.2 percent adjustment, which is now a half percent credit adjustment, instead of .5 -- sorry, a .4 percent credit adjustment instead of .5 and your Operation Twist of .8.

(10:00 a.m.)

DR. BOOTH:

A. That's right. That was when, as I mentioned yesterday, Operation Twist went into effect September, I think it was, of 2011. It was announced in August. This is not the first time the Fed has done an Operation Twist. In

1961, they did an Operation Twist. And just to put things in perspective, twist just means to twist the yield curve, which is in between the long term interest rates and the short term interest rates. The academic research that went into the 1961 was it wasn't effective. It's ambiguous research, but at that time the 1961 conditions were not as severe as they are now. So, it wasn't certain that the Fed was going to affect interest rates. By the time I put together my TransCanada hearing, when I looked at what had happened to the interest rates in the fall of 2011, it had become clear that the Fed actually was affecting long term interest rates.

KELLY, Q.C.:

Q. Okay. Now, Chris, can you just bring the screen down another bit there? Then in -- the next one is May. We had your application here in Newfoundland and you have the .4 percent financial crisis spread and then .4 percent plus .8 for Operation Twist, essentially the 1.2 percent again?

DR. BOOTH:

A. Correct. I mean, the -

KELLY, Q.C.:

Q. But even in May of -

DR. BOOTH:

A. There was almost no changes. I mean, the testimony was based upon essentially the same data as the previous one.

KELLY, Q.C.:

Q. If we look back to the left-hand side, at that stage you're still thinking, in May of 2012, that interest rates are going to rise, as opposed to what happened to them?

DR. BOOTH:

A. Well, not just me, but I mean, I'd have to caution you, Mr. Kelly, I mean -

KELLY, Q.C.:

Q. You're the witness, so I'm -

DR. BOOTH:

A. I'm the witness.

KELLY, Q.C.:

Q. I'm putting the questions as to your knowledge.

DR. BOOTH:

A. Well, that's true.

KELLY, Q.C.:

Q. Others will speak for themselves.

DR. BOOTH:

A. All I can say is that I don't make these decisions in isolation. It was the general consensus. It was the consensus economics. I think the whole forecasting business, whole group of forecasters has been consistently wrong for the last two years, in terms of where interest rates are going, and it's taken a while to adjust to that, and that's really what we're seeing now. There's some acceptance that interest rates are going to be low for the indefinite future. I suspect, to be absolutely honest, that things will not be the same. I suspect the US economy is going to recovery a little bit stronger than most people think.

KELLY, Q.C.:

Q. The problem is the uncertainty, isn't it?

DR. BOOTH:

A. Um -

KELLY, Q.C.:

Q. Well, let me put it to you this way, Dr. Booth. The problem for a little utility on an island in the north Atlantic trying to run an

electrical system when you got to be dealing with cost of capital issues, that uncertainty is problematic.

DR. BOOTH:

A. It's always problematic, Mr. Kelly. I mean, if the cost of capital could be reduced to sort of just looking in the newspaper, then none of us would be here. We wouldn't have been here for four or five days. The fact is there's always uncertainty in the capital markets. I don't think there's been any one period, if you sort of track the media, when there hasn't been uncertainty, when there hasn't been a crisis in one form or another. As I've said repeatedly, the only thing we -- problem we've got in Canada at the moment is in fact -- and from the point of view of the estimate of the cost of capital, is the low level of the long Canada bond yield, and that's why I'm perfectly happy for this Board to fix the ROE based upon five percent long Canada bond yield, which I would regard as a normal bond yield average for the business cycle, and that's what my 8.25 percent fixed rate recommendation is based upon.

KELLY, Q.C.:
Q. Based on five percent?
DR. BOOTH:
A. Based upon five percent, yes, because as I mention in my testimony, RBC was coming up to 4.55 within the next 18 months last year, sorry 2011, and as recently as the middle of the last business cycle in 2006, long Canada bond yields were about 5.3 percent. So I regard five percent as reasonable and I based a fixed rate on that 8.2 for five percent long Canada bond yield and that's significantly higher obviously than the current bond yields.
KELLY, Q.C.:
Q. Can I ask you this question, Dr. Booth? Mr. MacDonald uses a CAPM application in his report and I take it you've had a chance to look at that?
DR. BOOTH:
A. I was working on that until about -- Mr. Johnson would verify -- 11:30 last night.
KELLY, Q.C.:
Q. Okay. I thought maybe you might have read it a little earlier than that, but -
DR. BOOTH:

A. Oh, I read it earlier. I said I was working on it. Mr. Johnson wanted me to help with cross-examination questions.
KELLY, Q.C.:
Q. Oh, I see, okay.
DR. BOOTH:
A. So that's a bit different.
KELLY, Q.C.:
Q. But in terms of Mr. MacDonald's application -
DR. BOOTH:
A. So I was up a long -- late last night, so let's just say that.
KELLY, Q.C.:
Q. Well, I will try not to keep you here too long today. In Mr. MacDonald's application, he doesn't make any of these adjustments. He comes up with a 6.84 percent. Can I get you to comment on Mr. MacDonald's application?
DR. BOOTH:
A. I'd say that's what a statistician does. It's not what an economist does.
KELLY, Q.C.:
Q. Okay. So you think that lacks the application of sufficient judgment or any judgment? How would you phrase that?

DR. BOOTH:
A. I generally don't comment on other witnesses' reports.
KELLY, Q.C.:
Q. Now, you've been free in terms of -
DR. BOOTH:
A. No, I've been forced to.
KELLY, Q.C.:
Q. You've been free in terms of Ms. McShane and Dr. Vander Weide.
DR. BOOTH:
A. But that's a bit of a difference. Dr. Vander Weide has done 400 rate cases. I mean, he's not exactly an inexperienced witness and Ms. McShane, I saw Ms. McShane testify for the first time with Steve Sherman, I think, in the late '80s. So I know exactly what Ms. McShane has been doing and I know exactly what Vander Weide is doing. But with due respect to Mr. MacDonald, this is the first time he's testified, and I remember the first time I testified, I was feeling my way. So I'm not going to criticize him for -
KELLY, Q.C.:
Q. No, I don't want to suggest any criticism.

What I would like the Board though to be -- to get somewhat serious about the question, I would like the Board to have the benefit of your views on how he applied the CAPM. Because you are a significant proponent of CAPM.
DR. BOOTH:
A. I would say if I criticized Mr. MacDonald, it would be because I don't think he's applied any judgment to his estimation techniques, whether they're the historic risk premium, whether they're the CAPM or whether they're DCF. He's basically just added up the numbers and said these are the numbers.
KELLY, Q.C.:
Q. Now, Dr. Booth, we talked a few minutes ago about what I'd call the shift by regulators from simply looking at CAPM to looking at I'll call it more balanced -- looking at a DCF approach as well, and if I take you to a question from the PUB staff, No. 26, PUB-CA-26, and the staff asked you "please explain why the DCF methodology was not used as a primary technique?" and you go through the first part. I'll skip down to the second

sentence. "As indicated in Dr. Booth's testimony, he has started to look more seriously at DCF models since the actions of the global policy maker has disrupted the bond market. Note Dr. Booth's Appendix D has an extensive discussion of DCF models, and until the shift to ROE adjustment formula in 1993, Dr. Booth routinely placed 50 percent weight on DCF models and 50 percent on risk premium models." So I take it you're -- even you are signalling some shift here in approach?

DR. BOOTH:

A. No. What I'm saying, Mr. Kelly, is that as a professor of finance -- my US textbook came out two weeks ago, my third edition of my Canadian textbook will be out in about four months -- I have two chapters on DCF models. It's the basic model which we use to value bonds. With extensions, we use it to value equities. And I got three chapters dealing with risk return models and the CAPM and other risk premium base models. There's no chapter on comparable earnings. That's not an acceptable way of estimating fair rates of return, the investors opportunity cost. So,

conceptually, I have absolutely no problem with using discounted cash flow. It implies the investors required rate of return, whereas the CAPM and risk premium models, it's normative and prescriptive, this is what they should be. They should give exactly the same answers.

And up until, as I mention here, my late colleague, Dr. Berkowitz, and I, we had four estimation techniques, two risk premium models, one CAPM, another risk premium model based upon premiums over preferred shares and two sets of DCF estimates, one from a sample of Canadian telecommunications companies and one from energy companies. At that time, the tel-cos were rate of return regulated and we had -- before we had Aliant, we had Newfoundland Tel and we had BC Telephone and we had Quebec Tel and we had Island Telephone in PEI. We had a lot of local rate of return regulated telephone companies. They've disappeared. So we can't do the DCF based upon companies that no longer exist. The energy companies, we've lost -- Maritime Electric used to be a privately owned company.

We used to have Union Gas, Unicor, as a privately owned company. Consumers Gas, which has now become Enbridge Gas Distribution, had a public float. So, there was a variety of companies that we could use to estimate DCF equity costs.

So three out of the four techniques that I used to use simply you can't use them because there is no data for them. But conceptually DCF and risk premium models are equally valid as ways of estimating the fair rate of return.

KELLY, Q.C.:

Q. Okay. That's helpful. I notice in the answer that one of the reasons you give for the shift to simply CAPM was the fact that ROE adjustment formulas became common and I think we can agree today that they are not as common as they were. There's not the regulatory consensus there once was for them. Would you go back to putting more weight on DCF?

DR. BOOTH:

A. As a conceptual justification and then there's the empirical fact of whether you can get enough data to input to come up with

reasonable estimates. I use a DCF on the capital market as a whole, as I said, similar to TD Economics and other people. I may -- I've been thinking about this, to be absolutely honest, Mr. Kelly.

KELLY, Q.C.:

Q. I thought you would actually.

DR. BOOTH:

A. I might have to go back and start looking at Enbridge and Canadian utilities, because remember also, I mentioned the companies that have gone out of existence. Emera and Fortis were not players ten years ago. So we've got Emera data now, ten years of data on Emera that we can actually look at start doing some DCF estimates on Emera and we can start looking at Fortis, and there, you may have gained from some of the cross-examination questions, it's very important that any estimates of future growth for a utility reflect reasonable constraints on the fact that these are slow growing mature companies. And that's where you need historic data to verify any future estimates of growth, and that's one criticism clearly I have against some other evidence that's before the Board, that none of those standard checks have been done. And in fact, I used to -- part of that testimony when I put together DCF and CAPM, I used to go through a whole list of standard checks that had to be done for DCF estimates to make sure they're internally consistent and valid estimates of the fair rate of return.

KELLY, Q.C.:

Q. So as we get these changing economic conditions, but more importantly, the changes or the disruption in the markets for long Canada bonds, the need to look to other methodologies becomes more important and even you are thinking about how you should approach that?

DR. BOOTH:

A. Even me. I would -

KELLY, Q.C.:

Q. Well, you're one of the strongest proponents for CAPM.

DR. BOOTH:

A. I think the whole academic finance community is the strongest proponents of CAPM.

KELLY, Q.C.:

Q. But you are looking at this?

DR. BOOTH:

A. I'm now looking at the factors I've -- I mean, I've got extensive discussion, Mr. Kelly, that sort of points out the problems with risk premium versus DCF models and I'm not aware of any other witness that has actually gone through and said "what are the pros and cons of these particular techniques? What are the biases over particular periods in time?" And I'm the first to admit that you have to look at these estimates and say "well, what's driving the difference?" You mentioned Mr. MacDonald, but I mean, he produces a DCF -- sorry, a CAPM estimate which he said was below what he regards as a fair rate of return. That's the first step. You come up with an estimate and as an academic I say "whoa, there's something wrong with that." The next step is: what's wrong with it? What is it that's generating the problems with that technique? And I'm not aware of anybody in Canada for the last two years that's gone through and tried to look at it and say "what's wrong with these estimates and how can

they be fixed up? What's going on?" And as I said, it's not just a question of adding up numbers. The Board wants to know what's going on.

KELLY, Q.C.:

Q. Sure. Let's go next, Dr. Booth, to page 64 of your evidence, which we had up on the screen a few moments ago. Because I understand you actually did DCF tests, and let's just -

DR. BOOTH:

A. That's correct. I looked at -

KELLY, Q.C.:

Q. Just wait until Chris gets it up on the screen.

DR. BOOTH:

A. Sure.

KELLY, Q.C.:

Q. Before we get into the test, I just have a question first. Chris, go a little further down, a little bit further. Okay. Dr. Booth, in the middle of the page, you have -- under DCF, there are three entries. One is for the Canadian equity market return as a whole, 9.3, and then I'll skip through the next one. Then you have, at line 26, a low risk US sample

median DCF at 8.73, and if I -- later on in your report, you reference that as your 8.73 as the DCF result. My question, first of all, is if I go back to the risk premium one at the top, you have the 50 basis points adjustment in it, but you do not reflect it in the bottom. Do you not need to add the 50 basis points adjustment to make your -- to bring your DCF number to a final number?

(10:15 a.m.)

DR. BOOTH:

A. That's reasonable, Mr. Kelly, but I produced this information -- first of all, explain why I've done this, and why I've done this is -

KELLY, Q.C.:

Q. The answer to the question that I put was -

DR. BOOTH:

A. No, you're absolutely correct.

KELLY, Q.C.:

Q. - was correct, okay.

DR. BOOTH:

A. If I was using that, I would have had a floatation cost, but I'm not using it. What I'm doing here is in previous hearings, people have said "you're just using CAPM" and I don't just use CAPM. I use a whole series of other information. So this is really a reaction, I'm just going to put in a whole set of information here to indicate all the estimates that I've made, because I come up with one recommendation and people say "oh, just CAPM, dismiss it. You should be using multiple tests." I used multiple tests. It's just that I don't put them in a table and I decided to put them in a table here, or at least a set of estimates here to indicate to the Board that I'm not just simply using CAPM. I've looked at a variety of other estimates.

KELLY, Q.C.:
Q. So the comparable DCF number would be 8.73 plus 50 basis points or 9.23?

DR. BOOTH:
A. That's correct. But as I also mentioned, Mr. Kelly, I mean, a broken clock tells the right time twice a day, and -

KELLY, Q.C.:
Q. Can we go to Appendix -- because I'd like to see where you get your 8.73. Can we go to Appendix D and your analysis starts at page 11 and if we go over to page 14? Starts at 11

with your discussion of individual company results and, Chris, we can go through that and come over to page 14, at the top of the page. Sorry, give me just a minute. Sorry, top of page 15, I think. Yes, top of 15. There you go, Dr. Booth.

DR. BOOTH:
A. Yeah.

KELLY, Q.C.:
Q. You used a sample and the sample that you used to do your DCF estimate -- because you actually did two. The first one you did was on a select group of companies -- are American utilities, correct?

DR. BOOTH:
A. Correct.

KELLY, Q.C.:
Q. And the American utilities, in order to select a sample, you're looking for comparable investment grade utilities, correct, or comparable investment utilities?

DR. BOOTH:
A. As I explained earlier, these are the utilities that were the nexus or the intersection of a set used by Ms. McShane and

Dr. Velbert and they were what I would regard as the unanimously low risk utilities used by US witnesses.

KELLY, Q.C.:
Q. And out of these -

DR. BOOTH:
A. And I presented their Betas and when I started doing this, I thought well, an obvious information request from the company would be: you're using the betas, where's the DCF estimates. So I produced the DCF estimates in exactly the same way as other US witnesses have used them.

KELLY, Q.C.:
Q. And all of the companies, with the exception of New Jersey Resource, are in Ms. McShane's sample, correct?

DR. BOOTH:
A. Yeah, they were consistently Ms. McShane's and they were also in, as I said, Dr. Velbert's.

KELLY, Q.C.:
Q. Okay. In this case, you added New Jersey for some reason. I take it you selected that one?

DR. BOOTH:
A. That used to be in -- no, I've always used

that one because that was in a sample when I set these utilities up, I think it was two years ago.

KELLY, Q.C.:
Q. All right.

DR. BOOTH:
A. And I think that's probably dropped out of -- I mean, it may have dropped out of Ms. McShane's sample now, but that was one that she's always regarded as being low risk utility.

KELLY, Q.C.:
Q. Okay. So your DCF analysis using this more limited sample gave 8.73 and just so the Board knows where to find it, if we go over to the third column from the right, the 8.73 is the median number under K, correct?

DR. BOOTH:
A. That's correct. I wouldn't use an average in this case because averages are sometimes skewed by outliers, and in this case, it's skewed by AGL, which has got a negative growth forecast.

KELLY, Q.C.:
Q. Perfect, okay. Now then can we go over to

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Schedule 11, which is your other analysis? And still in that Appendix, Chris. It should be a big table, Chris. It's on page 29. There we go. It's the top half of the block, Chris, if you can -- now, Dr. Booth, if I follow this correctly, this is your DCF on the S&P electric index from the US?

DR. BOOTH:

A. That's right. In order to get into the S&P 500, there were certain constraints. One of it is in terms of market capitalization. So these are the big -- the bigger companies. It comprises about 85 percent of the market value for the US capital market. So these are the ones that were big enough to get into the S&P 500 index.

KELLY, Q.C.:

Q. Right. So if we -- first of all, we had a little small sample that gave us 8.73. Then we have the whole electrical utility index for electrics, and if we go over to the K column again, which is -- what's that, five from the right -- the bottom number, you actually get the same result, 8.73.

DR. BOOTH:

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A. Yeah, but that's a time series average rather than an average at a particular point in time. That's the average going back to 1993.

KELLY, Q.C.:

Q. Right.

DR. BOOTH:

A. And we can see, for example, in 2001, it was 10.28 percent because that was the middle of the tech crisis and we can see that in 2008 and 2009, it was 9.6 percent or so, which was the financial crisis. So, the cost of equity clearly varies with capital market conditions. So that's just an average over the last 20 years.

KELLY, Q.C.:

Q. Okay. Now then the last piece of this that I wanted to touch on relates to what's been awarded in Canada, especially in 2012? And I take it, you are in agreement with Ms. McShane that the average awards in Canada in 2012 by regulators work out to 9.08 percent, if we go to PUB-CA-23. And in the answer -- this was a question asked by Board staff again, and you were asked, "how does your CAPM conclusion and the ranges set out compare to other investor

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owned utilities ROEs allowed in 2012?" and you say "utility allowed ROEs are in Schedule 3 to Ms. McShane's testimony and average 9.08 percent for 2012."

DR. BOOTH:

A. That's right, the ones in Ms. McShane's schedule, that's -- I have no reason to question those allowed ROEs. I will point out some of them are for utilities that are demonstrably more risky than Newfoundland Power, so they're not benchmark ROEs, they're just an average of all of the allowed ROEs.

KELLY, Q.C.:

Q. Now can I take you next to PUB-CA-15? I'm going to shift gears here a little bit now as we talk about capital structure. In May of 2012 when Newfoundland Power applied, you filed a report in that case and did not suggest any changes to Newfoundland Power's capital structure. And the PUB staff asked you the question "please describe the changes in capital markets since your previous expert report on Newfoundland Power dated May 2012, which supported no change in capital structure." That's the '12 report. And your

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answer was "capital market parameters are essentially the same since its external factors," et cetera. So the capital markets really haven't changed in any way in relation to capital structure, have they?

