New Brunswick Board of Commissioners of Public Utilities

Hearing

In the Matter of an application by New Brunswick Power Corporation dated June 21, 2002 in connection with an Open Access Transmission Tariff

Delta Hotel, Saint John, N.B.
December 10th 2002, 9:30 a.m.

CHAIRMAN: David C. Nicholson, Q.C.

COMMISSIONERS: J. Cowan-McGuigan
Ken F. Sollows
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BOARD COUNSEL: Peter MacNutt, Q.C.

BOARD SECRETARY: Lorraine Légère

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CHAIRMAN: Good morning, ladies and gentlemen. Any preliminary matters? Okay. Mr. Hashey?

MR. HASHEY: Thank you, Mr. Chairman. There was some (mike not on) -- there won't be, we will move on this morning directly into Panel B.

CHAIRMAN: All right.

MR. HASHEY: If it suits the Board.

CHAIRMAN: Yes.

MR. HASHEY: I would then call Panel B, the two members of that Panel, Dr. Roger A. Morin and Sharon MacFarlane. If they would take their place at the stand?

(DR. ROGER MORIN and SHARON MACFARLANE, sworn)

MR. HASHEY: Mr. Chairman, before we proceed with the presentation of Dr. Morin, I would ask that we might address two issues. One is two small corrections to the evidence that I would ask Ms. MacFarlane to refer to. And then I would ask Ms. MacFarlane, following that, to comment very shortly, on one undertaking that was left outstanding here. If I might do that?

CHAIRMAN: Yes, go ahead.

MR. HASHEY: Ms. MacFarlane, you have two corrections you would like to make?

MS. MACFARLANE: Yes, I do. And they are both in document A-4.

The first correction is in the Province -- interrogatories of the Province of New Brunswick, page 318. It's IR number 28, page 318.

It is on page 318, it starts with response to number 12. And the third line reads, "Transmission business unit for NB Power does compare". It should read, "does not compare".

The second correction is in the same binder. It's on page 514, which is responses to Saint John Energy interrogatories. This is Saint John Energy IR-38. And the second last line on that page reads, "Beyond that range the higher risks associated with equity outweigh the low cost advantage of debt." It should read, "beyond that range the higher risks associated with debt outweigh the low cost advantage of debt". So replace the word "equity" with "debt".

And that completes my corrections.

MR. HASHEY: Have you got it, Mr. Chairman?

CHAIRMAN: Yes. Thank you.

MR. HASHEY: Ms. MacFarlane, I would ask you next if you would, please, to refer to the list of undertakings. There was an undertaking given on, I believe, November 19th. And the request was from Mr. MacNutt and it was directed to yourself or Mr. Porter. There may have been a partial answer.

The request was, what happens in the fourth year following the initial date of the application of the tariff? Would you address that, please?

MS. MACFARLANE: Yes. NB Power is proposing this tariff for three years. And proposes to refile an application for a review of the tariff at the end of that period. That is supported by the evidence in Dr. Morin's review of PBR and how it will work, which is in appendix A-2, the original evidence.

MR. HASHEY: Thank you. I would then move on directly to the presentation by Dr. Morin. As indicated last week there were amendments made to the original presentation that was distributed. I believe a new one has been distributed, but I would like to ask that that be included now as a separate exhibit, as was agreed.

CHAIRMAN: That's fine, Mr. Hashey.

MR. HASHEY: Maybe that could be marked, Mr. Chairman?

CHAIRMAN: It could be if I had it. That will be A-22.

MR. HASHEY: Thank you. Then I would ask for Dr. Morin to come forward and give his presentation to the Board.

CHAIRMAN: Yes.

DR. MORIN: Good morning, Mr. Chairman, fellow Commissioners. It is a pleasure to return to New Brunswick. It has been a long, long time. I think the last time I was here it was NB Tel which was a long, long time ago.

Normally at this stage of the proceedings, when the subject of rate of return comes up, everyone vacates the room. But that is not the case. And even some Commissioners have been known to vacate the premises when we discuss rate of return.

But I will try to make my presentation as nontechnical and as clear and intuitive as possible. Because I do realize that this is a fairly technical and even perhaps complex subject.

So I want to talk about rate of return, capital structure and price caps which is the object of my testimony. And I have divided my presentation into five distinct parts which match the five sections of my own testimony.