DR. BOOTH:

A. No. I think, what -- sorry, yes, I think you're correct. The only thing that's really -- I mean, we're a little bit better off now than we were in the spring. The stock market has recovered. There's more confidence in the equity markets, particularly last three weeks. Long Canada bond yields have just gone down. But, so that answer is absolutely correct. You probably remember, Mr. Kelly, in 2009 I said you should revisit Newfoundland Power's common equity ratio, but I felt at that time it was premature, even though I felt that it should be lowered. And the filing in May, I'd have to go back, but there's no discussion of adjustment mechanism and there's no discussion of changing the common equity ratio, because that was to fix the allowed ROE going back for 2012, since the Board suspended the formula.

KELLY, Q.C.:

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Q. But just a second now, Dr. Booth. We all know that ROE and capital structure are related. I mean, you're not going to sit there as a finance professor and tell me that somehow ROE is -- you separate it. Take, for example, the Alberta Board where they balance capital structure with ROE. So -

DR. BOOTH:

A. That's correct.

KELLY, Q.C.:

Q. - you're too smart for that. I know that.

DR. BOOTH:

A. Well, I take it that's a compliment, Mr. Kelly.

KELLY, Q.C.:

Q. Absolutely.

DR. BOOTH:

A. In financial theory, there is very clear balancing of business risk and financial risk. For utilities, it is not so clear, simply because -- I agree 100 percent here with Dr. Vander Weide that as far as the equity holder is concerned, the imposition of debt imposes fixed charges and it magnifies the return to the common shareholder, and I think if you go

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back and look at the transcript yesterday, that's exactly what Dr. Vander Weide says, because that's what leverage does, it magnifies returns. When you look at utilities, you got to ask what is it magnifying and the fact is, it isn't magnifying anything because utilities do not have negative returns in the sense of below their allowed ROE. So I don't see any evidence that the actual imposition of debts for any Canadian utility over the last 20 years has magnified the risk to the common shareholders, not in terms of the short run, ability to earn the allowed ROE or the impact on the shareholder.

KELLY, Q.C.:

Q. So, on this -

DR. BOOTH:

A. Theoretically, it's correct and I can understand why the Alberta Board did that, and in fact, the Alberta Board was just following the National Energy Board in 1993-4 when it set the common equity ratios for the gas pipes at 30 percent and the oil pipes at 45 percent, when through exactly the same reasoning.

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KELLY, Q.C.:

Q. So we'll agree -- I take it we are in agreement that there's nothing changed since 2012 in the markets that would affect Newfoundland Power's capital structure?

DR. BOOTH:

A. That's correct, and as I think we will agree that I've put a marker down for Newfoundland Power's common equity ratio and I've now exercised that marker in the sense that I think the capital market conditions -- when we say there's nothing changed, nothing has changed except the long Canada bond yield, and with that is the fact that Canadian Utilities Inc., the parent company of ATCO Gas, ATCO Pipe and ATCO Electric, just issued 50-year debt at 3.8 percent. 50-year debt at 3. -- I mean, that's incredibly low interest rates. And Fortis Alberta, I think it was, issued 40-year debt at sub four percent. So the change in the low Canada bond yields has brought down the financing cost for utilities and they're now able to issue debt at incredibly attractive terms, terms that nobody ever anticipated a few years ago.

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KELLY, Q.C.:

Q. When you need to go to the market though.

DR. BOOTH:

A. When you need to go to the market.

KELLY, Q.C.:

Q. You don't borrow money and just have it sit in the bank because, as you explained to the Board the other day, that would be a negative return.

DR. BOOTH:

A. That's true, unless you felt that interest rates were going to change. If you think that interest rates are going to suddenly ramp up, and I'd suggest, Mr. Kelly, if you've got a mortgage and you look at it and say, "well, I currently can borrow -- get a mortgage at three percent" and you list to all of the stuff and say "well, I think interest rates are going to go up to five percent," then I suggest you should borrow as much as you can at three percent.

KELLY, Q.C.:

Q. Yes. But you're not suggesting, Dr. Booth, and I'm sure you're not suggesting this, the embedded cost of debt of Newfoundland Power,

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which is in, for the most part, 30 year bonds, you can't call them. They roll over when they roll over and so you deal with embedded debt when you get to that point in time.

DR. BOOTH:

A. That's absolutely correct. My understanding is that NP has got about 60 million dollars in long term debt with a over ten percent coupon coming to you over the next couple of years. But relative to the overall -

KELLY, Q.C.:

Q. So you'll deal with -

DR. BOOTH:

A. - financing, it's going to marginally lower the embedded debt cost.

KELLY, Q.C.:

Q. Not material.

DR. BOOTH:

A. No. Well, I wouldn't say not material. I mean, every -

KELLY, Q.C.:

Q. Every dollar helps.

(10:30 a.m.)

DR. BOOTH:

A. Exactly.

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KELLY, Q.C.:

Q. Now other regulators, and can we agree on this point, other regulators, for example, Alberta and BC, took steps for some of their utilities to actually strengthen their capital structures during the 2009 period. Ms. McShane sets this out in her evidence and she was examined on it.

DR. BOOTH:

A. That's correct. This has been a subject of some disagreement as to whether there's a trend increase common equity ratios and I think it's important on the record to indicate that in 2009 the Alberta Board, the AUC, increased the common equity ratios and set the allowed ROE to reflect capital market conditions. So unlike other boards that said capital market conditions are pretty bad, we're going to set the ROE based upon those capital market conditions, the AUC gave an across the board one to two percent increase in the common equity ratio, which reduces the risk to the common shareholders and also set the ROE to reflect capital market conditions. That's the only board, as far as I'm aware,

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that changed the common equity ratio to reflect both capital -- well, to change the ROE and the common equity ratio to reflect capital market conditions.

And as we went through with Ms. McShane, Terason Gas FEI is facing significant risk changes. At one point, people were proposing a $15 a gigajoule tax, carbon tax, on FEI when the cost of gas was only about seven dollars, because that's the only way in British Columbia that it can reduce greenhouse emissions because they regard natural gas as being a bad fuel. Everywhere else in the world we think it's a great fuel, but in BC, they got so much hydro that they're trying to shift people off gas. So those business risk factors facing FEI in 2009 that prompted an increase in common equity ratio, and I'll say exactly the same, the National Energy Board has effectively increased the TransCanada Mainline's common equity ratio for specific business risk reasons.

KELLY, Q.C.:

Q. But one of the factors that influenced those boards as well, and I grant your point that

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some of them have specific factors relating to the individual companies, but the Alberta Board in particular, and one of the factors for all of the increases were the financial conditions in the financial markets, and I'm not hearing you disagree with that.

DR. BOOTH:

A. No, I'm just -- no, I'm not disagreeing.

KELLY, Q.C.:

Q. No, okay.

DR. BOOTH:

A. As you indicated, Mr. Kelly, in the face of increased risk, you can increase the common equity ratio. You can increase the ROE. What I take exception to is people saying "well, look, there's been an increase in common equity ratios because of whatever reasons." What I'm saying is that some boards just increase the ROE. Other boards increase the common equity ratio and the ROE. So when you're looking at sort of comparisons, it's important to go through and say "well, this is what this board did. It's just ROE and common equity ratio. Whereas this board is just ROE."

KELLY, Q.C.:
Q. I accept that, okay. Now have you examined Newfoundland Power's ability to issue preferred shares, Newfoundland Power specifically?
DR. BOOTH:
A. No. Newfoundland Power hasn't accessed the preferred share market. For that, you'd have to go and talk to an investment dealer and say "what are the terms and conditions under which we can issue preferred shares?" What I have done is look at Fortis. Fortis issued 200 million dollars of preferred shares just six weeks ago.
KELLY, Q.C.:
Q. Fortis is a huge big entity, relative to Newfoundland Power, is it not?
DR. BOOTH:
A. Absolutely, and Canadian Utilities Inc. is a huge entity, relative to ATCO Gas and ATCO Electric and ATCO Pipelines and what CU does is issue preferred shares and debt and then just mirrors down the cost to its subsidiaries and Fortis can do exactly the same thing.
KELLY, Q.C.:

Q. Oh, no, no, no, no. Just a second now, Dr. Booth. Can't let that go.
DR. BOOTH:
A. They may not want to do it, but they can do it.
KELLY, Q.C.:
Q. No, no, just a second now. This Board, back in 2003, '04, '05, I've forgotten the right time frame, has mandated Newfoundland Power to be a stand-alone utility and has to operate as a stand-alone utility. If Fortis were to have preferred shares drop down to Newfoundland Power, those preferred shares would have a Fortis credit rating, would they not?
DR. BOOTH:
A. It would.
KELLY, Q.C.:
Q. They would, and that would be contrary to this Board's order that Newfoundland Power be set up as a stand-alone utility.
DR. BOOTH:
A. The Fortis credit rating is not as good as Newfoundland Power's credit rating.
KELLY, Q.C.:
Q. This Board has ordered Newfoundland Power to

be established has a stand-alone utility because the Board was concerned that -- the former Consumer Advocate was one of the proponents, but the Board had a concern that with the risk that a holding company could be downgraded, imposing a burden on the utility. And so that firewall was put in place. Are you now suggesting that that should be undone?
DR. BOOTH:
A. No. I 100 percent agree with that.
KELLY, Q.C.:
Q. No, of course not.
DR. BOOTH:
A. In fact, that's what we call ring fencing.
KELLY, Q.C.:
Q. Exactly.
DR. BOOTH:
A. Because the standard problem, and I can see this, for example, Enbridge Inc. is rated A- by DBRS and Enbridge Gas Distribution and Enbridge Pipeline are rated A, but both of them are rated A- by Standard & Poors because Standard & Poors looks at that and says well, the subs are ring fenced and Enbridge Inc. can do things to damage the credit rating of the

operating subsidiaries.
KELLY, Q.C.:
Q. Right. So Newfoundland Power is -
DR. BOOTH:
A. So I've been advocating ring fencing for at least the last ten years, Mr. Kelly.
KELLY, Q.C.:
Q. But that's inconsistent with what you said to the Board a few moments ago, that Fortis can run -- drop down these preferred shares. We are ring fenced. We are a stand-alone entity, Dr. Booth. You will agree with that?
DR. BOOTH:
A. Oh, look, I 100 percent agree with that.
KELLY, Q.C.:
Q. Okay.
DR. BOOTH:
A. The point of ring fencing is to make sure that the rate payers in Newfoundland only pay the cost of service attached to Newfoundland.
KELLY, Q.C.:
Q. And the result of that is then that for preferred shares to be issued, Newfoundland Power would have to issue them. So the next question I want to ask you is -- because you

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said you wanted these -- your suggestion is that they should be redeemable and/or retractable so that they could be paid out after a five-year period. In that case, the credit rating agencies would treat those dividends as if they were interest for credit rating purposes, don't they?

DR. BOOTH:

A. It depends upon the terms of the preferred shares. But the important thing as far as the capital markets are concerned is that any preferred share dividends, even if they're five-year retractable, are dividends. They're paid out of after-tax income and a utility can stop paying those dividends without causing the utility to commit an act of a bankrupt or allowing the bond holders to petition for immediate payment of their debt.

KELLY, Q.C.:

Q. We're not going to hang our feet so close to the cliff that we're courting bankruptcy, Dr. Booth. That would -

DR. BOOTH:

A. No, no, no. I'm just saying that legally there is a difference between preferred shares

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and debt and the rating -

KELLY, Q.C.:

Q. But for credit -

DR. BOOTH:

A. Hold on. And the rating agencies look at that and you can structure a preferred share to look almost exactly like debt. In fact, revenue -- at one time, in the 1980s, a series of Canadian companies issued 30-day preferred shares. Basically, they were commercial paper and they were called preferred shares and Revenue Canada said "this is ridiculous. You can't have shareholders equity that's rolled over every 30 days. It violates the assumption that this is ownership" and it disallowed the treatment of 30-day preferred shares as preferred shares. So since they're a contract, you can design preferred shares to look exactly like any form of debt that you like to think of, and what the rating agencies do is they look at those preferred shares and they say "well, look, this looks like debt. We're going to treat it as debt." So there were certain types of preferred shares that they will treat as debt and the major criteria

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was the shorter the maturity and the fact that the maturity is paid off in cash, not in other preferred shares or anything else, then they will treat them as debt for the purposes of presentation in their financial statements. Doesn't change the fact that to meet an interest coverage ratio in a bond indenture, they're not included as interest and they do affect the interest coverage ratio and allow the utility to have financial flexibility and access in capital markets.

KELLY, Q.C.:

Q. So you haven't looked at Newfoundland Power's ability to issue them. Have you looked at Newfoundland Power's bond requirements?

DR. BOOTH:

A. My understanding is that in terms of the issue requirements for Newfoundland Power, it has to meet a time times what we call new issue test. That new issue test, if I remember correctly, you take the earnings for 12 months out of the best 24 and then you include interest. You do not include dividends. So the fact that I'm recommending the common be replaced with preferred shares is not negative in terms of

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the ability of Newfoundland Power to access the debt markets.

KELLY, Q.C.:

Q. Ms. Perry, you were here for Ms. Perry's testimony, and she said the only practical -

DR. BOOTH:

A. No, I wasn't. I was in Toronto giving a lecture.

KELLY, Q.C.:

Q. Oh, I'm sorry. She testified, and you may or may not have had a chance to look at the transcript, that the only practical way to reduce the capital structure was to borrow 42 million dollars to pay it out.

DR. BOOTH:

A. Well, the obvious thing to do is that Newfoundland Power issue 40-42 million dollars worth of preferred shares, get the cash and then pay it out as a dividend to Fortis.

KELLY, Q.C.:

Q. That assumes that that is doable and at an appropriate cost, which you haven't examined, correct?

DR. BOOTH:

A. Well, what I do know, Mr. Kelly, is that that cost is going to be nowhere close to the cost of the return on equity. I mean, preferred shares, if you look at the retractable preferred, they're at about 3.7. If you look at the redeemable preferreds that Fortis issued, they were 4.7. They might be five percent.

KELLY, Q.C.:

Q. And then they have to be grossed up for tax, don't they?

DR. BOOTH:

A. Well, that's true, but so does the return on the common equity. So you've got to compare like with like. As I said in the presentation yesterday, I regard my recommendation as being extremely conservative, but I'm just saying 45 percent go 40 percent common, five percent pref. So I'm not saying go immediately to what Fortis Alberta has got, 40 percent common and 60 percent debt. I've got a halfway house. If I was looking at replacing them with debt, the savings in terms of the reduction in the revenue requirement would be a lot more significant. But I think at this point, I think a halfway house with preferred

shares, I think that's a very reasonable proposition. It still gives Newfoundland Power pretty much the best capital structure across Canada, in terms of utilities.

KELLY, Q.C.:

Q. Have you considered the company's credit metrics?

DR. BOOTH:

A. Yes.

KELLY, Q.C.:

Q. Can I take you to NP-CA-27? In the answer to this question, you point out that you're not a bond rater, and if I take you down to the latter part of the answer, 17, 18, "rating agencies look primarily to the strength of regulatory protection and place less weight on financial metrics. However, interest coverage of 2.8 times is well above the standard for an A rating of a gas or electric distributor in Canada. Given other factors relevant to NP, Dr. Booth would be more concerned if it dropped to the two times level."

DR. BOOTH:

A. Yeah, that's the litmus test for interest coverage ratios because most -- certainly all

the gas distributors in Canada in a prospectus of the -- not the prospectus, but the agreement with the trustee that allows them to issue medium term notes and other securities, they have a two times interest coverage restriction.

KELLY, Q.C.:

Q. So you're -

DR. BOOTH:

A. So they can't issue, literally cannot issue say medium term notes, unless they satisfy the interest coverage ratio restriction as calculated in the covenant.

KELLY, Q.C.:

Q. So, I must say, I'm somewhat astonished that you're sitting here and essentially telling the Board that you're going to be concerned when we get to a level of interest coverage that Newfoundland Power is on the brink of no longer being able to borrow in the capital markets. That's when you're going to get concerned?

DR. BOOTH:

A. No, no. Look, I'm saying -- I said I'd be more concerned. I mean, I didn't say I don't

get concerned. Two times is the litmus test. Even there, Mr. Kelly, Enbridge Gas Distribution dropped below two times and it came before the Ontario Energy Board and said basically "the sky is falling. We can't issue medium term notes. We've got to get immediate financial relief." The OEB ignored them and their interest coverage ratio recovered. In their case, it was due to warmer weather causing a lower return on equity. Terason Gas, FEI, has had interest coverage ratio around two, all the way up until 2009 and its parent at the time, West Coast Energy, had an interest coverage ratio of about 1.6, 1.7 and they still had an investment grade rating. And you look at the parent, Fortis, doesn't have a two times interest coverage ratio. So I'm saying that the -- you get concerned, I'd be more concerned if you drop below two. I'm not concerned about a reduction of 2.88 to 2.8. I don't think that's material.

KELLY, Q.C.:

Q. Dr. Booth, you indicated you'd looked at Newfoundland Power's credit metrics. Did you do any kind of an analysis of the combined

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effect of your proposals and the depreciation recommendations that the Consumer Advocate is advocating from Mr. Pous?

DR. BOOTH:

A. I didn't look at the depreciation recommendation.

KELLY, Q.C.:

Q. Sorry, you did or didn't?

DR. BOOTH:

A. I did not.

KELLY, Q.C.:

Q. You did not.

DR. BOOTH:

A. The depreciation affects the cash flow.

KELLY, Q.C.:

Q. Yes.

DR. BOOTH:

A. It won't affect the interest coverage or the yield, the debt ratio. It will affect the cash flow flowing towards debt, which is one of the ratios that people look at.

KELLY, Q.C.:

Q. And you haven't looked at -- you haven't done that analysis?

DR. BOOTH:

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A. I wasn't aware of the depreciation information that was put forward. This is -- I was asked to look at what the fair ROE was.

KELLY, Q.C.:

Q. Right, and -

DR. BOOTH:

A. Depreciation isn't a factor in the fair ROE. Depreciation may be a factor in the credit metrics. The interest -- and when I look at this, I think it was Mr. MacDonald asked me to put my combined results together and I didn't do that and I didn't do that because it's perfectly legitimate to look at the common equity ratio in terms of the financial strength of the utility ability to earn capital. So it's perfectly legitimate to sort of say well, if you replace the common with preferred shares, how does this affect the financial integrity of the utility, which is what I've done in this question here. It is not legitimate to look at the return on equity and think of that in terms of the credit metrics, and we specifically asked Ms. Perry "do you think the equity holder should be rewarded in terms of a higher ROE or bigger

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common equity ratio in order to support the credit metrics?" i.e. does the equity holder get rewarded in order to target particular credit metrics? And I think her answer was no.

(10:45 a.m.)

KELLY, Q.C.:

Q. Mr. Chairman, we're coming up to 10 to 11 and I'm about to shift to another area, which will take more than ten minutes, but I'm -- we've actually made very good time this morning. I would estimate another half an hour and I'll be done. So this would be a good time to break, if it's convenient to the Board?

CHAIRMAN:

Q. Absolutely.

MS. GLYNN:

Q. Yes, it's only a 15-minute break.

KELLY, Q.C.:

Q. 15 minutes, yeah, that's fine.

(BREAK - 10:46 a.m.)

(RESUME - 11:07 a.m.)

CHAIRMAN:

Q. So, let us press forward.

KELLY, Q.C.:

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Q. Thank you, Chair. Dr. Booth, the next area I want to turn to is the formula. I just want to have a quick discussion with you over some of the issues surrounding that. I take it, first of all, we can agree that any formula is a construct or a device to give us an approximation of cost of capital. It's not an absolutely correct calculation in any event?

DR. BOOTH:

A. That's correct. If you wanted something absolutely correct, you'd probably have to have a quarterly cost of capital hearing and set the cost of capital on a quarterly basis, because cost of capital changes every single day.

KELLY, Q.C.:

Q. Sure. And it's really a proxy or a substitute for having a cost of capital hearing?

DR. BOOTH:

A. That's correct. Exactly the same way as a fixed rate is.

KELLY, Q.C.:

Q. Now the particular formula that you've proposed has a couple of elements to it that I'd like to discuss with you. The first is

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the factor for adjusting long Canada bonds that you use is 75 percent and just without taking forever with it, just give the Board an explanation of why you use 75 percent.

DR. BOOTH:

A. This is in my testimony. Originally, in 1993, before the BCUC, my late colleague and I recommended 80 percent. Before the Manitoba Public Utilities Board, we recommended 80 percent. And the Manitoba PUB accepted an 80 percent adjustment. The BCUC went with 100 percent adjustment. The NEB then went with a 75 percent adjustment. So there was a variety of decisions when the automatic adjustment formula were put in. Subsequently, I'd see no material difference between 80 percent and 75 percent and I went with 75 percent. The empirical work that we did back in the early 90s was not precise enough to say there's a difference between 80 percent and 75 percent.

The second reason is relates to internal consistency and I discuss this in my report. If the beta of a utility stock is .5 and the adjustment model is .5, it indicates although the return on the utility would change, it

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implicitly states that the expected return on the market is constant. So if you take an adjustment mechanism of .5 and you judge a typical utility to have a risk of .5, which is what I do, then what directly follows out of the arithmetic is that the assumption is the expected return on the market is constant. And that's an assumption I cannot live with. We've seen in the forecast, the long run forecast from Mercer, the long run forecast of TD Economics, that they don't judge the long run return on the market to be constant. So, I don't think that is valid. I prefer .75, as I explained towards the Regie, because it results in estimates that are consistent with what the Regie did in earlier periods and that's important. That a board, whenever it changes a formula, has to sort of say "well, I wouldn't -- by using this formula, do we now say that everything we've done in the past is wrong?" and that's what -- that was something the Regie thought was important.

Having said all of that, I state in my testimony I don't think that the adjustment to long Canada bond yields is as important now as

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it was back in the early mid 1990s. In the mid 1990s, some of us will remember the Government of Canada had a deficit approaching ten percent of GDP and the NEB, when it set its formula, the forecast long Canada rate was 9.25 percent and we had significant inflationary problems that were just coming down. So there was a general perception that long Canada bond yields were going to change significantly. That's all changed. The Bank of Canada has had a one to three percent target agreed to with the Federal Government for the last 20 years and that's held in the capital markets. People generally believe now that we're not going to get inflation outside of a one to three percent range.

So, if you ask me -- or if the Regie asked me, is it important to be consistent with what they did in 2001 or 1995, I would say not really. I don't think we're ever going to get nine percent long Canada bond yields again. It would mean everything the Bank of Canada and the Government have done over the last 20 years has evaporated.

KELLY, Q.C.:

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Q. Can I summarize a little bit of what you said with a couple of comments? First of all, I take it from a theoretical point of view, you'd view 75 percent as more appropriate than say a 50 percent adjustment, as one comment, and the second comment is that even that having been said, given the current interest rate environment with long Canada bonds out into any sort of time frame, it's not as important a factor in any event? Are those -

DR. BOOTH:

A. That's exactly correct.

KELLY, Q.C.:

Q. Those are the two points I'm picking out of what you're saying?

DR. BOOTH:

A. That's right. Conceptually, I think .5 is incorrect because it violates basic economic assumptions. But does it matter? I don't think it matters as much now as it did in the 1990s and the 2000s. So I'm not -- I wouldn't fight tooth and nail over .75 the way that I would have 10-15 years ago.

KELLY, Q.C.:

Q. Okay. Now many regulators have now

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discontinued the use of the formulas or suspended their operation. I guess Ontario, because it has a whole panalopy of utilities, still uses a formula?

DR. BOOTH:

A. That's correct. The problem with Ontario is it regulates what used to be the municipal electric utilities and there's -- I forget how many, 60-70-80 of them, and they can't possibly have rate hearings for all of these little utilities.

KELLY, Q.C.:

Q. And many of them are very small utilities.

DR. BOOTH:

A. Tiny. So they basically deem not just the ROE, but also the A bond yield cost, the short-term cost. They basically deem the cost of capital for these utilities.

KELLY, Q.C.:

Q. So they have an administrative need that for a mechanism that this Board, for example, doesn't have the same need for?

DR. BOOTH:

A. That's correct.

KELLY, Q.C.:

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Q. Right, okay. And their formula is 50 -- uses the 50/50 model, if I can call it that?

DR. BOOTH:

A. That's right. That was -- I can talk at length how they arrived at that, Mr. -

KELLY, Q.C.:

Q. No, I -

DR. BOOTH:

A. But I don't think you'd want to hear it.

KELLY, Q.C.:

Q. I don't think we need to go there.

DR. BOOTH:

A. But suffice it to say it was not a litigated hearing and the justification for .5 came out of utility witnesses that have been advocating .5 for the last 20 years and in litigated hearings, they never won .5. The NEB specifically rejected it. The AUC specifically rejected it. The OEB specifically rejected it in previous hearings. And they got to .5 in 2009 mainly because there was no other -- it wasn't a litigated hearing and there was no other evidence to the contrary.

KELLY, Q.C.:

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Q. Okay. Now the next place I'd like to go is to the second part of a proposition that we just talked about, which is the fact that we are in this low interest rate environment. Your formula that you're proposing is what I'll call a constrained formula in that it has this floor, so at least the long Canada bond component is not even going to move until you're over 380 basis points, until you're at 3.8 percent.

(11:15 a.m.)

DR. BOOTH:

A. That's correct. In terms of the Chairman's comments, until the long bond market is back to normal, because at the moment, I don't think either myself or Ms. McShane think the current long Canada bond yields are normal. They're not.

KELLY, Q.C.:

Q. And so that's in the order of magnitude, if we're at two and a half now, or 2.6 now, that's 1.2, 1.3 percentage points rise that we'd have to get before we'd even get to that?

DR. BOOTH:

A. Yeah, 130 basis points or my 3.8, 150 on the

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basis of Ms. McShane's four.

KELLY, Q.C.:

Q. And based upon the discussion that we had this morning, that doesn't appear to be in the cards until somewhere around 2015 or beyond. Would you agree with that?

DR. BOOTH:

A. I would agree that that's the perception of most forecasters. Capital market conditions can change quite rapidly. As I said, June 2011 we were looking at long Canada bond yields going back to 4.55 percent and it was the action of the Fed and I don't -- and it all depends, to be absolutely honest, Mr. Kelly, it depends upon political action in the United States. Ben Bernanke is not very popular amongst the Republicans and if we'd had a different presidential election in the United States, I don't think Ben Bernanke would be there in another year.

KELLY, Q.C.:

Q. Can I suggest to you then, Dr. Booth, that there isn't a great need for urgency in doing anything with the formula? The Board, one of the very real options the Board has before it

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is to set the rate of return, especially we have a two test year basis here now, and wait and see what happens with the capital markets. Is that not an option that the Board realistically can consider here?

DR. BOOTH:

A. I think that's reasonable. It's why, in addition to the formula I recommended to the Board, if it doesn't want to go with the formula, then it can fix the rate and my recommendation on a fixed rate which would be based upon a normal bond yield of five percent would be 8.25 percent, and that's a little bit more than I recommended this spring of 8.15 because that was based upon just the next two years, whereas the 8.25 I recommended is fixed for a five-year period.

KELLY, Q.C.:

Q. I'm not going to get into a debate with you over rates. We'll -

DR. BOOTH:

A. Ten basis points.

KELLY, Q.C.:

Q. Well, we'll argue about all that in due course. But what I do want to focus on is

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this question: I'm sure you either heard Ms. Perry or had an opportunity to read her evidence. One of the concerns that she expressed -- and let me give you the proposition first from the finance point of view and see if you agree.

DR. BOOTH:

A. Yeah.

KELLY, Q.C.:

Q. If the long Canada bond rates do rise, let's say within that 120 basis point range that we're talking to, so they start to bump up to three and a half or 3.75 or some range like that, is it not likely, more likely than not, that the credit spreads on corporate bonds will narrow?

DR. BOOTH:

A. Let's hope that they do. The credit spread is a function basically of two things, what's been going on in the long Canada bond market and a perception of credit risk per se. Prior to Operation Twist in the summer of 2011, the credit spread was at 170-180 basis points and that was based upon forecast long Canada bond yields, four, four and a half percent.

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Currently the spread's still about 170-180 basis points, based upon the generic AUs, not the utility Bloomberg yields. If, over the next two years, long Canada bond yields pick up 100 basis points and the spreads collapse back to 100 basis points, it would indicate to me that the bond market is -- the yield on a long Canada bond is not being determined as much by the global policy maker and that capital is going into the A bonds as well as into the long Canada bond market, indicating reduction in credit spreads.

So, if you put to me what would your recommendation be at the moment, with the current long Canada bond yields, but instead of 180 basis point spread, a 60 basis point spread, which would generally indicate good capital markets, I would say that my rate of return recommendation would be lower because the credit markets are indicating that there's less credit risk, default risk out there, and that's a separate component to the long Canada bond yield.

KELLY, Q.C.:

Q. But you will agree that the operation of your

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formula, if it was -- if the Board were to adopt it, would have -- could have a result in which long Canada bond rates rise but the utility's equity, return on equity is in fact reduced?

DR. BOOTH:

A. Yeah, that's -- and I would say that that's -- in this current environment, given the floor I've got on the long Canada bond yield, I'd say that's an entirely reasonable result, because it would -- we would reflect significant improvements in the credit markets, independent of the actions of the global policy maker in the long bond market, and that's what you get when you go from a single factor adjustment model to a two-factor adjustment model. As soon as you have two things, credit spreads and long Canadas, you obviously have the potential that when one is rising, if the other one goes down, you'll end up with a result that long Canada bond yields go up and the ROE can go down. If you had three, you'd get even more complicated adjustments.

KELLY, Q.C.:

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Q. Exactly, and so you -- so these formulas, especially as we build in floors and other factors into them, like deadbands, et cetera, we are adding a degree of complexity now into how we're going to do all this mathematical calculation with the result of then what falls out of it has elements of uncertainty.

DR. BOOTH:

A. If you're telling me if you want to get an accurate description of a complex world, then you need a complex model, then I'd 100 percent agree with you. When we put in the adjustment formulas in the mid 1990s, as I said, the dominant thing was very high long Canada bond yields and very high -- a fear in the capital market that the Federal Government wouldn't follow through on all of its budget cuts and tax increases, but instead would just inflate its way out of its budget problems. That was what motivated the original models. And I think by and large, they did a very good job of picking up the decline in the long Canada bond yield, the decline in inflation and the improvement in the Canadian capital markets.

Is that still appropriate now when that's

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not the dominant theme? Instead the dominant theme is what's happened to the long Canada bond yield and default spreads, credit spreads. Then you get a more complicated model.

KELLY, Q.C.:

Q. And here's the problem. When we look back to 2009, the thrust of your evidence, and other experts, not just you, was that okay, look, long Canada bond rates are going to rise. As long Canada bond rates rise, the utility's cost of equity will rise with it. Now we're in a funny environment where what you've just explained, we could have long Canada bond rates rise and utility cost of capital actually decline, which would be a very unusual situation. Would you not agree?

DR. BOOTH:

A. No, I wouldn't regard that as unusual. What I would say is what's unusual is the starting point and the starting point at the moment is long Canada bond yields of 2.3, two and a half percent forecast, 2.7 percent. That's what's unusual. So what I'm saying is that I'm making adjustments because of the unusual long

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Canada bond market at the moment and I'm not lowering the allowed ROE. If you allowed the ROE to go down with long Canada bond yields, you'd end up with CAPM estimates like Mr. MacDonald, six and a half percent. And I don't regard those as a fair ROE. They're not my recommendation. But if you went that way, you'd end up with six and a half percent and then you'd get your result, rising long Canada bond yields, rising ROE. Do I think that that's fair to Newfoundland Power? The answer is no.

KELLY, Q.C.:

Q. So what the -- one other alternative, which is the one we discussed a few moments ago, is actually not to adopt a formula, to set a rate of return and see where this develops out into the future?

DR. BOOTH:

A. That's correct and that's why I did propose an alternative fixed rate of 8.25 percent.

KELLY, Q.C.:

Q. Okay.

DR. BOOTH:

A. And incidentally, Mr. -

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KELLY, Q.C.:

Q. Kelly.

DR. BOOTH:

A. Sorry, I was -

KELLY, Q.C.:

Q. I know you had a long night. Mr. Johnson's fault.

DR. BOOTH:

A. Except for the credit spread adjustment, my adjustment formula is a fixed rate because if the long Canada bond yields don't change and they don't hit the floor, apart from the credit spreads, the ROE is constant. So all I'm doing is sort of basically saying well, you got a floor to the ROE providing there is no dramatic improvement in the credit markets and a dramatic improvement in the credit markets means the economy is doing very well, credit risk is disappearing and as a result, risk aversion has gone down.

KELLY, Q.C.:

Q. Well, no, but now you've added in no dramatic change in the credit spread. As I understand your formula, your formula picks up every change in the credit spread.

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DR. BOOTH:
A. That's correct. But I mean, to have -
KELLY, Q.C.:
Q. Right. It's not just dramatic.
DR. BOOTH:
A. - a material impact on the ROE, if the credit spread dropped from 180 to 60, that's a very important indication that something important has happened in the capital markets and we're into this catch 22. The Regie didn't like this formula, because it adds a little bit more instability, but they said "well, we'll live with it because it does capture the credit market impacts." But they seem to want a smooth, a constant sort of predictable formula. The OEB came out and said we need a formula that gives the exact ROE every single year as accurately as possible with no smoothing over the business. So they accepted the credit risk adjustment. Different regulators have responded to the adjustment mechanisms depending on whether they're quite happy with the ROE changing by ten basis points or 15 basis points every year because "it's more accurate" versus a more stable ROE.

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And I'm recommending an adjustment formula here because I was asked to recommend an adjustment formula and in order to capture what's going on in the capital markets at the moment, which are not normal in terms of the long Canada bond yield, I think this accurately reflects the fair ROE for the next few years. It's not the only way of doing it and I'm not wedded to it. I mean, if the Board wants to fix ROE for the next -- and I would say 8.25 percent for five years because it's based upon the long Canada bond averaging five percent, and as we indicated, I don't think it's going to do that for the next two years, but that's a perfectly legitimate way of saying well, we'll fix the rate at 8.25 percent. If Newfoundland Power feels that there's a problem with that say in two or three years time, it has the right, as every utility does, to say it's an unfair rate of return. We will come in and ask for a rate hearing. And if we fix it at 8.25 for five years, I think that's reasonable, and you won't have to cross-examine me for another five years, Mr. Kelly.

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KELLY, Q.C.:
Q. I'd miss all the fun. I won't go back through the jurisdictional issues that arise from that. But I take it from what you did say that one of the reasons you even put forward the formula was because you were asked to do so. So not having the formula is a very live option for you?
DR. BOOTH:
A. Correct. It's like your mortgage. I don't know whether you've got a mortgage, Mr. Kelly, but you can have a fixed rate mortgage or you can have a variable rate mortgage, where the variable rate changes every six months. They're both eminently fair. They're just different ways of solving what the cost is of financing a house. And it's exactly the same for a utility. You can have an adjustment mechanism that changes the ROE every single quarter if you want or every year or you can go with a fixed rate, which is eminently feasible, over a three-year period or a five-year period or a ten-year period.
KELLY, Q.C.:
Q. Okay.

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DR. BOOTH:
A. There are utilities out there in Canada that have got 10-year fixed ROEs.
KELLY, Q.C.:
Q. Let me move to a couple of very small points that I want to pick up. We've covered most of the discussion we need to have this morning, but there are two points that I want to ask you about specifically in relation to your testimony, just to be sure I'm understanding you correctly. If we go to page 28 of your report -- no, page 28 in the main body of the report. There we go. Just scroll up. There you go. At line seven, you're talking about the graph, and I'll just read it. "What is important to note is that utility yields were consistently lower than the generic A yields as the financial crisis started to emerge and remained so until the recent collapse in bond yields. This is consistent with the experience of the Fortis BC Energy bond yields." We were puzzled. Does Fortis BC Energy have anything to do with that? Is that supposed to be -- is that just a -
DR. BOOTH:

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A. No, that was -- Mr. Kelly, that was because this particular section is exactly the same in my Fortis Energy BC testimony.

KELLY, Q.C.:

Q. So that should just be deleted?

DR. BOOTH:

A. Not really.

KELLY, Q.C.:

Q. Oh, okay.

DR. BOOTH:

A. Because Fortis BC Energy is a Canadian utility and what we have here are the Bloomberg yields and the Bloomberg yields are derived yields. What they do is they look at all of the yields on Canadian utilities and they basically run through an algorithm that smooths them to the implicit yield. The Fortis BC Energy yields are the actual yields on a Canadian utility.

KELLY, Q.C.:

Q. You haven't looked at like Newfoundland Power bond yields?

DR. BOOTH:

A. No, that's correct. That's something that I could have done.

KELLY, Q.C.:

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Q. Okay. The next place I wanted to go to is to one of the charts that you had up yesterday which is the beta chart. Let me tell you right from the beginning, I do not want to get into a discussion with betas with you, but I just want to give you an opportunity to perhaps clarify a statement that you made to the Board yesterday.

DR. BOOTH:

A. Okay.

KELLY, Q.C.:

Q. If we -- we'll come to the chart in a minute, but if I take you first to page 173 of the transcript from yesterday and in the transcript, you were talking about the dramatic drop and if I go back to kind of about line five, so when you look at that, what you see is that utilities were reasonably stable at about .5, a little more, until the financial crisis, then we see a dramatic drop. Then you talk about the cross-examination and then you go down to about line 16, "the stock market collapsed and the prices for utilities didn't," et cetera, and so, then at line 19, "so as the effect of the horrific financial

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crisis that we went through in 2008-2009 disappears, the effect of that in the estimation wind" it says -- maybe "wind gradually disappears as well."

DR. BOOTH:

A. Yeah.

KELLY, Q.C.:

Q. Now Chris, if we could just put the chart up on the screen, which is Schedule 3, Appendix C.

MR. HAYES:

Q. It's actually also on page 30 of Dr. Booth's testimony.

(11:30 a.m.)

KELLY, Q.C.:

Q. Okay. No, it's -

MR. HAYES:

Q. The chart, right?

KELLY, Q.C.:

Q. No, it's the one we had yesterday. It's at Appendix C, Schedule 3.

MS. GLYNN:

Q. That was Information Item No. -

KELLY, Q.C.:

Q. And it's also in the Information Item from

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yesterday.