So the first thing I want to do is I want to discuss the regulatory process and give a brief overview how rates are set. Number 2, I want to summarize my methods and results on rate of return. Number 3, I want to talk a little bit about the capital structure that should be deemed to NB Power Transmission. Number 4, and perhaps more interestingly, what are some alternatives to traditional ratemaking and particularly a price cap proposal? So those are the five sections of my presentation.

So let's do number 1 first. Let's talk about the regulatory process. We can begin with the notion why do we regulate? Well, I think to me regulation is intended to simulate competition. I kind of view regulation as a proxy or a surrogate for competition. If transmission services were totally competitive, what would be the rates and the quantity produced by a free market?

Well, we don't have a free market. So essentially the Board has to simulate or replicate the result of a free market economy. In a free market economy prices will reflect costs. Everyone is a pricetaker. And prices will adjust to costs. Those costs include a rate of return.

So in the first bullet here, the regulatory challenge, is fundamentally to arrive or determine this fair and reasonable rate of return.

And of course that begs the question what do we mean by that? And of course the jurisprudence is not that specific about what we mean by rate of return. Is it a market-based rate of return? Is it an accounting-based rate of return? It is an historic rate of return? Is it a prospective rate of return?

So we have to look to the courts to provide us with some guidance as to what we mean by a fair return. In Canada we have two landmark court cases, BC Electric Railway and Northwestern Utilities. And in the United States we have the infamous Bluefield and Hope cases from the US Supreme Court.

If you distil all the language, all the legalese from these decisions, there is two standards that emerge from that reading. Number 1 is standard of comparable earnings. And number 2 is standard of capital attraction.

What that means in English, in plain English, is the standard of comparable earnings means that the utility should be able to earn what it would have earned had its capital been invested in the free market. It should offer investors a return that is comparable to what is being offered by competing investments.

So if comparable investments are offering 10 percent, NB Power Transmission should also offer 10 percent. So that is the standard of comparable earnings.

The standard of capital attraction is very, very similar. If you want to attract capital you have got to be competitive. You have got to offer a competitive rate of return.

What we tend to forget when we are talking about utilities is that utilities are monopolistic in terms of their services that they provide. But they are in perfect competition with everybody else with regards to inputs, labour, materials, capital.

Utilities compete with everybody else for capital. If you want to attract capital you have got to offer a competitive rate of return. And that is the standard of capital attraction.

And we have interpreted that as sort of a financial profile that means that NB Power Transmission will offer an investment grade type of investment, let's say a single A bond rating or better.

If you are a publicly traded stock it means having a competitive market to book ratio in the stock market equal to that being offered by industrials.

So these are the two standards, comparability and capital attraction.

The way the system works is pretty simple. It is just like in a competitive economy. The revenues that should be earned by the utility have to be sufficient to cover the costs of service. Perhaps we should say the inescapable costs of service.

And those can be broken down into various items, of course O & M, operating expenses. They should be sufficient to recover the capital that was invested through depreciation charges. If the entity is taxable you should recover your taxes.

And a key of course is that the revenue should be sufficient to service the capital, to provide a rate of return on the dollars that were invested in the company. And my focus of course is on the latter, on the return on investment.

And usually we view that as the product of a rate of return and the number of dollars invested. So for example, if the cost of money is 10 percent and the utility has invested a million dollars, we need $100,000 to service that capital, 10 percent of a million.

And of course the fundamental challenge that I have is what is the return on investment and how do we go about determining that?

To give you a sense of magnitude or perspective on this, if you look at the aggregate North American data on transmission, electricity transmission companies, and you break down the revenue requirement, you can see that the rate of return represents a huge, significant chunk of the costs of service.

And of course, as we all know, utilities are extremely capital-intensive. And you can see that a lot of the revenue requirement can be attributed to capital-related items, return, amortization of capital, taxes. These are all related to capital. So we are talking about a big ticket item here.

How do we determine that rate of return? Well, we start off with the costs of debt. What do bondholders require these days? What is the cost of debt money, bonds?

Number two, we take a little trip on the stock markets, on the equity markets and try to find out what kind of returns that investors and stocks require.

And then we combine those two using the proportions in which the company has raised the money. I will give you an example in a moment. And we do a weighted average essentially of the cost of bonds and the cost of equity. And we call that the weighted average cost of capital. And that presumably becomes the allowed rate of return by the Board.

An example will help. Let us say that you have a utility that has raised the following amounts of capital, 540 million on the bond markets, 360' on the equity markets. And let us say that the cost of debt or the allowed return is 7 percent on the bonds and 10 percent on the stock or the equity.

And those proportions here that you see are essentially 60/40. We refer to that as the capital structure, by the way, which we will come back a little bit later in the presentation.

And then we simply compute the weighted average cost of money. 60 percent of the money costs 7 percent. So that is a weighted cost of 4.2. And 40 percent of the funds assembled cost 10 percent. So that is a weighted cost of 4. We add the two together. And the weighted average cost of money is 8.2 percent. And that becomes the allowed rate of return.

In other words, in plain English, the utility must earn 8.2 percent on the capital invested in order to be able to service that capital, in order to meet the return requirements of both the bondholders and the shareholders.

So the process, again we start with the cost of debt. Then we have the cost of equity. We do a weighted average using the capital structure weights and compute a weighted average cost of money. And that becomes the allowed rate of return.

But there are some interesting feedback effects that take place here. One of them is that the manner in which you finance your company will influence the return requirements of shareholders and bondholders.

For example, if you had 90 percent debt and only 10 percent equity, the equity holders would say gee, I'm pretty far down the totem pole here. I'm way, way down the food chain. There is all these bondholders ahead of me. I'm in a pretty risky position. I'm going to require a much higher rate of return.

In a similar fashion the bondholders will say well, gee, I'm sitting on a pretty thin equity cushion here. I haven't got much margin for safety here. I'm going to require a higher rate of return.

At the other extreme, of course, you can have a company with a lot of equity and very little debt, in which case the company has very little financial risk. The shareholders are not too far in line. The bondholders have a real thick equity cushion on which to sit. And they will require low rates of returns.

So there is this relationship between the weights or the capital structure and the cost of capital. And towards the end of the presentation I will draw you a picture of that relationship.

There is another interesting feedback loop that I discuss in my testimony. There is a long discussion about the regulatory risk. If a regulator allows a rate of return that does not bear any kind of resemblance to the cost of money, investors will perceive this particular company as having a lot of regulatory risk. So the Board and other regulators have a very, very, very significant impact on the risk perceptions of investors, all right. And this is a very, very important point.

So if the allowed rate of return is insufficient, for example, the shareholders and the bondholders will require a higher rate of return in compensation for this regulatory risk. Conversely if you have fair and supportive regulation, that will lower the return requirements of investors. And that is what we call regulatory risk.

So in summary, the process revolves around revenue requirements. Revenues have to be sufficient to cover both operating expenses -- and there has to be money left over in terms of operating income to service the capital.

And that net operating income, what is left on the table after you cover your expenses, is available to service the capital. It is available to provide a rate of return on the dollars invested by bondholders and shareholders. And we refer to that as the rate base. That is just the capital invested basically.

So the allowed rate of return has to be sufficient to provide a return to the bondholders and a return to the equity holders, whoever they may be.

So that is a summary of the regulatory process. So let's take them one at a time now. Let's go backwards for a second. My job as a rate of return witness and your job as a regulator is to fill in the blanks here in that table.

What is the cost of debt? That is pretty easy to do really. What is the cost of equity? That is very hard to do. What should be a fair and cost-efficient capital structure?

So the rest of my presentation essentially fills in the blanks on that matrix that you see here. So I'm going to start with the cost of debt. That will take about two slides, very easy to do.

Then I will devote a lot of time to the return on equity. And then at the end we will discuss the optimal capital structure.

So let's go with the cost of debt, the easiest of them all. And of course the bond ratings of a company's bonds have a major, major influence on the cost of debt. And bond rating agencies are in the business of trying to assess default risk, or credit risk or investment risk. And of course, these bond ratings have a direct influence on the cost of borrowing money.

And it's worth mentioning that these bond ratings are ascribed by independent bond rating agencies such as CBRS, which is now owned by Standard & Poors and also by DBRS or Dominion Bond Rating Service agencies.

And this picture will reflect what these people do. On the vertical axis you have the cost of debt. On the horizontal axis you have the bond rating. And you can see that as your bond rating deteriorates, as your credit quality declines, the cost of debt ascends rather precipitously, especially when you are at the upper end here in the so-called below investment grade range. The cost of debt really takes a steep hike.

Now how do bond rating agencies arrive at this judgment? They look at two things principally. They look at how much debt you have. What is the debt ratio. So the more the company's financed with debt, that is the less that it is financed with owner's money, the risker the company is and the lower the bond rating.

They also look at interest coverage. How you are able to support your coverage. So as your interest coverage deteriorates, of course the bond rating will also deteriorate and the cost of money will increase.