MS. GLYNN:

Q. - 21.

KELLY, Q.C.:

Q. There we go. Can we -- can't turn that one sideways, can we?

DR. BOOTH:

A. I think the one -- no, never mind.

KELLY, Q.C.:

Q. This is just to give you an opportunity to clarify or correct for the Board because when I listened to your testimony yesterday and I looked at the chart, the big drop which you seem to be describing bottoms out at January '04 and of course, January '04 is four years before we get to the financial crisis of 2008. So I take it you're not suggesting that the big drop here is really because of the financial crisis? And you may have left a misimpression with the Board yesterday in your testimony.

DR. BOOTH:

A. Well, I'll take the opportunity to correct that misimpression. We've got the drop -- see, what happens is whenever there's a drop

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in the stock market, all the beta does is measure if the stock market drops 20 percent, what happens to the price of shares of -- the question, the company in question. If it dropped -- if it doesn't drop, then you got no correlation. The beta's equal to zero. It's independent of what happens to the stock market. What we see here is the drop during the financial crisis, and these are estimated over five-year periods, so the drop related to the financial crisis is the most recent drop.

KELLY, Q.C.:
Q. Yes. It's the little blip.
DR. BOOTH:
A. I wouldn't say it's little.
KELLY, Q.C.:
Q. Well, relative to the big trough that you show in your graph, Dr. Booth.
DR. BOOTH:
A. Okay, that's correct.
KELLY, Q.C.:
Q. It's the smaller dip on the far right-hand side, consistent with about midway between January '08 and January '09, correct?
DR. BOOTH:

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A. That's correct.
KELLY, Q.C.:
Q. Correct.
DR. BOOTH:
A. That's the effect of the financial crisis. The big drop is the TecRec. That's NorthTel and JDS Uniphase.
KELLY, Q.C.:
Q. And you may have given the Board a different sense of it, because that was what I took out of it.
DR. BOOTH:
A. Okay. So it's discussed in Appendix C where I go in detail about the fact that JDS Uniphase and NorthTel at one time comprised 35 percent of the market value of the Toronto Stock Exchange. So when they collapse -- when they boomed and then they collapsed, utility shares didn't change, but the stock market went up and down because there was such a really heavy component of the TSX. So the changes in the betas during the early 2000s was all TecRec.
KELLY, Q.C.:
Q. Dr. Booth, it's been a pleasant discussion. Thank you for your time.

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DR. BOOTH:
A. Thank you.
GREENE, Q.C.:
Q. Good morning, Dr. Booth.
DR. BOOTH:
A. Good morning.
GREENE, Q.C.:
Q. Dr. Booth, you may be happy to hear that Mr. Kelly did cover most of the areas that I had developed or we had developed a line of questions for you, but there are still a few that I would like to follow up on. The first one concerns the discussion that you had with Mr. Kelly relating to judgment being applied with respect to your opinion that you have provided to the Board, and my understanding of the discussion that you had with Mr. Kelly and the references to the RFIs that we looked at, it is your opinion that now more judgment is required than in the past, given the condition of the market. Is that correct?
DR. BOOTH:
A. That's correct. As I mentioned for the risk premium models, the long Canada bond yield is a critical ingredient and needs significant

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judgment in interpreting that.
GREENE, Q.C.:
Q. And obviously, as I think you also may have indicated, this is not a simple matter. If it were, we would not have been here for four days of expert evidence, if it were a simple matter of adding up two and two is four to get a fair ROE. Is that correct?
DR. BOOTH:
A. That's correct. I'd say this more -- more than ever at this particular point in time, given the focus in Canada traditionally on risk premium models and the role of -- the central role of the long Canada bond yield, judgment is involved and more important at the current point in time than ever before.
GREENE, Q.C.:
Q. And with that as a background, to look at it from a high level, what we have here before the Commissioners who are tasked with making the decision as to what is a fair return, we have four different experts who have used different approaches, and I won't go through each methodology, but I think we will agree that of the four experts, there is a

difference in how they have approached the determination of the fair ROE. We have three different recommendations. We have the utility witnesses fortuitously agreeing on roughly what a fair return is for Newfoundland Power for 2013 and '14. We have Mr. MacDonald's recommended ROE and we have your recommended ROE and there's a fair spread between them, from seven and a half, which is your recommendation for 2013 and the 10.4 of I'll say Ms. McShane and Dr. Vander Weide. What level of comfort can you give to the Board that you're the one who has gotten it right in terms of judgment?

DR. BOOTH:

A. I constantly tell people that cost of capital is not as complicated as experts make it, which is to say I would suggest that the members of the panel look in the newspaper and think about themselves what their personal financial advisors have recommended in terms of investments, what their -- if they look at their own -- if they've got a defined benefit pension plan, look at their own statements about the assumptions that are embedded in

their pension plan that their actuaries have suggested is fair rates of return, and I think I'm completely objective. I might not be objective. Nobody knows whether they're completely objective, but I've tried to rely upon TD Economics, Mercer, Royal Bank of Canada, and these are not difficult to get. They're freely available on the internet and these are things that are not done for a specific regulatory hearing. They're done because this is what independent economists judge future capital market rates of return to be.

So I would say it's not just me in this hearing room and it's not just three other witnesses. We also have evidence from the Royal Bank of Canada, TD Economics and others, and I would say to the Board if it says "well, look, Booth was very impressive but Ms. McShane was dynamite on the stand. She did a great job. Dr. Vander Weide, well, look at all of his estimates. They were very good." And Mr. MacDonald, I'm sure he'll do a great job, and if they think oh, it's a sore-off (phonetic), then I think they should go and

look at what TD Economics and the Royal Bank of Canada and Mercer are saying because they're not here as expert witnesses. They're just providing information readily for all of their clients and I don't think it's very easy to get independent economists projecting long run returns on a capital market, the equity market greater than seven, seven and a half percent, which if you convert to an arithmetic basis is looking at nine, nine and a half percent. So giving ten and a half percent to what everybody recognizes is at very worst an average risk Canadian utility, given current capital market conditions, I'd ask them just to question themselves "if I was to earn that in my RRSP or if I was to earn that in my defined benefit pension plan, what does that mean?"

GREENE, Q.C.:

Q. In talking about the 10.4, that's the recommendation of -

DR. BOOTH:

A. Dr. Vander Weide.

GREENE, Q.C.:

Q. Right. So can we look at PUB-CA-23? And this

was to look at the recommendation compared to others, and would you agree that your recommendation of seven and a half percent for 2013 would be, if not the lowest, and I think if we go to the next RFI, it's a similar question, PUB-CA-24, and they illustrate that your recommendation at seven and a half percent would be, if not the lowest in Canada, would be very near that.

DR. BOOTH:

A. That's correct. I did point out that there's a couple of pipelines that still get the NEB formula. I think it's Enbridge Northwest which is an oil pipeline in northwest Alberta that's getting 7.58, the NEB formula. Trans-Northern is a major pipeline owned by Imperial Oil in the province of Ontario, gets a little bit more. Gaz Metropolitan, for 2013, is going to be allowed a 7.95 percent ROE and that at the moment is subject to some litigation or concerns before the Regie, but that is the allowed ROE for 2013. The OEB formula, I think it gives 8.93 percent or 8.95 percent. That's a matter of public record. The decision came out I think it was two weeks ago. So you've got a range of allowed ROEs. The BCUC had a hearing in the beginning of December.

So when you look at those allowed ROEs in Ms. McShane's schedule that I referred to, you have to remember two things. One is that some of these utilities are above average risk. Maritime Electric, for example, both Ms. McShane and I testified in that hearing and said it was an above average risk utility. So you can't take the 9.75 as reasonable. You'd have to reduce it for a benchmark or an average risk utility. The BCUC has just had a hearing and I hope and I would expect the allowed ROE to go down. And we do have these formula results for 2013 that will end up with lower allowed ROEs for Gaz Metro and for the Ontario utilities.

GREENE, Q.C.:

Q. And that's what you refer to in the answer to PUB-CA-24, but I believe you have agreed, Dr. Booth, that your recommendation of 7.4 would be, in my view, and outlier with risk on the low side?

DR. BOOTH:

A. It certainly is an outlier in terms of the fact that if you ask me the question "Dr. Booth, have your recommendations ever been accepted by a board?" then my answer would be no.

GREENE, Q.C.:

Q. That was my next question, thank you.

DR. BOOTH:

A. And if you ask that question of Ms. McShane or Dr. Vander Weide, I can't vouch for them, but I would suggest their recommendations have never been accepted. The boards have a balancing act to do and my observation of that balancing act is the resulting ROE is always at the top end of my range. I think I've testified before every board, except the OEB, and said that the allowed ROE I regard as at the top end of a reasonable range. The OEB, I told them it was above a reasonable range. I regarded a 9.75 percent for publicly owned utilities in Ontario as being well above a reasonable range at that point in time, but you have to ask how do the capital markets react to this.

And that's why we look at market to book

ratios and the fact is every utility in Canada has got a market to book ratio of about 1.4 to 1.8. I think the lowest is Emera. Which means every single dollar that the utility invests in rate base, every equity dollar is immediately worth $1.40 at a minimum and generally it's a $1.80 to $2.00 and I'd just ask everybody in this room, how would they react if every dollar they put into their RRSP, the next day they looked at it and said "wow, it's worth $1.80" what does that mean? It means that investors are very, very happy with allowed ROEs in Canada and the relevance of market to book ratios have been a subject to discussion in regulatory hearings for the last -- at least for the last five or six years. This never used to be the case. It used to be the market to book ratios, up until 1981-82 were below one because when we got those rising interest rates, there was regulatory lag and the market to book ratios were below one, indicating ROEs were too low. Since the collapse in interest rates, market to book ratios for utilities have gone well above one indicating that investors are very

happy with the allowed ROEs.

So am I disturbed that my recommended ROE is less than that adopted by the boards? I would say no. I would say the observation in the capital market of market to book ratios indicates that my recommendation, if anything, is a little bit on the high side.

(11:45 a.m.)

GREENE, Q.C.:

Q. And Dr. Booth, I believe you were here yesterday when I asked Dr. Vander Weide if he believed that the allowed ROEs in Canada have been too low and that the regulators had got it wrong. His answer, in an nutshell, was yes. I'll ask you the same then. If the boards have not accepted what your fair recommendation is and you see the increase in the market to book ratio you just talked about, the conclusion would seem to be that, of course, you would think that the regulators have been too high with respect -- generally, as a general statement, without going down in the weeds and looking at individual ones, as a general trend, they've awarded much higher than you recommended and as seen by the reaction in the capital markets, they've been a bit too high?

DR. BOOTH:

A. There's two things there. First of all, I can take you to my Appendix D where I do have the market -- on page 18, I've got the closing market to book ratios for the Standard & Poors gas and electric utilities.

MR. JOHNSON:

Q. Just one second now, Dr. Booth.

DR. BOOTH:

A. Well, the world's gone upside down.

GREENE, Q.C.:

Q. Now sideways.

DR. BOOTH:

A. These are the market to book ratios of the S&P gas and electric utilities. I've been asked consistently what information can you get from this and I say it's like looking through a dirty window. We're not actually looking at the utility operations. We're looking at the utility holding companies. So you can't absolutely certain what's going on, but the fact that the market to book ratios for companies that are predominantly regulated

utilities, even in the United States, are well above one and that basically means, as I said, immediately they reinvest a dollar in the retained earnings. The market values at $1.50, $1.70 which is not a bad investment. That indicates to me that if I was to ask to testify in the United States, my recommendation would be significantly lower than current allowed ROEs because one of the first things we're taught in finance is listen to the market. Don't try and run against the market. If you listen to the market, the market is telling us those allowed ROEs in the US are too high.

You then go to Canada and we had a series of US witnesses coming into Canada increasingly bringing in US evidence as to the fair ROE and one witness talked about a fairness gap between Canada and the United States because our ROEs were less than those in the United States. Dr. Vander Weide didn't say that there was a fairness gap, but by saying the US have got it right and we got it wrong, he's essentially saying that there's a fairness gap.

And this has been a period when we've had a lot of hearings in Canada, which means that not just this Board got it wrong, but the Regie got it wrong, the OEB got it wrong, the AUC got it wrong, the NEB got it wrong, the BCUC got it wrong. Everybody in Canada has somehow been having these very in-depth four or five day hearings into the cost of capital and somehow we've been getting it wrong for the last 15 years. I don't think that's credible. I don't think -- it means that every regulator in Canada, every panel has been deficient in evaluating the evidence put before them.

I think what is absolutely clear is that since Canada solved its budget problems in the mid 1990s and the Government of Canada moved into surplus in 1997, long Canada bond yields have lost that premium over the US and we've now got significantly lower bond yield, Government of Canada bond yields in Canada and the United States. The US has yet to make the harsh adjustments that we made almost 20 years ago. And to basically ignore that and say well, we'll ignore 20 years of what we've done

in Canada to get our financial health in order and to lower interest rates in Canada and instead use data from the United States where they've yet to make those adjustments I think is absolutely incorrect.

GREENE, Q.C.:

Q. Let's go back to the question that we -- in looking at judgment, and I believe you said more judgment is required and you also said that judgment was constrained by facts. You have acknowledged that in your recommendation, it would be -- and you have acknowledged that your recommendations have not been accepted by regulatory boards in Canada and the decisions have been higher than your recommendations. I'll give you the other -- you've also said, of course, that the recommendations of the utility experts have been higher than what have been accepted by regulatory boards in Canada. So I come back to my earlier question. With that background, one objectively might think that there comes a bias of both the utility experts and the Consumer Advocate's experts. I come back to my question: what level of comfort can you

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give the Board that you're more right than Ms.
McShane and Dr. Vander Weide?

DR. BOOTH:

A. Obviously I think I'm right. I'm not going to tell you I think I'm wrong. I'd give up. It's not going to happen. What I would say is if the Board -- and this is a standard thing we do in finance and economics. You don't look at the levels. Look at the change in the levels which means to say look at the change in the ROE recommendations of Newfoundland Power and its experts compared to 2009. Look at not their recommendations, but the actual details at which they arrived at those recommendations, the DC estimates on the monthly basis for both Dr. Vander Weide and Ms. McShane. They indicate that their DCF estimates have dropped not by half a percent but they've dropped by two-three percent since 2009 and they averaged it in with all the other estimates to hide that, but the fact is, their estimates indicate a very significant drop in the DCF equity cost. They indicate that their recommendations are 50 to 60 basis points down. My recommendations aren't as far

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down as that because I put this floor under the long Canada bond yield. But if the Board doesn't say, appox (phonetic) on all their houses, we don't believe any of them, all we believe is the direction. They're all unanimous that it goes down. Then I think that is where all of the experts are in unanimous agreement that the recommended ROE has gone down by 50-60 basis points. And if they think nine percent was fair in 2009, that means a level of 8.4 or 8.5 percent.

GREENE, Q.C.:

Q. Moving to another subject, it's your recommendations and just wanted to make sure we understood what you're recommending and you did discuss this a little bit with Mr. Kelly. I wanted to ensure that we understood your position. You are recommending 7.5 percent for 2013 and that a formula be used to adjust that return for 2014. Is that your first recommendation?

DR. BOOTH:

A. I'm recommending that the opportunit (phonetic) of cost, the fair rate of return on a capital market, plus flotation cost issue,

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costs you 7.5 percent. I'm recommending that if the Board wants to put in place an adjustment mechanism, that adjustment mechanism should include an adjustment to credit spreads, and I would recommend a floor be placed on the long Canada bond yield because of all the problems in sovereign debt markets, and that is my recommended formula. If the Board decides 7.5 percent is too low, we think 8.5 percent is the right ROE, then given my formula, I would suggest they use 8.5 percent as the starting rate and then make an adjustment of 75 percent of the forecast change in the long Canada bond yield above 3.8 percent. So if it doesn't get above 3.8 percent, nothing changes, plus 50 percent of the change in the credit spreads. So the - my recommended formula is independent of the starting ROE. I think it should be 7.5. If this Board looks at all of the evidence and decides it's 8.5 or 8.75 or 8, that's independent of the adjustment mechanism, and as a fall back, if they don't like any of the adjustment mechanisms, they think it's too complicated, fix the ROE and in which case I'd

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recommend 8.25 for a five year period.

GREENE, Q.C.:

Q. So coming back, your first recommendation is 7.5 and then adjust it by a formula for 2014. Coming to your alternative, which is one of my questions, you're saying if the Board doesn't like that, you've given them an alternative, which is 8.25 indefinitely, or in your view five years?

DR. BOOTH:

A. That's correct.

GREENE, Q.C.:

Q. And there is this issue of whether that can be done under the legislation, etc, but your 8.25, what does that mean? Does that mean that from your perspective Newfoundland Power would over earn in 2013 and 2014, and then they would under earn over your average business cycle, which you - and you had said five years, so that they would over earn and then under earn, and somehow it will balance out.

DR. BOOTH:

A. Yeah, but that's exactly what - I mean, that's absolutely correct. That's what we call the term structure of interest rates. If you look at your mortgage and you say, well, I can fix it for 3 percent, but for the next year I pay 2.5 percent on a floating rate mortgage, do you think you're getting a good deal, and the answer is no, you're getting 3 percent on the fixed because the banks look at the interest rates and think interest rates are going to go up, and they think that if you get 2.5 percent now, okay, they're only getting 50 basis points less than the fixed, but in another year or two year's time you'll be paying 3.5 percent. So on average, that's fair because you're fixing it, but there's a whole series of financial theory going into what we call the yield curve and the fact that short term rates, medium term rates, long term rates, are all different, and they reflect where people think interest rates are going to go. So I have no problem with fixing it at 8.25. As for the legality, if this Board just says we assessed all the information, for 2013 we fixed it at 8.25, 2014, 8.25, 2105, 8.25, 2016, 8.25, and 2017, 8.25, I don't know whether that satisfies the legal requirement,

but it's essentially the same as what I'm recommending.

GREENE, Q.C.:

Q. The only thing I wanted to ensure that we understood was that from your perspective that would mean that they were over earning if the fair return should be 7.5, but it's fixed at 8.25, they actually would be over earning in 2013?

DR. BOOTH:

A. That's correct. My estimate for next year would be like a floating rate mortgage. That is below what I expect it to average out over the term of the mortgage.

GREENE, Q.C.:

Q. And the last area of questioning is with respect to your position on the formula, I'm not quite sure if you are recommending a formula or not the way you have laid it out, and I know you have agreed with Mr. Kelly that one option is to wait and see if the market conditions stabilize and then look at the formula, so is your recommendation that this Board consider continuing a formula at this point in time?