So CBRS and DBRS and Standard & Poors and Moody's will scrutinize the company's financials. They will look at the balance sheet to see what kind of debt ratio they have. They will look at the income statement to see what kind of coverage they have for their interest charges.

They do this in much the same way that banks look at us when we borrow money. For a mortgage they will look at your -- you know, your take home pay every month and they will divide that by your mortgage payment. And they want a certain coverage of maybe three or four times. In the same way they will look at your personal balance sheet.

If you have already got 90 percent debt on your credit cards, you are not going to get a mortgage, you know. So it's the same idea.

So the cost of debt is very easy to observe. You simply look it up in the Globe & Mail. You can look up the bond yields for utility bonds rated A, rated triple B, rated Double A, et cetera. So that is very easy to ascertain because it is very observable.

The cost of equity is not observable. You can't look it up in the Wall Street Journal or the Globe. So finance people have devised several models to try and get a handle on this. And there are three of the principal methods that are available to measure the return requirements of shareholders.

One of them is called the risk premium method. The second one is a formal risk premium method, which we refer to as the capital asset pricing model or the CAPM. And the third technology is called the discounted cash flow. And I want to cover each one of those and tell you how I applied those methodologies.

The risk premium is the most intuitive of all the three techniques, very easy to understand. Basically if you want to attract investors, equity investors, you have got to offer them a rate of return above the cost of debt.

And that's pretty intuitive because if you are a shareholder you are further down the line in terms of cash flow and assets and collateral and all of that, so you require a higher rate of return.

The bondholders have the first crack. They have a senior claim and then the shareholders. So it stands to reason that the return on equity will be at least equal to the risk free rate plus more. Markets are very, very remarkable. They compensate you for time. That is the risk free rate, you are compensated for postponing your consumption. Long-term Canada Bond yields would be a good measure of that. And of course you want compensation for risk.

The burning question is what is this risk premium? Is it 4 percent? Is it 3, is it 6? What is it? Here is an example. Suppose that long-term Canada Bonds are yielding 6 percent, which is the number that I use in my testimony based on long-term Canada Bond forecasts. And let us say the risk premium is 5 percent. Well it's easy to conclude that the return on equity is the compensation for time of 6 percent, plus a compensation for risk of 5 percent. So the return on equity therefore would be 11 percent. Again equity holders want to be compensated for time and for risk.

And a question is of course how do you determine the 5 percent? Well what I did in my testimony is four things to get a handle on this. Number 1, I looked at the historical risk premium between the stocks and the bonds of electric utilities. We have a rich data base in United States starting from 1930 until today in terms of Moody's Electric Utility index. And we can calculate returns every year on stocks, utility stocks versus the risk free rate. And we find that over a very, very, very long time period stocks of electric utilities out-perform their -- the cost of debt, the risk free rate by 5.7 percent.

If we think that natural gas companies are pretty good proxies for electricity transmission -- and here we get into a bit of a problem because one of the challenges of this case and any transmission case is that we don't have any pure plays. We don't have any pure electricity transmission companies. There is no such animal. So we have to use proxies. One of them can be gas pipelines. Another one can be natural gas distributors.

If you look at the historical risk premium between the stocks of such companies and the risk free rate, you will find about 6.1

Another thing I did in my testimony is I examined the allowed risk premium by Canadian regulatory boards. I have a huge data base of hundreds of decisions from 1980 on. And on average if you look at the allowed ROE by these regulatory boards, over and above the risk free rate prevailing at the time of the decision, you find close to 5 percent.

A similar study in the US -- and I think here I have about 400 decisions, so I'm on pretty solid grounds here. The average allowed risk premium for electric utilities was 5.3 percent.

So that gives you a sense of the risk premiums that have prevailed historically and what regulators have allowed in the past.

As a picture of what I'm talking about, the vertical axis is the return on the stocks and the horizontal axis is the risk. And you can think of the average stock as being located where I'm pointing the laser pointer here. That could be the average investment in the Toronto Stock Exchange Index or the S&P 500 Index in the United States. And here is the return on the average stock. And you can see here that for something that has absolutely no risk at all like a treasury bill, there is still a risk free return that is being required by investors, because you have got to be compensated for time. And this says something that we all know, the higher the risk the higher the rate of return.

When you see the expression in my testimony "risk premium" -- and I'm sure you are going to hear a lot about that and in cross examination as well -- we are talking about this vertical distance here. How much more do we have to give shareholders to induce them to buy stock as opposed to bonds? We call that the equity risk premium.