DR. BOOTH:

A. I think formulas have got a lot of administrative efficiency, and I actually like testifying, it's the applied side of my research and it brings in a lot of interesting things. Mr. Kelly might have been a tough cross-examination, but I actually enjoy doing this. Do I want to do this 10, 11, 12 times a year like Dr. Vander Weide, no, I've got a day job, I've got other things I need to do. Is it efficient that we do this as often as we do, no, it isn't. So just about everything I talk about is what I regard as generic. It's generic capital market information, and I've recommended to every Board for the last 15 years why don't all of you get together and have one Canada generic hearing every year or every couple of years. Of course, the regulators can't do it because they have to administer a particular Act that they're responsible for, but the fact is most of this material is generic and it doesn't change very much. So the solution in the early 90s before the NEB and BCUC's, we've heard this before, we heard the same witnesses saying the same

thing one year ago, two years ago, three years ago, let's get rid of all of this repetitive testimony and I'll be quite happy to get rid of this repetitive testimony and just have a generic hearing every three years. Whether that means an adjustment mechanism versus a fixed rate, as I think I've indicated, an adjustment mechanism made a lot of sense in the mid 90s because we expected interest rates to come down. A lot of uncertainty, but we expected them to come down. At the current point in time, I don't see long Canada bond yields ever getting back to 9 percent in Canada, not unless something really dramatic happens in the capital markets or basically the real economy. So I'm less wedded to an automatic adjustment formula now than I would have been 10 or 15 years ago. What I'm more in favour of is a commitment not to have a hearing for another three years.

(12:00 p.m.)

GREENE, Q.C.:

Q. However we do that, either the formula or fixing your rate indefinitely?

DR. BOOTH:

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A. That's correct.
GREENE, Q.C.:
Q. Thank you, Dr. Booth. That concludes my questions.
COMMISSIONER NEWMAN:
Q. No questions, thank you.
DR. LAURENCE BOOTH - EXAMINATION BY THE CHAIRMAN:
CHAIRMAN:
Q. I've read, Dr. Booth, with respect, for instance, to this debt issue, that if the US calculated its total obligations under GAAP rules, it would be up to 80 trillion. Is that true?
DR. BOOTH:
A. Yeah, it's true and it's nonsense.
CHAIRMAN:
Q. It's nonsense?
DR. BOOTH:
A. Yeah, sure, of course, it's nonsense.
CHAIRMAN:
Q. Okay, tell me why?
DR. BOOTH:
A. Do you want me to explain why?
CHAIRMAN:
Q. Uh-hm.

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DR. BOOTH:
A. It's because they add up all of the future pension liabilities, all of the future benefit liabilities, without taking into account all of the future tax revenues that will be generated to pay for those liabilities. So it's - it doesn't make a lot of sense.
CHAIRMAN:
Q. Why would it be required of corporations?
DR. BOOTH:
A. A very, very good question. I think you should ask that question to Mr. MacDonald, he's an accountant, but I think one of the worst things accountants have ever done is what we call mark to market accounting, which is taking all of these future benefits, future costs, and putting them on the balance sheet. I don't think for one minute that with a defined benefit pension plan, any gap between the funding gap should be on the balance sheet of a corporation or a government, because these are really, really long lived liabilities and there's so much uncertainty, future changes in capital markets can get rid of them. So I don't believe in mark to market

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accounting. I think it generates huge volatility in financial statements, and I certainly don't believe in some of these scare tactics that look at all of these future liabilities and discount all the future liabilities without looking at all of the future tax revenues.
CHAIRMAN:
Q. But what about the problem with a dwindling pool of taxpayers versus retirees?
DR. BOOTH:
A. We don't have that problem in Canada. When I came to Canada, I think there was 22 million people here. Now we've got 36 million. I've accounted for two of them. That's a pretty hefty increase in the population of Canada. We have pretty good demographics in Canada. It is a problem for some countries like Japan that refuses to accept any immigration and they've got some really severe problems.
CHAIRMAN:
Q. Yeah, they're dying?
DR. BOOTH:
A. Yeah, oh, you're absolutely right, but in Canada, we don't have that problem. I mean,

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the United States doesn't have that problem either.
CHAIRMAN:
Q. Europe does.
DR. BOOTH:
A. Certain areas of Europe do. The UK doesn't because the UK has had a lot of immigration. The UK demographics are pretty good, but when you look at southern Europe, surprisingly, the Italians and the Greeks are well below 2.1 children per female, which is the cut off in terms of replacement of population, so we definitely got situations where in Italy, they got a stagnant economy and declining population, and all of that benefits come out of the state which poses huge potential problems.
CHAIRMAN:
Q. You said in your testimony that the financial crisis started in 2008 is akin to the 1930s. When in your opinion did the Great Depression end?
DR. BOOTH:
A. When the Germans invaded Poland. It's been debated a long time by economists. The US was

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getting out of recession or depression 36/37, and then the Fed clamped on the brakes and started increasing interest rates, which was premature, and Bernanke has admitted this. He said we caused the Great Depression. The US should have got out of it in '37, and then there was the stock market crash because of the actions of the Fed, but the US unemployment only came down when the Germans invaded Poland and the UK Government started sending huge contracts to the United States for war material because the UK economy couldn't withstand the amount of production. The UK dragged the US out of recession, and then, of course, when the Japanese bombed Pearl Harbour, the US economy really got going.

CHAIRMAN:

Q. So war is good for business.

DR. BOOTH:

A. Unfortunately, everybody hates that. What's good for business is when people work hard, and for whatever reason - obviously, when your country is in danger, people work a lot harder and you employ everything going. It's

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survival and as a result, the economy does well. I wouldn't recommend that.

CHAIRMAN:

Q. I guess I'm trying to find out what's going to happen with us after 2008, because if you look at the data actually for civilian consumption during the war, civilian consumption in the US economy in 1945/1946 was the same level as 1933/1934, the worse of the depression. So to say that the US, from the point of view of the consumer, exited the depression in 1937/1938 is not true, it's more like it's 1945/1946.

DR. BOOTH:

A. That's right.

CHAIRMAN:

Q. I wonder are we facing a similar situation here. You know, is this going to drag on for another five or ten years.

DR. BOOTH:

A. Well, forecasts are always wrong, but we need them because we need them for planning purposes. The current forecast is quite doom and gloom. The US economy was in a slow recovery, they don't have agreement on the fiscal policy to pull them out of - speed up

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their growth rate. They've just about blown every single dollar in monetary policy. There's so much liquidity in the United States that, I mean, the banks are flush with cash, the interest rates can't get any lower, so there's nothing that monetary policy can do at the current point in time, and as I mentioned, 85 billion a month, that's a trillion dollars a year in cash that's being ejected into the US economy.

CHAIRMAN:

Q. So how long can they keep that going? I mean, when are they going to end up like Zimbabwe?

DR. BOOTH:

A. Yeah, but the thing is - we talk about Zimbabwe, but, I mean, in the US, all of their cash is ending up at the Federal Reserve. They buy all of this stuff, they go to the bank, the banks put it back on reserve at the Fed. It's not going into the economy to be spent. So I don't see any incipient inflation in the United States, and the Fed has to tools to reverse that. Now Zimbabwe, we don't know what the inflation is in Zimbabwe. In fact, the chief statistician in Zimbabwe had to

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report to the IMF, he didn't know what the inflation rate was, and they came back and said, why is that, and he said, well, there's nothing in the shops and if there's nothing in the shops, we can't get the prices and we can't tell you what the rate of inflation is.

CHAIRMAN:

Q. But that's not new when you have these kinds of inflations. This happened before.

DR. BOOTH:

A. Yeah, but they just -

CHAIRMAN:

Q. I guess what I'm trying to do is get a handle on what's the relationship between these recessionary type conditions that we're facing and if it's ongoing, how is that going to affect our bond ratings, and how is that going to flow through for companies, regulated or unregulated, in terms of returns on equity? I mean, we're pretty well ring fenced here in Canada, is that what you're kind of saying?

DR. BOOTH:

A. We're ring fenced -

CHAIRMAN:

Q. Because our public finances are in such good

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shape.
DR. BOOTH:
A. The Government of Canada is in very good shape.
CHAIRMAN:
Q. Yeah.
DR. BOOTH:
A. I mean, we've had some stimulus spending, its got a deficit, but at the moment it's 3 percent of GDP, and our economy is growing at 2.5 percent, so the debt is not increasing in a significant way in Canada, and - although spending is going down. So there's no problem in terms of the Federal Government and the AAA bond rating.
CHAIRMAN:
Q. So that should put downward pressure on Canadian bonds?
DR. BOOTH:
A. One of the reasons interest rates was coming down in the 2000's, one thing that was put forward was the shortage of Government of Canada bonds, and the fact that we use them as benchmarks. In fact, it shocks people now that in 2000, the US had a surplus, the UK had

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a surplus, and it was a serious policy issue what happens when there's no longer any US or UK government bonds out there, what do we use as benchmarks, and we look back now and say, did we really think about that. That was a serious policy issue because we had surpluses and we could see the debt going down. Now we're in the opposite, the debt is going up in the United States; in Canada, it's not. So unless we suddenly - when the US recovers, Canada is going to have much - we're going to be under a lot of pressure, good pressure, because at the moment we've got a recovery in Canada without the US having a really strong recovery. So we've been able to manage that on the strength of commodity prices, global demand for resources, and the internal strength of the Canadian economy. When the US picks up, that's obviously big news for Canada, and our economy is going to be under a lot of inflation pressure.
CHAIRMAN:
Q. When do you think that's likely to - what kind of time frame have you got there?
DR. BOOTH:

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A. Well, at the moment -
CHAIRMAN:
Q. I got something this morning I just picked up. This is something - the Fed now in the States.
DR. BOOTH:
A. Yeah.
CHAIRMAN:
Q. It's an index called "US Recession Probabilities Index".
DR. BOOTH:
A. Yeah.
CHAIRMAN:
Q. And the Fed indicator says there's a new crash ahead.
DR. BOOTH:
A. I don't see a new crash ahead. There would be - we had the fiscal cliff discussions and that would have amounted to about 600 billion dollars a year taken out of the US economy to basically close the US government's deficit. So if you add up all of the tax increases, the Bush cuts that would have been reversed, all of the spending increases, it was about 600 billion dollars. You cannot take 600 billion dollars out of the US economy without it

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slowing down. You cannot take that sort of money out of - or proportionately the same money out of Spain, Greece, Italy, Portugal, without their economies going down. So there's no question in Europe, we're getting this posterity driven recession as a necessary adjustment for longer term financial health. In the US, they didn't make that 600 billion, but they just responded for six weeks, two months, and you've now got Obama coming out and saying to the Republicans, we're not doing anything on the debt ceilings, you increase the debt ceilings. So there's a huge game of chicken going on in the United States. Did the US deserve to get downgraded from AAA; no, but then you look at what's going on in Congress, and you say, how come these guys can't come up with a reasonable solution, and as long as there doesn't seem to be any ability to compromise in Congress, there is a significant fear that in another six weeks they do not get a debt ceiling increase, and you do have Republicans in the United States and Congress saying we think a default would be a good thing for the US, get the US

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government to stop paying some of its workers. We'll pay the bonds, but we won't pay civil servants, and they don't seem to realize that when you look at - typically when you look at bond contracts, a default is non-payment on any contractual obligation, so if the Republicans follow through on this and we get all of a sudden the Federal Government can't pay civil servants and all sorts of things, the rating agencies would drop the bond rating of the United States.

CHAIRMAN:

Q. So, I mean, these conditions are making Canada, I mean, an attractive place to invest is what you're -

DR. BOOTH:

A. And that's what the Governor of the Bank of Canada said. There's absolutely no question, foreign capital is coming to Canada because we're one of the few AAA rated countries, and it's not just any foreign capital, what it is is essentially the Central Bank of major countries around the world saying where do we put our foreign exchange reserves, do we put them in the Euro and there's a possibility the

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Euro breaking up, do we put them in the US when there's a possibility of significant depreciation, we'll put some of it in Canada.

CHAIRMAN:

Q. So would that be a factor in your opinion that utility ROEs in the States versus Canada, I mean, Canada is a more secure place for investment, therefore, returns could be expected to be lower?

DR. BOOTH:

A. I think there's no question that returns are expected to be lower. We've seen those in the Mercer Report comparing 2009 with now. Their forecast for the long run equity returns is down by at least 1 percent. We see that in the TD economics report. I think - to be honest, I think they're a little bit pessimistic. I tend to believe that all things pass. Perhaps I'm an optimist, but I tend to believe that we will find solutions to these problems and the US is a flexible economy, very competitive, and if they could solve their political problems, I think the US economy should rebound, but it's lack of leadership politically in the United States.

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Europe, you can understand it, they're not a country. So trying to get Italians and Spanish and Greeks and Germans and Dutch to agree, forget it, it's not going to happen unless you put a gun to their head.

CHAIRMAN:

Q. Just a final question on this preferred shares versus equity business, I mean, can't that be modelled? I mean, there's two scenarios here. There's the current capital structure and the one you're proposed.

DR. BOOTH:

A. Yeah.

CHAIRMAN:

Q. Can't that - I mean, there shouldn't be too much argument about what's more efficient from a point of view of an efficient capital structure. Is it difficult to do that?

DR. BOOTH:

A. No.

CHAIRMAN:

Q. We heard from the Chief Financial Officer of Light and Power who said there's no market for preferred shares. I mean is that true? Do you think it's true, I should say? She

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believes it's true. NLP is too small, nobody wants to buy preferred shares in NLP, I guess is what she said.

DR. BOOTH:

A. Well, there's 1 percent preferred shares already outstanding for Newfoundland Power, and we have other utilities that are smaller than Newfoundland Power that have preferred shares outstanding. There may be no public market because for a public market, you need to have enough volume that people are going to trade it through established prices.

CHAIRMAN:

Q. Uh-hm.

DR. BOOTH:

A. Even in parts of the corporate bond market, a lot of the debt is never ever traded, it's just placed directly with pension funds, insurance companies, and fixed income funds. So she's right in the sense that 42 million dollars, they'd probably have to go through a private placement, and the yields on that they're probably gone up now from November, 2012, when Fortis issued its preferred shares because interest rates have actually come up

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the last six weeks, but I don't see that as a great impediment. Put it this way, you go to an investment banker and say for a fee, 3 percent, 4 percent, can you place 42 million dollars of preferred shares; if you tell me the investment bank is going to come back and say it's impossible, I would say that's ridiculous. It's the investment bankers job to go out and sell these securities and you give then 3 percent, you give them a commission, those securities will be placed somewhere. It may be either placed with Ontario teachers or a fixed income fund, and they're not marketable, so they can't subsequently trade them, but I have no doubt whatsoever that Newfoundland Power can sell 42 million dollars worth of preferred shares.

CHAIRMAN:

Q. And you're saying that as a consequence of that or the sale of a part of it, I think you're talking about phasing it in, that would result in savings to consumers because you're trading the 5 percent equity or a percentage of a 5 percent equity for a percentage of preferreds?

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DR. BOOTH:

A. That's right. I mean, and unlike the debt, all you do is look at the difference in the 1:08:33) on the preferred shares and the allowed ROE.

CHAIRMAN:

Q. Uh-hm.

DR. BOOTH:

A. And you take that percentage - if you issue the preferred shares, say, at 5 percent, and you decide 8.5 percent for the common equity, you've got a 3.5 percent spread. So the savings as far as the rate payers are concerned is just a 3.5 percent saving on 5 percent of the capital structure, times the rate base, adjusted for the income tax, the fact that they're after tax. So there's no question that the overall cost of capital paid by the rate payers would go down, just that there's no question that the overall capital structure of Newfoundland Power will still be one of the most conservative in Canada. As I stressed, Fortis Alberta is an electric utility in Alberta, it's bigger than Newfoundland Power, but its got 40 percent

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common and 60 percent debt. So if someone tells me it's impossible, Newfoundland Power can't do this, I just don't believe it. It just doesn't make any sense. I don't judge Fortis Alberta on 8.75 percent ROE on 40 percent common equity, I don't regard that as being an unattainable goal for Newfoundland Power.

CHAIRMAN:

Q. I think that's it for me. So will we take our lunch break now and start anew, or do you want to start -

MS. GLYNN:

Q. Mr. Chair, we had discussed getting Mr. MacDonald's direct in, but we do estimate about half hour for that. So the break might be more appropriate at this time.

CHAIRMAN:

Q. So let's break now and come back at quarter after one. Is that what you want to do?

DR. BOOTH:

A. Is there any re-direct?

CHAIRMAN:

Q. Oh, I'm sorry, I beg your pardon. Yeah, I'm sorry, I forgot about that.

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MR. JOHNSON:

Q. There's no re-direct.

CHAIRMAN:

Q. Who do you like better, Keynes or Hayek?

DR. BOOTH:

A. After I went back on Tuesday, I started out my lecture with a U-Tube video, and you might say why would a professor use a U-Tube video, but it contrast Keynes with Hayek, and that U-Tube video is brilliant, and it all depends on short run versus long run. On long run, Hayek is right; short run, you're condemning 50 percent of the youth in Spain to unemployment, and you got to think of the human tragedy of the number of people you're condemning to basically ruining their lives.

(12:18 p.m.)

CHAIRMAN:

Q. Anyway, 1:15.

(ADJOURNED FOR LUNCH)

(1:21 p.m.)

CHAIRMAN:

Q. I think, Ms. Greene, you're going to be in charge? Are there any preliminary matters before we turn to our next order of business?

GREENE, Q.C.:
Q. He just has to be sworn in, Mr. Chair.
MR. TROY MACDONALD (SWORN)
GREENE, Q.C.:
Q. Good afternoon, Mr. MacDonald.
MR. MACDONALD:
A. Good afternoon.
GREENE, Q.C.:
Q. You prepared a report on capital structure and a fair return on equity for Newfoundland Power, which report is dated November, 2012 and which was filed with this Board on November 28th, 2012. Are there any updates or revisions to this pre-filed evidence that you would like to make at this time?
MR. MACDONALD:
A. There are no updates or revisions to my pre-filed evidence.
GREENE, Q.C.:
Q. Do you adopt your pre-filed evidence in this proceeding?
MR. MACDONALD:
A. Yes, I do.
GREENE, Q.C.:
Q. Now, your CV is attached as Appendix B to your

report, but I would like to have a little discussion with you about your background and your qualifications at this point.
MR. MACDONALD:
A. Super.
GREENE, Q.C.:
Q. What is your current position with Grant Thornton?
MR. MACDONALD:
A. I am a partner in the corporate finance and infrastructure group at Grant Thornton based in Toronto, as well as the firm's national corporate finance leader. I joined Grant Thornton's corporate finance group in 2003 based in Halifax. I was also part of the capital market group with Grant Thornton based in UK in 2006 and 2007.
GREENE, Q.C.:
Q. What are your professional designations, Mr. MacDonald?
MR. MACDONALD:
A. I'm a chartered accountant and a chartered business valuator.
GREENE, Q.C.:
Q. What university degree to you hold?

MR. MACDONALD:
A. I received a Bachelor of Commence majoring in accounting from St. Mary's University in 1994.
GREENE, Q.C.:
Q. Prior to joining Grant Thornton, where did you work?
MR. MACDONALD:
A. I joined Emera in 1999 and worked there until I joined Grant Thornton in 2003. Prior to Emera, I worked with a chartered accountant firm in Halifax.
GREENE, Q.C.:
Q. What was your role with Emera?
MR. MACDONALD:
A. I was initially in the financial planning and forecasting group and then soon transferred under the corporate development group. Corporate development group was responsible for evaluating new growth opportunities. During my time with that group, I was involved in many potential acquisitions of regulated and non-regulated assets, including successful acquisition of Bangor Hydro Electric.
GREENE, Q.C.:
Q. This is your first time appearing as an expert

witness is a cost of capital proceeding, is that correct?
MR. MACDONALD:
A. Yes, that is correct. While I regularly advise clients in matters related to cost of capital, this is the first time that I a appearing as an expert witness. I have provided regulator support to the city of Edmonton on two occasions, the valuation of the Gold Bar Waste Water Plant and the Epcor Water Services, 2012 to 2016 PBR proposal. In regards to the Gold Bar Waste Water Plant valuation, I testified in city council and received questions from both the councillors and the general public.
GREENE, Q.C.:
Q. What was the scope of your engagement for the Board for this proceeding?
MR. MACDONALD:
A. My report was prepared on behalf of the Newfoundland and Labrador Public Utilities Board to provide an independent expert opinion on the capital structure, return on equity and automatic adjustment formula for the 2013 and 2014 test years. My opinion is based on my

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conclusion that Newfoundland Power is an average risk utility.