A formal exposition of risk -- there has always been a debate in finance, what do we mean by risk? You know, what is it? Is it volatility? Is it variability? Is it something else? Well finally in the early 70s and late 60s, William Sharp who won the Nobel Prize in economics for his path breaking work in risk and return came up with the -- what we call the CAPM. That's nothing more than a formal quantification of the risk premium. And again the intuition is plain here. The return on stocks is at least equal to the risk free rate plus a risk premium.

What the CAPM accomplishes is it quantifies the risk premium. It makes a very definitive statement on what we mean by risk. And risk is measured by something we call beta. And beta is simply the extent to which a stock moves with the market. So an average risk stock would have a beta of one. A very, very risky stock like Dell computers or a high tech company would have a beta of 1.5.

It's one and a half times as risky as the market.

A utility typically has betas ranging from .6 to .7, which means they are about 60 to 70 percent as risky as the average investment. So think of beta as a simple measure of risk relative to the market.

And then we multiplied this by the extent to which people are averse to risk in society. We call this the market price of risk. And this is the model that you see in most college level textbooks, the letter K stands for return, Rf stands for risk free. And the beta is the risk of the security and the market price of risk in society as a whole is simply the return on the overall market, which we denote by the letter R sub M over and above the risk free rate.

So think of the bracket here as the average equity premium for an average risk stock, what we like in terms of return compensation for an average investment in the stock market.

Here is a picture of what I'm talking about. The only difference between that picture and the one two slides ago is that now risk over here has a formal definition. It's defined as beta. And an average risk stock has a beta of 1. And we call that the market portfolio, and here is a return on the market. The risk free rate of course has no risk at all, so there is still a compensation for time.

Now the fundamental challenge of a witness and of the Board is to try to figure out where New Brunswick Power fits in on the risk spectrum. Are we here? Are we there? Are we there? Where are we relative to the market? In other words what is the beta of New Brunswick Power transmission?

As you will see in the next couple slides it is approximately here. So here is the return on the equity of New Brunswick Power. Because it's a less than average risk investment, it warrants a less than average return. So how did I determine the beta of New Brunswick Power? Because it is not a publically traded company how did I determine the risk free rate? How did I determine the market risk premium? Answer. For the risk free rate I used long-term Canada yields that were prevailing at the time of preparing my testimony. And also the consensus forecasts of all the economists on the future long-term Canada rate, and that was six percent.

For beta of course again we have this difficulty that the company is not publicly traded, nor is NB Power, the parent. So we have to find proxies. So there is a long discussion in my testimony of a search for proxies. And one thing we can do is look at Canadian energy utilities that are publically traded, companies like Fortis, like

TransAlta and others. They do have a beta from Value Line. A lot of my data comes from Value Line.

I also look at natural gas distribution utilities because they are fairly reasonable proxies for energy transmission.

I also looked at US electric utilities prior to restructuring. Prior to restructuring, when they were vertically integrated pure monopolies. I looked at gas pipelines, both Canadian and US. I also employed a technique where we take the beta of a company and we remove the impact of financial risk to isolate the pure business risk. I'm not going to get into that because it's really peripheral, but that provided the estimates in the range of .63 to .81.

Then I looked at the Canadian regulators and all their ROE decisions and I asked myself what is the implied beta? If a utility let's say allowed a 10 percent return and the risk free rate was 5 percent at the time, what does that say about the implied beta? It's sort of going through the back door. And I found that the implied regulatory betas were between .6 and .7.

I did the same thing with US regulatory decisions, hundreds of them. And the allowed ROE's imply a beta of

.64 to .80. So the average from all of these samples is about .67. So I took .67. So going back one slide, I now have this part.

And the last one is what about the market risk premium. For that I looked at both historical studies and prospective studies of the risk premium. There is a very well known study in Canada published by Hatch-White which looks at returns from the 50s to almost the 90s, and concludes an average risk premium stocks over bonds about 6.9 percent.

The Canadian Institute of Actuaries maintains an annual survey or calculation of returns on the stock market in Canada versus long-term Canada bonds. And they show an average over long time periods, I think it's 1930 until 2001, of 5.7 percent.

The well known Ibbotson Associates group in the United States publishes a lot of data on market risk premiums. And they have a Canadian study and a US study. This is from 1927 until 2001, so it's pretty current. And that shows 5.5 percent in Canada, 6.5 percent in the US.

And then I did a prospective analysis in both Canada and the US using Value Line data of the risk premium and produced 5.8 and 7.5. So the average from all of these studies was 6.7 percent.