GREENE, Q.C.:

Q. And what is your conclusion with respect to the fair return on equity for Newfoundland Power for the two test years, 2013 and 2014?

MR. MACDONALD:

A. My conclusion is 8.91 percent is a fair return on equity.

GREENE, Q.C.:

Q. Now in arriving at that opinion or that conclusion, what methodologies or methods did you use?

MR. MACDONALD:

A. I utilized a CAPM, discounted cashflow and historical equity risk premium method. As all methods have challenges, I considered multiple methodologies to ensure that I had a broad view in developing my opinion regarding the fair return on equity. The selected methodologies provided multiple points of insight, including historical market returns, forward looking market data, significant Canadian based data and a carefully selected US based data. This is particularly important

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today due to the abnormally low risk free rates that can cause distortions in results on methods such as the CAPM. My approach was to quantity each method in the most objective manner possible and then use my professional judgment to develop a weighting to determine a fair return on equity that addresses the potential adjustments that required further consideration.

GREENE, Q.C.:

Q. What were some of the adjustments that you considered in developing your weighting?

MR. MACDONALD:

A. I considered the impact of the unusually low risk free rates and the adjustments required to the CAPM method. I also considered the potential differences between US and Canadian utilities relative to the DCF methodology. In addition, I also considered the potential fluctuations over time in the ERP method, particularly as it relates to the companies that are included and the events in time.

GREENE, Q.C.:

Q. Now, you were here when Ms. McShane testified and Ms. McShane expressed some concern with

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respect to the weighting that you gave to your CAPM results given your opinion that the results from CAPM did not provide a clear return for Newfoundland Power. How did you address that concern in coming to your opinion?

MR. MACDONALD:

A. I've chosen to adopt an approach that involves subjective application of the three methodologies. I then used my professional judgment in applying the weightings to each method to consider matters that need further adjustment. As I've concluded that my fair return equity should be 8.91 percent, this reflects a 206 basis point increase to my CAPM results of 6.84. This 206 basis point adjustment addresses the concerns regarding the impact of the abnormally low risk free rate. I would note that this is comparable with Ms. McShane's CAPM conclusion of 8.7 to 9 percent.

GREENE, Q.C.:

Q. There's been much discussion during this week with respect to the use of US companies. Why have you chosen to use a set of US companies

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in your analysis?

MR. MACDONALD:

A. To apply the DCF methodology, we need to access comparable companies with sufficient information to conduct the analysis. The US market has a significant number of utilities, therefore it provides a range of comparable companies to choose from that have significant information available. The comparable companies selected have significant regulatory assets over 85 percent, significant regulatory earnings, over 90 percent, stable dividends and identical bond ratings to Newfoundland Power. While they are not identical to Newfoundland Power's regulatory environment, they were all rated with similar levels of regulatory support of either BAA or A by Moody's. It is also worth noting that it would be challenging for any of the Canadian publicly listed utility companies to be comparable to Newfoundland Power based on the criteria that I have established. In selecting these comparable companies, I recognize there are differences relative to Newfoundland Power related to subsector, competition, regulatory support and customer mix. I also note that there are significant offsetting factors in regards to the size and diversity of the comparable set. As I concluded that the fair return on equity should be 8.91 percent, this reflects an adjustment of 72 basis points to my DCF result of 9.63. This 72 basis point adjustment addresses the concerns regarding differences between US and Canadian companies. This is consistent with the BCUC 2009's statement that a 50 to 100 basis point adjustment should be applied for US comparable companies.

GREENE, Q.C.:

Q. Turning now to a slightly different topic, what is your view on the current overall economic condition?

MR. MACDONALD:

A. At a high level, the economy is clearing in a period of uncertainty. I believe the economy has been in the process of recovery since the financial crisis, but the stimulus used to address those issues have lead us into a period of significant sovereign debt challenges. I see signs of recovery and

improvement in stock market results, unemployment rates and US housing trends, but also concerns with Canadian housing and debt levels. In summary, the economy is in a period of uncertainty that may take some time to resolve.

GREENE, Q.C.:

Q. Please explain at this point how you determined that Newfoundland Power is an average risk utility relative to its Canadian peers?

MR. MACDONALD:

A. I note the Board decision of 2009 that concluded that there had been no evidence of any material change in the risk profile of Newfoundland Power relative to its peer group to warrant changing its assessment that Newfoundland Power is an average risk Canadian utility. My assessment is based upon the business, financial and regulatory risks profile of Newfoundland Power. In considering the risk profile of Newfoundland Power, I considered the business profile, Newfoundland and Labrador economics and demographics--or sorry, Newfoundland economics and

demographics, operating environment, power supply, regulatory environment, regulatory mechanisms, credit ratings and credit matrix. I've also reviewed the press releases and annual reports of the Canadian peer group of publicly traded companies. This allowed me to assess any new information since 2009 that may change Newfoundland Power's position relative to its Canadian peers. I did not note any changes that were sufficiently material to lead me to believe that Newfoundland Power's risk profile has changed since 2009. I therefore concluded that Newfoundland Power continues to be an average risk utility relative to its Canadian peer group.

GREENE, Q.C.:

Q. Turning now to the issue of the appropriate capital structure for Newfoundland Power, please explain why you believe it is appropriate for Newfoundland Power to continue to maintain its capital structure at the current level of 45 percent common equity.

MR. MACDONALD:

A. I concluded that the 45 percent common equity ratio is reasonable based upon the following

factors and considerations. There have been no material changes in the business, regulatory or financial risk framework since the 2010 GRA. The allowed equity ratios of its investor own Canadian peers have remained constant since the 2010 GRA. The company's credit rating, which DBRS and Moody's, both in terms of the financial matrix and regulatory environment. In addition to these factors noted above, I would note that the 45 percent common equity level has been in place with Newfoundland Power since 1990. Why I advocate ongoing review of the appropriateness of the common equity level and making adjustments as required, I am mindful of the sovereign debt issues that continue to create broad economic uncertainty. These factors provide further rationale for maintaining the common equity component at its current levels.

GREENE, Q.C.:

Q. Turning now to the issue of the automatic adjustment formula.

MR. MACDONALD:

A. I believe the formula can be an effective and important regulatory tool, as long as it can be designed to produce outcomes that will meet the fair return standard. The current abnormally low risk free rates create challenges for the formula in this regard. As a regulatory tool, it can help reduce costs related to rate applications, provide a mechanism to maintain an appropriate ROE and ensure rate hearings happen when appropriate. To allow the formula to continue to be an effective regulatory tool, I would recommend the following changes: establish a floor and ceiling of 100 basis points that would trigger a cost of capital hearing for fluctuations in excess of these amounts; reduce the coefficient from .8 to .5 to mitigate the impact of fluctuations of the risk free rate; introduce a deadband of plus or minus 25 basis points to reduce the administrative burden of small fluctuations; and introduce a second adjustment factor reflecting the change in spreads between utility bond yields and the long term Government of Canada bond yields in recognition of other factors that impact the return on equity. I believe these adjustments will make the formula a more effective

regulatory tool and better meet the fair return standard.

GREENE, Q.C.:

Q. Now Newfoundland Power has commented on your suggested changes, thinking now of the evidence of Ms. Perry, do you have any observations on the comments that they made on your proposed changes?

MR. MACDONALD:

A. Yes. The concerns expressed would not cause me to change any of my recommendations. The formula is a well-balanced mechanism as proposed that creates regulatory administrative efficiency. The proposed changes, particularly the inclusion of the utility credit spread and the trigger, address, to a large extent, the concerns regarding the relationship between the risk free rate and the return on equity.

GREENE, Q.C.:

Q. Now Dr. Booth has also suggested changes to the formula. What is your view of his suggested changes?

MR. MACDONALD:

A. I believe the recommendations regarding the

formula provided by Dr. Booth and myself are quite similar. I believe both of us recognize that the significant fluctuations we have seen in the long term Government of Canada bond yields can cause challenges in ensuring the outcomes of the formula meet the fair return standard. We have both recommended changes in the formula to address these concerns. The formulas recommended are very similar, except for the following: Dr. Booth recommends a risk free rate floor of 3.8 percent; Dr. Booth recommends a coefficient of .75, instead of a coefficient of .5 on the long term Government of Canada bond yields; and I have recommended the use of a floor and ceiling of 100 basis points on changes to the return on equity under the formula and I have recommended a deadband of 25 basis points. I do have a concern regarding the 3.8 percent floor. If I understand the intention correctly, the 3.8 percent floor would mean that the risk free rate must increase above this level before Newfoundland Power received an increase in the allowed ROE. I also note the application of the .75 coefficient would cause similar

sensitivity to the risk free rate that we have experienced to date. Given the current low rates, this seems to be a burden to Newfoundland Power with delayed increases in the allowed ROE as the risk free rate changes during periods of increasing interest rates-- or sorry, yields.

GREENE, Q.C.:

Q. Mr. MacDonald, does this conclude your direct evidence at this time?

MR. MACDONALD:

A. Yes, it does.

GREENE, Q.C.:

Q. Thank you.

CHAIRMAN:

Q. I think you're up first, are you sir?

KELLY, Q.C.:

Q. Yes, Mr. Chairman, thank you. Mr. MacDonald, if I understand your evidence correctly and perhaps we can go to page 27.

MR. MACDONALD:

A. Page 27 of what?

KELLY, Q.C.:

Q. Of your report.

MR. MACDONALD:

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A. Okay.
KELLY, Q.C.:
Q. The long Canada bond yield that you estimated of 3.04 percent, you did that estimate over a two-year period?
MR. MACDONALD:
A. That's correct.
KELLY, Q.C.:
Q. If I understand that correctly.
MR. MACDONALD:
A. Yes.
KELLY, Q.C.:
Q. If we go over to the top of page 28, you built your assessments off the consensus forecast for each of the years?
MR. MACDONALD:
A. That is correct.
KELLY, Q.C.:
Q. Right, so you're looking out to 2014.
MR. MACDONALD:
A. That is correct.
KELLY, Q.C.:
Q. Right. So one of the questions that I think I now take the answer to, let's just see if I got this right, you're proposing your

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recommended return for 13 and 14.
MR. MACDONALD:
A. Correct.
KELLY, Q.C.:
Q. And then the formula would not operate until the end of 2014?
MR. MACDONALD:
A. That is correct.
KELLY, Q.C.:
Q. Okay. The next place I'll just take you to is to your comments with respect to CAPM. Come over on to page 33.
MR. MACDONALD:
A. Okay.
KELLY, Q.C.:
Q. And you make the observation at line 652 that your CAPM return of 6.84 percent on a stand-alone basis would result in a required return that is below what we believe to be a fair ROE for the company.
MR. MACDONALD:
A. That is correct.
KELLY, Q.C.:
Q. Right, so you acknowledge that the application of the formula, the application to the CAPM

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model doesn't give a fair result, that's kind of the starting point.
MR. MACDONALD:
A. That would be the starting point and then we used our professional judgment and determined the right weightings to use to adjust the CAPM to a level we believe is appropriate and would produce a fair return on equity.
KELLY, Q.C.:
Q. Okay, now just bear with me with this because if I take a number from one of your results -
MR. MACDONALD:
A. Uh-hm.
KELLY, Q.C.:
Q. - which you acknowledged at the beginning is unfair and put that into an averaging process, then you get out of the result a result which is, itself, unfair?
MR. MACDONALD:
A. I wouldn't agree with that because what I did is I looked at the adjustments I thought would be needed to apply to each of the methodologies and then I developed my weighting for that exact purpose so I was not putting in an unfair amount. I was actually

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seeking a weighting that would adjust each methodology to an appropriate level, which lead me to my 8.91 percent.
KELLY, Q.C.:
Q. Can you point me to any place in your report where you make a similar comment in relation to your other two methodologies, like the statement we find on page 33?
MR. MACDONALD:
A. It's actually in my conclusion and you will note there that we recognize there's limits and challenges with each methodology.
KELLY, Q.C.:
Q. Yes.
MR. MACDONALD:
A. And that we had considered that in our weightings.
KELLY, Q.C.:
Q. Okay. Let me ask you this question then: the sample that you prepared for your DCF, I think is at page 34.
MR. MACDONALD:
A. That sounds good, okay.
KELLY, Q.C.:
Q. Just turn over to the--page 34, it's towards

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the bottom of the page, Chris. You're not in the right spot here, there you go, keep going. And I take it that in selecting these companies, you were looking for companies which, as you indicated wouldn't be the same operating characteristics, per se, but would give you a sample with overall similar investment comparability.

MR. MACDONALD:

A. Absolutely, we were looking to get to the most comparable possible set that we could.

KELLY, Q.C.:

Q. Right, okay. And many of these companies are similar to, for example, ones used by Ms. McShane in her analysis?

MR. MACDONALD:

A. That's absolutely correct, one thing I found when I was developing my sample is that I increased my regulatory asset threshold, that's what really helped me narrow it down to 7.

KELLY, Q.C.:

Q. Right, okay, so you selected 7 out of--there's a large universe out there.

MR. MACDONALD:

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A. There's a lot of them, absolutely.

KELLY, Q.C.:

Q. And so you selected 7 to be as comparable as possible from an overall investment point of view?

MR. MACDONALD:

A. Absolutely from a total comparability perspective, yeah, recognizing you never get the perfect comparability, but from a total perspective.

KELLY, Q.C.:

Q. Right. Now, having--and I take it one of the factors you weighed into that was the larger capital structures of some of these companies?

MR. MACDONALD:

A. Absolutely because what we found or what I found is that while each company is going to have differences relative to Newfoundland Power, overall though things such as the size of the company and the diversity of it, are important offsetting factors which need to be considered as you assess the total comparability.

KELLY, Q.C.:

Q. Now, one of the comments you made to Ms.

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Greene a few moments ago was that in selecting your weightings, you selected a weighting that would, I'll use the word "deliberately" but I don't mean anything necessarily negative about it, but would deliberately bring down your DCF result on an average.

MR. MACDONALD:

A. That is absolutely correct.

KELLY, Q.C.:

Q. And you did that because of comments from the BCUC?

MR. MACDONALD:

A. Well, and I think there's a lot of literature published on this issue, particularly in regulatory circles, but as I was developing my weighting, I was mindful of the BCUC commentary which estimated that would be .5 to 1 for an adjustment downward and that's why I selected the weightings I did, leading to a .72 adjustment.

KELLY, Q.C.:

Q. Did you do any analysis to determine in any sense that having deliberated selected samples to be comparable, did you do any analysis to in any sense conclude that they would have a

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different return on equity, that's the piece, or did you rely on simply literature generally in the BCUC?

MR. MACDONALD:

A. Well, you know, I think there's another important factor that weighed into my decision is when you look at the US companies and you just at a macro level try to understand return on equity in capital structures of the US broad set and the Canadian's, you see that there is clearly a difference. So that, combined with the BCUC statement and I think other in general pieces that I have read, have lead me to that weighting and that conclusion.

KELLY, Q.C.:

Q. Yeah, but with respect, isn't that a bit circular? Because you're looking at the broad range of US companies, but in Canada these operating utilities that you're trying to figure out the cost of equity, have a regulated return. So you have to find a sample that will give you a market rate of return.

MR. MACDONALD:

A. Could you repeat the question? I'm not sure I

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understood your meaning.
KELLY, Q.C.:
Q. Well if I took your answer, you said you looked at the broad generic literature, which I took it to be from your answer related to utilities, did I get that much correct?
MR. MACDONALD:
A. Right.
KELLY, Q.C.:
Q. And I was trying to understand well have you specifically looked at anything that would make these particular companies not comparable and I took it your answer was no, correct?
MR. MACDONALD:
A. Correct.
KELLY, Q.C.:
Q. Okay, so if you look at the broad spectrum of companies and then you say, well, I look at the broad spectrum but returns are higher in the United States, a) you're comparing non-comparable companies because you've selected out the most comparable, and b), you're comparing that against regulated returns set by regulators in Canada, so that doesn't--you're then discounting for that which is

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circular, do you see my point?
MR. MACDONALD:
A. Well one point of clarification maybe to address that is I think when you look at the US marketplace for utilities and you look at the Canadian marketplace for utilities, there's clearly a difference, and so even though we have worked--I have worked very carefully to come to a very comparable set to maximize comparability, I still believe there's a difference between the US and Canadian markets overall in terms of a number of factors and because of that, I have selected to put in a further discount that is consistent with the BCUC comment.
KELLY, Q.C.:
Q. Well what's the difference in market that you focus on then?
MR. MACDONALD:
A. Well there's a number of pieces to it, I think if you look at it, you will see that the Canadian market is broadly more regulatory supportive. I think there's a history of the difference in the ROEs between the countries and so those would be the kind of things I'd

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be considering.
KELLY, Q.C.:
Q. Right, but for the--take those two factors, for the regulatory support, you already factored that by looking for comparable regulatory Moody's ratings, and the point about regulated earnings is it simply reflects the application of regulation in Canada, in terms of what regulators have said. So it's circular because you're not then getting a market rate, you're discounting simply because you've got regulators in Canada who have set a rate.
KELLY, Q.C.:
I'm discounting because I believe that there's a difference between the countries and the regulated utilities, so I think it's appropriate.
(1:45 p.m.)
KELLY, Q.C.:
Q. Okay, now, let me move on and I just want to talk to you a little bit about the formula.
MR. MACDONALD:
A. Right.
KELLY, Q.C.:

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Q. You make some comments about the formula which essentially would seem to indicate to me that we should have a formula, if necessary, but not necessarily a formula. Do I take that out of it, in other words, you have to have some need for a formula?
MR. MACDONALD:
A. Well I believe a formula is appropriate because it creates regulatory certainty so that all the parties around the table understand what will happen in 2015 if there's not a rate hearing.
KELLY, Q.C.:
Q. Right, but in the absence of a formula what happens is the rate of return that is set, just like every other cost that the company has, in its test year cost, continues unless changed, either by the company applying, the Board calling the company in or somebody else, Consumer Advocate, asking for a review. So do you not get certainty by that mechanism as well?
MR. MACDONALD:
A. You get certainty, but I think the challenge is that you're in a situation where it's not

refreshed for changes in influencing factors, like the risk free rate. So my recommendations were based upon trying to establish a formula which would address that concern, but also had several moderating factors so that there was significant variance, it would allow all of the parties to come back to the table and determine what would be fair.

KELLY, Q.C.:

Q. And while on the question I posed to you capital is not refreshed, to use your words, nor are any of the other companies' costs?

MR. MACDONALD:

A. That would be correct.

KELLY, Q.C.:

Q. That would be correct, so for example every year the Board orders, permits capital expenditures, so every year there would be a depreciation expense.

MR. MACDONALD:

A. Agreed.

KELLY, Q.C.:

Q. But the depreciation expense from the test year doesn't increased, even though there is,

in reality, more depreciation that has to be absorbed, correct?

MR. MACDONALD:

A. Absolutely.

KELLY, Q.C.:

Q. So when we're actually applying a formula to refresh one cost, we're not refreshing all the other costs either, are we?

MR. MACDONALD:

A. That is true.

KELLY, Q.C.:

Q. And it would be true for me to say as well that from 1951 when the Public Utilities Act, I think, came into effect, all the way up to 1998, we operated on that mechanism without a formula.

MR. MACDONALD:

A. I'll take you at your word, and I guess one of the things I would say about the formula, generally we are only targeting the formula to try to address the return on equity recognizing that that variable is moving significantly as capital markets fluctuate.

KELLY, Q.C.:

Q. That takes me to my next question and you put

your finger right on it in the comment that you just made, which is significantly and I want to take you to this point, you did an analysis out to 2014, to the end of 2014 which is how you got your 3.04 percent.

MR. MACDONALD:

A. Correct.

KELLY, Q.C.:

Q. Right, and that 3.04 is only, it's what, 50 or 60 basis points higher than where we are today.

MR. MACDONALD:

A. Correct.

KELLY, Q.C.:

Q. So what are you thinking the forecast is going to be at the end of 2014, looking out into 2015 because you would have factored that into your math. It couldn't have been a very significantly different number.

MR. MACDONALD:

A. So if I followed your question correctly, you're asking me what I think the forecast is for 2015?

KELLY, Q.C.:

Q. Well let's start it this way, what number did

you use in your forecast to get your 3.04 as your ending up number in 2014, because the 3.04 is effectively a two-year average.

MR. MACDONALD:

A. Right, so we averaged it, we looked at the 2013 and 2014 consensus forecast and averaged those.

KELLY, Q.C.:

Q. Okay, so what was the consensus forecast for 2014?

MR. MACDONALD:

A. Well, if you give me a moment, I'll find that. Oh, here it is. It is 2.7.

KELLY, Q.C.:

Q. So it's only--very marginally higher than 2.5, 2.6 we're at today.

MR. MACDONALD:

A. Correct.

KELLY, Q.C.:

Q. And out of that, that's at the end of 2014, how did you get to 3.04?

MR. MACDONALD:

A. Well we averaged the 2013 and the 2014.

KELLY, Q.C.:

Q. What's 2013?

MR. MACDONALD:
A. It is 2.2.
KELLY, Q.C.:
Q. Okay, but if I averaged 2.2 and 2.75, how do I get 3.04?
MR. MACDONALD:
A. Well, what we did is because we were working with ten-year Canadian bond yield inputs for that, we looked at the observed spread between the ten year and the long bond, which adds an additional 59 basis points to get to a 30 year long bond risk free rate, and we added that to our average of 2.45.
KELLY, Q.C.:
Q. Okay, so the earlier numbers you gave me were ten-year bonds?
MR. MACDONALD:
A. That's correct.
KELLY, Q.C.:
Q. Right, just so we--okay, I got you now. So what is, just give me the--could you just give the Board again the 30-year bond rate with the adjustment at the end of 2014?
MR. MACDONALD:
A. Well, so working from what I had in my report,

again just to walk you through what I did.
KELLY, Q.C.:
Q. Yes.
MR. MACDONALD:
A. I looked at the ten-year Canadian bond yield for 2013, which was 2.2 and I looked at the ten-year Canadian bond yield for 2014, which was 2.7, I averaged it and it got me to 2.45. I then looked at the observed spread between the ten year and the long bond and I noted that there's a .59 spread and I added that to develop my estimated risk free rate of 3.04.
KELLY, Q.C.:
Q. So I would make it, on that math, that the 30 year bond estimate at the end of 2014 is only 3.34 percent, 2.75 and 59. spread?
MR. MACDONALD:
A. Yeah.
KELLY, Q.C.:
Q. So you're not forecasting a huge change in long Canada bond yields, in fact, 3.34 would still be within, for example, Dr. Booth's floor.
MR. MACDONALD:
A. That's correct and I guess the only challenge

we have to be mindful of is just the level of fluctuation you get in forecasts.
KELLY, Q.C.:
Q. I appreciate that. So that I take it you actually agree with Dr. Booth that well out into 2015 we are still going to have very low levels of long term Canada bond yields?
MR. MACDONALD:
A. Well actually I think I've got the forecasts in my report and I think generally that would be my current expectation, the only thing I would note is the volatility at which I think we've even experienced from 2009 to today that things can change.
KELLY, Q.C.:
Q. The world can change, there's no question.
MR. MACDONALD:
A. Absolutely.
KELLY, Q.C.:
Q. Now the last question I wanted to discuss with you then is the concern as to how this would operate, because the concern that Ms. Perry has expressed, that I'm sure you heard.
MR. MACDONALD:
A. Uh-hm.

KELLY, Q.C.:
Q. Is that if you're going to construct a formula, the consensus forecast is a forward-looking estimate, isn't it?
MR. MACDONALD:
A. Correct.
KELLY, Q.C.:
Q. And your 3.04 is a forward-looking estimate?
MR. MACDONALD:
A. Correct.
KELLY, Q.C.:
Q. So if you're going to build a formula off of the change in the consensus forecast, in other words, it's going to apply at the end of 2014 for 2015 -
MR. MACDONALD:
A. Right.
KELLY, Q.C.:
Q. - the comparable factor we should be looking to is the starting consensus forecast, as opposed to an average or a number that you've calculated because otherwise what happens is that, as Ms. Perry demonstrated in her evidence, you build in a downward bias in your formula. Do you not agree with that?

MR. MACDONALD:
A. Can I ask you to repeat the question? It's just hard to follow all the logic in that.
KELLY, Q.C.:
Q. Okay, let me take it step by step then. If you're going to use a formula to change it and you're using forward-looking estimates.
MR. MACDONALD:
A. Right.
KELLY, Q.C.:
Q. So you've got the consensus forecast is the one you're going to use at the end of the operation of your formula, you're going to look at it in November, 2014 out into 2015.
MR. MACDONALD:
A. Okay.
KELLY, Q.C.:
Q. In order to have neutrality in the operation of the formula, don't you have to compare that consensus forecast with a starting consensus forecast?
MR. MACDONALD:
A. Starting consensus forecast of?
KELLY, Q.C.:
Q. Of whatever period you're going to apply the

formula from, if we take a year over year formula, it would be from the starting point, the previous year, but if it's covering a two-year period, from the starting point at the beginning?
MR. MACDONALD:
A. Well what I was trying to link the formula to was the risk free rate that was inherent in the return on equity that I was recommending, so that it would mirror movements going forward.
KELLY, Q.C.:
Q. Yeah, I appreciate that that's the intention, but when you build it off your average, as opposed to the starting number, you've biased it downward by that difference or by 50 percent of the difference if you're using a 50 percent adjustment factor.
MR. MACDONALD:
A. So you're suggesting that it should be the 2013 forecast, plus the difference in the spreads, is that the point?
KELLY, Q.C.:
Q. Yeah, if you just go to exhibit JP-1 because the starting point is whether we need a

formula at all and we've had some discussion about that, but if -
MR. MACDONALD:
A. I just want to make sure I follow you.
KELLY, Q.C.:
Q. But if there is a formula that the Board decides on, the formula needs to be balanced.
MR. MACDONALD:
A. It definitely needs to be balanced, I just want to make sure I understand your point.
KELLY, Q.C.:
Q. Right, okay. So for example, if you look at 259, this is attempted to demonstrate if the circumstances don't change, we get to the end of--this is done on 2014 but you could take it all the way out to 2015, we're in exactly the same place in 2015 and the consensus forecast is 2.59 still at that point in time, the world hasn't changed an iota, then by using your average in the mix, as opposed to the starting 2.59, you end up with a 45 basis point aggregate factor down by 50 percent, it weights your formula 23 basis points down. So with your deadband, 6 basis points drops you a quarter.

MR. MACDONALD:
A. Now the 2.59, if I followed you correctly, represents the November represents the November consensus forecast, and I believe it was the 30 year?
KELLY, Q.C.:
Q. Yes.
MR. MACDONALD:
A. Right, so what we're doing, if I follow this correctly then, I think the point you're trying to make is that because I'm working from the 3.04 and you're looking at the 2.59 30-year long term bond yield.
KELLY, Q.C.:
Q. The forecast, the starting original forecast.
MR. MACDONALD:
A. Right, but I think you're just using a forecast from that one month later, is that right?
KELLY, Q.C.:
Q. No, no, I'm using the forecast from your starting point, which is the same as today -
MR. MACDONALD:
A. Okay.
KELLY, Q.C.:

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Q. - which is your November number.
MR. MACDONALD:
A. Okay, so my October number of 2.2 and 2.7 -
KELLY, Q.C.:
Q. Yeah, we're using November simply because the formula operates from November, it's 2.59.
MR. MACDONALD:
A. Right, because I think what was happening here, is there was a change in the forecast between October and November, if I followed you correctly.
KELLY, Q.C.:
Q. No, and that's not the point, it's the 2.59, you got to use a November forecast to operate a formula on a balance basis against the following November or two years out, if you're going to apply it. Otherwise, if you apply it against the average, you end up with an unbalanced formula.
MR. MACDONALD:
A. Right, and I guess the only thing I was concerned about there is it seems to be a disconnect from the risk free rate I was using in my development, on my fair return on equity, so that we were using a formula that

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was working from a 2.59 which is sort of the new current forecast.
KELLY, Q.C.:
Q. Because you see the company's concern, on your model, whether it applies in 14 or 15 doesn't matter, but on your model a 6 basis point reduction in long Canada bond yields would drop the company's return by 25 basis points.
MR. MACDONALD:
A. Working from a forecast of 2.59.
KELLY, Q.C.:
Q. Yeah, well from where it is today; in other words, if the world had only changed by 6 basis points down, it drops the return by a quarter of a percentage point. On the other side of your model, if the long Canada bond yield rises by 75 basis points, the company would not capture any increase in the return, that appears to us to be unbalanced.
MR. MACDONALD:
A. Right, and I guess the challenge I had was isn't the core of the issue, it's just that we were both starting from different risk free rates.
KELLY, Q.C.:

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Q. No, we're both starting from the same risk free rate, you're using an average as your adjusting factor, instead of the starting against the end, that's the fundamental difference.
MR. MACDONALD:
A. Okay.
KELLY, Q.C.:
Q. I'll let you think on that, but let me kind of close the discussion this way. We're trying to create relatively complicated mechanisms to adjust something which may not even need to be adjusted. I'm wondering whether you agree with Dr. Booth that one of the alternatives that the Board should consider is simply setting a rate of return, either party can come back and apply to change it as needed, but since we have two test years it's going to be set for 13 and 14 as you've said in your evidence in any event.
MR. MACDONALD:
A. Right, that's definitely an alternative.
KELLY, Q.C.:
Q. Okay, thank you, Mr. MacDonald, I appreciate your time.

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MR. MACDONALD:
A. Thank you.
MR. JOHNSON:
Q. Mr. MacDonald, just regarding the AAF discussion you were having with Mr. Kelly, I think as Dr. Booth indicated the Regie, the Quebec regulator, felt it important that the formula broadly replicate or be consistent with its previous decisions which is why it accepted Dr. Booth's recommendations.
MR. MACDONALD:
A. Right.
MR. JOHNSON:
Q. And I'm wondering have you back tested your suggested formula to see whether it would have given approximately the same return on equity to Newfoundland Power as this Board has decided was fair and reasonable over the years?
MR. MACDONALD:
A. I did not.
MR. JOHNSON:
Q. I wonder if you would take, as an undertaking, that you would provide that analysis since inception of the formula in this jurisdiction.

MR. MACDONALD:
A. Okay. It may take a little bit of time to put that together, but -

Power's DBRS credit rating is A?
MR. MACDONALD:
A. Yes, yeah.
MR. JOHNSON:
Q. And in terms of other investor owned utilities in Canada that would have a higher bond rating than A, Mr. MacDonald, I believe Canadian Utilities would fit into that. I believe they're A+.
MR. MACDONALD:
A. Okay.
MR. JOHNSON:
Q. And I don't know if you would know whether there's any other higher than Newfoundland Power at this time?
MR. MACDONALD:
A. Off the top of my head, I'm not aware of any, subject to check.
MR. JOHNSON:
Q. Okay. Would it be your professional judgment that this Board should maintain either the allowed return on equity or common equity ratio to preserve an A rating for Newfoundland Power?
MR. MACDONALD:

MR. JOHNSON:
Q. And one suggestion to that, so as not to have to reinvent the wheel or anything, you'll recall from page 68 of Dr. Booth's report, he used long term Canada and corporate spread data that I believe Ms. McShane had put forward of, you think was in the line 9 hearing (phonetic). So that's already there, so not going all around the mulberry bush, as a suggestion. I think it might be helpful to have that before the Board.
MR. MACDONALD:
A. Okay.
MR. JOHNSON:
Q. Thank you. Mr. MacDonald, on page 21 of your report, you give as a reason for recommending the continuation of a 45 percent common equity ratio that if it were lowered, Newfoundland Power's credit metrics would be lowered and that the rating agencies might change their perception of the regulatory environment. And I think you'd be aware that Newfoundland

A. I personally have the view that it's important to preserve the credit ratings and the strength of the utility.
MR. JOHNSON:
Q. Okay. Would you accept the proposition that we do not give an equity investor a benefit? In other words, we don't look to key off a return on equity recommendation and provide a return to an equity investor that would be higher than they could get in a comparable investment just so that it would make a particular credit metric, for instance?
MR. MACDONALD:
A. Right. So I wouldn't say that we were trying to increase the return on equity just to meet a certain credit metric, if I followed you correctly. I would say though, we should be very mindful of the financial integrity and just ensuring we're keeping the utility in an appropriate place.
MR. JOHNSON:
Q. And you would not suggest that the financial integrity of Newfoundland Power would be impaired by having say a 40 percent common equity in its capital structure and say five

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percent preferred shares, as was discussed
this morning?
MR. MACDONALD:
A. Right. So I actually gave that obviously
quite a bit of thought as I was preparing my
report and looked and considered that. My
concern was simply that -- and I also think
stated in my opening comments that it's
important to constantly be reconsidering that
equity level and if it's appropriate or not,
and I think that should be something that
continues to happen. The concern I had around
the 45 percent and lowering it to 40 was
simply more looking at some of the
macroeconomic environment that we're working
in today. So, for example, the Sovereign debt
crisis, particularly in the US, and I was
looking at that and determining that it was
appropriate to maintain it at 45 percent until
we had some clarity on those issues.
MR. JOHNSON:
Q. But there's other utilities in the country who
are subject to the same economics as you've
just referred to, whether it be Maritime
Electric or Fortis Alberta.

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MR. MACDONALD:
A. Absolutely.
MR. JOHNSON:
Q. And they don't require 45 percent in their
common equity, right?
MR. MACDONALD:
A. That is correct.
MR. JOHNSON:
Q. Mr. MacDonald, you performed an analysis of
the historic risk premium in your report.
MR. MACDONALD:
A. Right.
MR. JOHNSON:
Q. And if we could turn to that, page 29. Starts
on 28 and then it goes into page 29.
MR. MACDONALD:
A. Right.
MR. JOHNSON:
Q. And then you have your table over on page 30
which sets out the historical earned equity
risk premium for Canadian utilities.
MR. MACDONALD:
A. Right.
MR. JOHNSON:
Q. And where did you get your data for this

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information that we see in Table 15?
MR. MACDONALD:
A. It would have been from Bloomberg and the Bank
of Canada.
MR. JOHNSON:
Q. Of course, you also report data from BMO
Capital Markets Utilities from 1983 to 2011?
MR. MACDONALD:
A. That's correct.
MR. JOHNSON:
Q. Did that come from Bloomberg or Bank of Canada
or from BMO?
MR. MACDONALD:
A. I believe it came from Bloomberg, but I'd have
to confirm.
MR. JOHNSON:
Q. Bloomberg provides data from BMO Capital
Markets?
MR. MACDONALD:
A. I'd have to confirm. I don't recall off the
top of my head.
MR. JOHNSON:
Q. I wonder would you confirm that point as to
where that data came from, if it came from
Bloomberg?

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MR. MACDONALD:
A. Sure.
MR. JOHNSON:
Q. And the series number from Bloomberg, if you
could provide that as an undertaking?
MR. MACDONALD:
A. I will.
MR. JOHNSON:
Q. Thank you. The results that you arrive at in
Table 15 are identical to those that were
arrived at by Dr. Vander Weide, except that
you're using a different risk free rate?
MR. MACDONALD:
A. That's correct.
MR. JOHNSON:
Q. And I take it that you were here and listened
to our cross-examination of Dr. Vander Weide
and we put to him a revised table as opposed
to having to show what would happen if instead
of -
MR. MACDONALD:
A. I recall.
MR. JOHNSON:
Q. You recall, okay, all right. And instead of
subtracting the yields or the yields from the

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returns, we went returns from returns.
MR. MACDONALD:
A. Right.
MR. JOHNSON:
Q. And I take it you followed the same approach as Dr. Vander Weide?
MR. MACDONALD:
A. That's true. There's only one sort of key difference to keep in mind is when I was looking at the equity risk premium method, I was concerned about the companies, the constituents of that, of those groups over time and the possible inclusion of non-regulated businesses, for example. So that would have been a factor that I looked at in reducing my equity risk premium conclusion from 10.26 to 8.91 through my weighting mechanism, which represents 135 basis point reduction.
MR. JOHNSON:
Q. I see. If you go back on the top of page 29, or actually, it would be more convenient to go to the bottom of page 28.
MR. MACDONALD:
A. Okay.

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MR. JOHNSON:
Q. And you're describing the equity risk premium, ERP, and you say "ERP analysis is based on the understanding that it is riskier to hold equity compared to holding bonds. Financial theory holds that investors are rational and will therefore require a higher return or premium to compensate them for holding assets with higher risk relative to bonds."
MR. MACDONALD:
A. Um-hm.
MR. JOHNSON:
Q. You continue "if the rate of return on a risk free asset can be determined and the equity premium to hold risky assets observed and established, the required return on equity can be estimated." And then at line 549 you have stated "ERP equals return on stocks minus return on bonds"?
MR. MACDONALD:
A. That's correct. I'm just illustrating how the concept.
MR. JOHNSON:
Q. And so the concept, as you understand it, properly applied, would be to have a return on

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stocks minus the return on bonds as opposed to a return on stocks minus the yield on bond?
MR. MACDONALD:
A. Well actually, I was just trying to illustrate a broad concept of risk premium. For this particular example, I was actually focusing in on applying it relative to the risk free rate that I've used here in the bond yields.
MR. JOHNSON:
Q. What source did you consult to determine how the equity risk premium returns on stock minus returns on bonds? Where did that come from?
MR. MACDONALD:
A. I'd have to double check.
MR. JOHNSON:
Q. I wonder if you could check that and take by way of undertaking what source document it was expressed as ERP as return on stocks minus return on bonds?
(2:10 p.m.)
MR. MACDONALD:
A. Happy to do that.
MR. JOHNSON:
Q. I take it, Mr. MacDonald, you've been here throughout the whole hearing?

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MR. MACDONALD:
A. Since Monday of this week.
MR. JOHNSON:
Q. Don't remind us. But you'll recall that Ms. McShane indicated that up until 2007, at least in this jurisdiction, she was doing it exactly as described at line 549 in your report, taking return on stocks and minusing out the return on bonds?
MR. MACDONALD:
A. I do recall that discussion.
MR. JOHNSON:
Q. And did you consider doing a like for like study and actually subtracting the average bond returns from the average equity returns?
MR. MACDONALD:
A. I did not.
MR. JOHNSON:
Q. Why didn't you?
MR. MACDONALD:
A. Because I wanted to maintain the integrity with the risk free rate, where my risk free rate was built off of yields.
MR. JOHNSON:
Q. If the old -- I guess the issue that we have

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is that we end up with giving a weighting -- if you can see on Table 15, we end up with a weighting being given to the period of 1983 to 2011 where we see bonds doing better than the TSX for reasons that we discussed with those other witnesses, and it leads to the query: is it really helpful to think on a go-forward basis that we should consider data which is not likely to be accurate on a go-forward basis in terms of what the relative risk premiums would be between holding bonds and holding equities?

MR. MACDONALD:

A. So I shared the concern and so when I was looking at this analysis and preparing it, I actually decided that it would be appropriate -- while I think it's always valuable to look at historical returns, make sure you understand what's occurred in the marketplace, I felt it was appropriate to reduce my conclusion. So I reduced my conclusion from 10.26 to 8.91 with 135 basis point adjustment and as noted in my conclusion, allowing for the limitations in some of the methodologies, including this one.

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MR. JOHNSON:

Q. So this -- do you expressly state in your report as to the reason that your adjustment was because of the differences between the two methodologies, whether it be return minus return or return minus yield?

MR. MACDONALD:

A. I expressed in my report that I chose my weightings based upon the limitations of each methodology.

MR. JOHNSON:

Q. Okay. So you would regard this methodology as having a limitation by reason of the fact that you took the bond yield from the stock return?

MR. MACDONALD:

A. That was one concern. I mean, my broader concern, frankly, was the quantity of non-regulated businesses in these indices, which I think are some of the underlying factors that are driving the higher premiums as well.

MR. JOHNSON:

Q. When you come up with your 10.26 percent result using your historic utility method in your report, I note that you did not -- you do not state there that that would result in a

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required return that would be greater than what you believe would be a fair return for Newfoundland Power, but you did make the observation that the CAPM result would produce a lower return than what you thought would be appropriate for Newfoundland Power.

MR. MACDONALD:

A. That's correct. And the reason I did that is that the abnormally low interest rates which are affecting the CAPM I think are a very key issue today and therefore I thought it was particularly important to note that factor in my section on the CAPM and then I made my comment in my conclusions about the broader comment around the limitations of methodologies.

MR. JOHNSON:

Q. In terms of the result that you end up with using historic equity ERP in your report, can you confirm that your ERP estimates included telecom stocks?

MR. MACDONALD:

A. They would have, yes.

MR. JOHNSON:

Q. And if we could turn up PUB-48 in that regard

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-- CA-PUB-48 I believe it was. And then CA-PUB-49, Mr. MacDonald. I take it you would confirm, as you've done there, that the index you used implicitly included Nortel through its indirect ownership by Bell Canada?

MR. MACDONALD:

A. That's correct. The challenge I was referring to when you're dealing with equity risk premium method that by its nature, it starts to pick up non-regulated business activity.

MR. JOHNSON:

Q. Yes.

MR. MACDONALD:

A. And therefore you need to make an adjustment to allow for that.

MR. JOHNSON:

Q. And just going back to page 30 of your report again, line 580.

MR. MACDONALD:

A. Okay.

MR. JOHNSON:

Q. You indicate "we note" -- I'm sorry. You say "we note that it is possible to determine an ERP on a go-forward or Ex-Ante basis as described by Dr. Vander Weide." I guess in

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several areas on your report, it looks like there was a fair bit of reference to Dr. Vander Weide's work in your report, and I'd just like to put that to you in terms of, you know, we see, you know, identical returns and things of this nature and then not considering using the other approach where you'd subtract the return from the return, not considering that as a possibility, and would one of the reasons be that you did not consider the other possibilities because Dr. Vander Weide didn't consider another possibility?

MR. MACDONALD:

A. No, that's not correct. It was simply that we felt this was an appropriate method to look at and in regards to the references to Dr. Vander Weide's work, we were instructed to make sure we referred to other reports from other experts in comparing our results.

MR. JOHNSON:

Q. You referred a few times to "we"

MR. MACDONALD:

A. Apologies, yes.

MR. JOHNSON:

Q. You mean "me" or do you?

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MR. MACDONALD:

A. I mean me. I apologize. Partner in an accounting firm, you start referring to the word "we". It's hard to get out of the system.

CHAIRMAN:

Q. The royal we.

MR. MACDONALD:

A. The royal we, exactly.

MR. JOHNSON:

Q. I'd like to talk about the issue of beta adjustments. I take it, Mr. MacDonald, or I'll ask you if you were aware of any regulators in Canada that have specifically accepted the so-called Blume adjustment for betas?

MR. MACDONALD:

A. I think the acceptance of adjusted betas is quite common.

MR. JOHNSON:

Q. The Blume adjustment?

MR. MACDONALD:

A. The Blume adjustment was how I chose to apply an adjusted beta. I would also note that every expert in this report has chosen to -- sorry, in this hearing, has chosen to adjust beta in some fashion. So Dr. Booth adjusted to his view of the long term average to .5. Ms. McShane adopted to the relative risk adjusted level of .65 to .7 and Dr. Vander Weide -- or sorry, Mr. Vander Weide adjusted to the Value Line adjusted beta, which is a Blume adjustment of .73, and I would also note that in the 2009 Board decision, the Board decided to adjust the beta to .6.

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MR. JOHNSON:

Q. But I take it, going back to my question, that you're not aware of an instance where a regulator has specifically accepted the Blume adjustment?

MR. MACDONALD:

A. Not the Blume adjustment, but adjusted betas.

MR. JOHNSON:

Q. Okay. You refer to Professor Damodaran, who I understand is in NYU, I believe.

MR. MACDONALD:

A. I believe, yeah.

MR. JOHNSON:

Q. And again, that would be subject to check. But page 32, line 635, this is in connection with your discussion of the market risk premium and you refer to the Fernandez study. So you were aware of the Fernandez study independently, I take it?

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MR. MACDONALD:

A. Absolutely.

MR. JOHNSON:

Q. Absolutely. And then you go on to note that, at line 635, "Professor Aswath Damodaran at New York University's Stern School of Business is the author of several widely used financial textbooks and numerous peer reviewed articles on finance, including risk premiums" and you go on to say, "Professor Damodaran calculates global equity risk premiums on an annual basis and he most recently updated his work in June of 2012 with Canada having a six percent risk premium." And then you say "he also notes that according to the Credit Suisse Global Investment Returns Sourcebook, the historical arithmetic mean Canadian Equity Risk Premium from 1900 to 2011 is five to 5.5 percent." And this confirmed for you or helped confirm for you what you felt would be a reasonable market risk premium?

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MR. MACDONALD:
A. Correct, yes.
MR. JOHNSON:
Q. And I take it you are now aware that Professor Damodaran has also made cost of capital estimates of the electrical utility sector in the United States?
MR. MACDONALD:
A. Actually, I was not aware of that.
MR. JOHNSON:
Q. You became aware of it through this hearing?
MR. MACDONALD:
A. Yes.
MR. JOHNSON:
Q. And if we could turn up CA-PUB-33 in that regard? The question asks "Mr. MacDonald references Damodaran's website. Is he aware that Damodaran's estimates cost of capital by sector, January 2012, for the US electric equity costs are:" and we've provided "Electric Utility Central 6.41 percent; Electric Utility East 6.08 percent; and the Electric Utility West 6.40 percent" and you indicate that you are aware or I guess you confirm is what you were saying?

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MR. MACDONALD:
A. Okay, yeah.
MR. JOHNSON:
Q. Okay. And that you also went on to note that he references the beta for these utilities to be between .70 and .75, et cetera. And if we turn to page 33 of your report, we see that your CAPM result, while making allowance for a 50 basis point adjustment for floatation costs, come quite in line with what Professor Damodaran's estimates were, as we've seen in that recent study?
MR. MACDONALD:
A. Right.
MR. JOHNSON:
Q. Right, but you go on to say that "the CAPM return on a stand-alone basis would result in a required return that is below what we believe is a fair ROE by the company" and I guess you obviously couldn't give any influence of Professor Damodaran's results because you weren't aware of them at the time you wrote your report?
MR. MACDONALD:
A. Well, I was aware of his overall work.

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MR. JOHNSON:
Q. But you weren't aware of what he had estimated the cost of capital to be for -- cost of equity to be for electric US -- US electrics?
MR. MACDONALD:
A. Actually, I don't recall exactly when I became aware of it.
MR. JOHNSON:
Q. Oh, okay, all right. Well, how does it strike you that Professor Damodaran, a respected resource that you relied upon for your market risk premium confirmation, has provided these estimates in January 2012 which show that in fact his fair estimate of cost of equity for these US utilities is pretty in the wheelhouse of your 6.84 percent under the CAPM?
MR. MACDONALD:
Q. Well, his work in regards to the market risk premium would just be one of multiple pieces that we were relying upon.
MR. JOHNSON:
Q. Yes, but his work that I brought you to in answer to CA-PUB-33 where he actually reports what his cost of equity assumptions are for those US electric, they come within your CAPM.

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MR. MACDONALD:
A. They do, but as I stepped back and I evaluated the results of my CAPM and considered multiple methodologies, particularly given the challenges that CAPM is currently experiencing, I looked to my other methodologies to try and get some understanding of what was appropriate. I also looked at other market risk premium information as well to make sure I was adjusting appropriately my CAPM result to get to a result that would have been fair for a return on equity.
MR. JOHNSON:
Q. That would be an application of your judgment in that regard?
MR. MACDONALD:
A. Absolutely, yeah.
MR. JOHNSON:
Q. Yes, and I guess it would be implied that you take your judgment over Dr. Damodaran's in that regard?
MR. MACDONALD:
A. That's absolutely correct.
MR. JOHNSON:

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Q. Mr. MacDonald, when you were preparing your US sample, did you look at these companies 10-Ks?
MR. MACDONALD:
A. At a high level, to get an understanding of them, yes.
MR. JOHNSON:
Q. Because you don't report in your report in terms of your -
MR. MACDONALD:
A. That's just an oversight.
MR. JOHNSON:
Q. That would be an oversight?
MR. MACDONALD:
A. Yes.
MR. JOHNSON:
Q. You indicated on direct that you had a screen for 85 percent regulated earnings. Is that correct?
MR. MACDONALD:
A. No, it was 85 percent of assets, which by its nature led us to very high earnings levels or led myself to very high earnings levels.
MR. JOHNSON:
Q. We've had some evidence here in terms of the earnings of certain of these companies.

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MR. MACDONALD:
A. Correct.
MR. JOHNSON:
Q. And in terms of that, what's your view of -- in terms of comparability of these US companies that have significant amounts of unregulated earnings -
MR. MACDONALD:
A. Well, not so much in my particular sample. Broadly speaking, some of the other evidence presented in some of the other reports it did. My regulated earnings for my set, they were all, I believe, 90 percent or higher.
(2:30 p.m.)
MR. JOHNSON:
Q. Could we turn up CA-NP-310? I think we're going to see that Attachment 1. As I under -- as we go down through this list, and not to belabour it too much, but ALLETE would be one of your companies, correct?
MR. MACDONALD:
A. That is correct.
MR. JOHNSON:
Q. Okay. And that one is not particularly significant. Alliant wouldn't be. But if we

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start looking at Integrys, for instance.
MR. MACDONALD:
A. Sure.
MR. JOHNSON:
Q. That would be one of yours where they're taking losses on unregulated side and would you accept that those losses are significant, compared to the regulated side's revenues?
MR. MACDONALD:
A. Well, they're about ten percent of the business, of the earnings. And actually, I think, as we discussed earlier in the hearings, there's been a significant change in Integrys and it's now predominantly a regulated business, which is why it passed our 85 percent regulated asset threshold.
MR. JOHNSON:
Q. Okay. Why do you think it's important for this Board to consider the amount of unregulated earnings when comparing these companies to Newfoundland Power?
MR. MACDONALD:
A. I do think it is important to consider the amount of regulated earnings and regulated assets and the reason I think that's important

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is we're trying to maximum the comparability of our sample and our DCF to Newfoundland Power. As I noted in my opening comments, you never get perfect comparability. None of the Canadian companies would even pass the thresholds in factors that I've looked at, but in the interest of getting information to understand the fair return on equity, I think it's very important to be able to look at other comparable companies and making them as comparable as possible from which you draw conclusions.
MR. JOHNSON:
Q. And you heard the evidence in this proceeding which would indicate that vertically integrated companies would be with the riskiness of the sectors of these regulated utilities, would you concur with that?
MR. MACDONALD:
A. Yeah, actually and I acknowledge that in my opening comments and identified several areas where I agree there are differences.
MR. JOHNSON:
Q. And so you -- would it be fair to say that you would view the American data as informative?

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MR. MACDONALD:
A. Absolutely.
MR. JOHNSON:
Q. But there'd be no question in your mind that they're not the same?
MR. MACDONALD:
A. Well, that's why I sought and applied an adjustment to it, to bring my DCF results down because I was allowing for the fact that there are differences between the US and Canada, particularly in this sector.
MR. JOHNSON:
Q. And what other factors did you take into account, other than unregulated earnings or where these companies would have fit in terms of being vertically integrated, what other factors drove you to the conclusion that adjustments were necessary?
MR. MACDONALD:
A. Well, as I was mentioning in the earlier discussion, you know, I think broadly speaking, you can just simply see it in the return on equities and the capital structures allowed in the US versus Canada, so that's your first indication of difference. When we

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were also try -- or when I was also considering the differences, I was considering the regulatory structure, credit ratings, earnings volatility, subsectors, customer mix, a number of factors.
MR. JOHNSON:
Q. Okay. So it would be your suggestion to this Board that the data from United States companies that have been examined in this proceeding should definitely not be used without adjustment?
MR. MACDONALD:
A. That's correct. I think they're very important in terms of drawing a conclusion on the fair return on equity, but I also believe it's very important to apply an adjustment as the BCUC did in 2009 or suggested.
MR. JOHNSON:
Q. You referenced the BCUC adjustment and can you confirm what expert they listened to in terms of making that adjustment?
MR. MACDONALD:
A. Off the top of my head, I don't recall, but I got a suspicion it's Dr. Booth.
MR. JOHNSON:

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Q. Those are my questions, Mr. MacDonald. Thank you very much.
GREENE, Q.C.:
Q. I have one for redirect and it relates to the discussion with Mr. Johnson relating to capital structure and I think, without the benefit of the transcript, and I'm sure Mr. Johnson will correct me if I get it wrong, I believe the question was that other utilities in Canada have much lower capital structure or much lower equity in their capital structure than does Newfoundland Power.
MR. MACDONALD:
A. That's correct. I think 40 percent is sort of a common threshold.
GREENE, Q.C.:
Q. Okay. And so why are you concerned about decreasing their capital structure or adjusting it at this point in time when others in Canada have lower equity ratios, and I wondered if you'd expand on that.
MR. MACDONALD:
A. Sure. In many ways, my comment around my concern around reducing it, while I recognize that many of the other Canadian utilities have

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lower allowed ROEs, it was more a broad comment that I believe we're still in a period of significant economic uncertainty. We have big sovereign debt issues, both in the US and in Europe, and at this point in time, I'm concerned that it may not be the right time to adjust our common equity ratio for Newfoundland Power, just given those broad factors and concerns.
GREENE, Q.C.:
Q. Okay, thank you very much, Mr. MacDonald. That concludes my redirect.
CHAIRMAN:
Q. Just go back to that last question. I mean, what -- we got sovereign debt issues.
MR. MACDONALD:
A. Right.
CHAIRMAN:
Q. We don't know when they're going to be resolved.
MR. MACDONALD:
A. Correct.
CHAIRMAN:
Q. They may not be resolved.
MR. MACDONALD:

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A. I suspect at some point economic forces will
force some resolution of them.
CHAIRMAN:
Q. And how will that work?
MR. MACDONALD:
A. I suspect that could happen in a lot of
different ways. I just think -- oh, actually
a good example of it is the recent downgrades
we've seen of the US credit rating. So I
think that's a sign that the capital markets
are trying to force some resolution.
CHAIRMAN:
Q. So when the bond guys don't show up, when Bill
Gross, is it, doesn't show up, we're in
serious trouble?
MR. MACDONALD:
A. I would be concerned, yeah.
CHAIRMAN:
Q. Okay. And you're saying given that
circumstance, your recommendation to the Board
is to leave well enough alone?
MR. MACDONALD:
A. That is my recommendation.
CHAIRMAN:
Q. Okay. That's it, is it, for the day? Is

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there anything -- we were quite surprised at
you.
KELLY, Q.C.:
Q. Not touching that one.
CHAIRMAN:
Q. We were here for the long haul, you know.
MS. GLYNN:
Q. I'm sure we could find something to fill
another hour if you really wanted us to.
CHAIRMAN:
Q. Well, I haven't made -- I haven't annoyed
anybody yet, so I'm not going to start. So I
guess we adjourn now to Monday morning?
MS. GLYNN:
Q. Next Wednesday.
CHAIRMAN:
Q. Oh. I don't pay attention. I got it marked
in the calendar but I don't -- next Wednesday.
Okay, I want to say -
MS. GLYNN:
Q. For depreciation.
CHAIRMAN:
Q. Pardon?
MS. GLYNN:
Q. For depreciation.

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CHAIRMAN:
Q. Boy, that's going to be exciting.
KELLY, Q.C.:
Q. You thought you enjoyed this.
CHAIRMAN:
Q. We're going to render an opinion on what's
more exciting, discussing betas or
depreciation schedules. Anyway, I just want
to say to all the witnesses who appeared all
week, also the four cost of capital witnesses,
it certainly was a very enjoyable experience,
and if this is your baptism of fire as a
witness -
MR. MACDONALD:
A. That is correct.
CHAIRMAN:
Q. - it's not -- there's no evidence that you are
a novitiate, as they say.
MR. MACDONALD:
A. Well, thank you.
CHAIRMAN:
Q. Very good. So thank you all very much and we
shall adjourn until next Wednesday.
MS. GLYNN:
Q. Yes.

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CHAIRMAN:
Q. At 9:00?
MS. GLYNN:
Q. Yes.
CHAIRMAN:
Q. Okay.
(ADJOURNED AT 2:40 p.m.)

CERTIFICATE

I, Judy Moss, hereby certify that the foregoing is a true and correct transcript of Newfoundland Power Inc.'s 2013 General Rate Application, heard before the Newfoundland and Labrador Board of Commissioners of Public Utilities, 120 Torbay Road, St. John's, Newfoundland and Labrador and was transcribed by me to the best of my ability by means of a sound apparatus.

Dated at St. John's, Newfoundland and Labrador this 19th day of January, A.D., 2013

Judy Moss

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