So going back one slide, or two slides, this is long-term Canada bonds. This is the risk of NB Power transmission. It's about 67 percent as risky as the average stock in the market. And the coefficient of risk aversion in Canada is somewhere around 6.7 percent. And if you plug those three numbers in that algebraic equation you get 10.5 percent.

All right. The last little wrinkle here, and I will go over this extremely quickly. We have done a lot of empirical studies in finance to see if the CAPM model is true. After all, it's one of the paradigms of finance. A lot of doctrinal students and professors have done research. And does it explain reality or does it not explain reality.

It does a fairly good job, but not perfect. It turns out that if you let the markets speak for themselves as to the risk return trade off, it's really the black line. It's a little bit flatter than the textbooks suggest.

The plain vanilla theoretical relationship is the yellow line. But the actual observe relationship is a little bit flatter. And the implication of that, of course, for NB Power is that if NB Power is right here with a risk beta factor of about .67, the CAPM would underestimate the return a little bit by this much. It's a minor point but -- and this is referred to in the literature as the Morin CAPM or the empirical CAPM.

So this is my summary of all the risk premium estimates. This is the risk premium now over long-term Canada. The CAPM suggests 4 and a half percent. The empirical version 5. The historical risk premium electrical utilities 5.7. The same thing on natural gas is 6.1. The allowed risk premium by Canadian regulators and US regulators 4.9 and 5.3. So looking at this data, you see a range of 4 and a half to 5 percent basically. All right.

So if you add that to the long-term Canada you have got the answer. So here is a long-term Canada bond and here is the risk premium range that all of my studies produced. And therefore I concluded that the return on equity was somewhere in the range of 10.5 to 11.0.

And then there is a long discussion about where are you within this range. Is NB Power transmission riskier or less risky than the average utility? And because of its capital structure which is extremely debt heavy, it's a weak balance sheet. And because of the added risks that will be precipitated by the price cap regime, I went to the top of the range.

All right. Well the last little tidbit here on risk and return is kind of an interesting message. Again, you see a return on the vertical axis and you see risk on the horizontal axis. And here you see that, you know, the cost of money differs depending on the segment that you are dealing with. You know, I think it's pretty intuitive that generation, particularly nuclear generation, is far riskier than would be distribution or transmission and therefore warrants a much higher rate of return.

So some people are surprised that there is different rates of return for transmission and distribution and generation. But that should not be surprising because it depends on the risk. And the black line says the higher the risk, the higher the rate of return.

And it would be unwise for the Board to apply a one size shoe fits all. You know, company wide rate of return across all the activities of the company, generation, nuclear, distribution and transmission. I view transmission as on the lower end of the risk spectrum.

All right. The last -- remember where we are now. There is three methods here, risk premium, the CAPM method, which is all of the beta stuff, and the third one is the DCF method.

The DCF method, again, like most things in finance is very intuitive. It says that when you are buying stock you want a rate of return and it's going to come from two places. Part of your return will come from the dividends that you are receiving in relation to the price you paid for the stock. And part of your return will come from capital gains, appreciation of the stock or growth. And this is the standard textbook rendition of that intuition, the rate of return, K, is the dividend divided by the stock price, P, plus the growth.

It looks deceptively simple to apply. But the problem here is what is the growth that is perceived by investors. How do you measure that. Something that's in the minds of investors.

A simple example. Suppose that you find that a stock has a dividend yield of 6 percent. And you survey a bunch of analysts and ask them what their growth forecast is and let's say it's 5 percent on average. You would conclude from that that therefore the return on stocks is the dividend yield of 6 plus the growth expectation of 5 for a total of 11 percent. That's how the technique works.

Unfortunately, this is the by the way the technique of choice by FERC. FERC is almost completely into the DCF model. And I don't have a problem with that. Because in the United States you have many, many, many, many, many publicly traded utilities. You can apply this technique to, you know, literally dozens and dozens and dozens of electrical utilities.

Also you have analyst's forecasts because these stocks in the States are widely followed. So you have these growth forecasts of many, many, many, many analysts. So you can apply this technique fairly confidentially in the United States, but that is not the case in Canada. We simply do not have the luxury of a large sample here of electrical utilities that are publicly traded. And we don't have any analyst's forecasts unfortunately.

But as a check on my other estimates I nevertheless implemented this technique using a large sample of electric and gas utilities that are US. These are, by the way, transmission distribution type of electric utilities. Let's call them generation divested. Okay. They don't have any generation. So I'm trying to get as pure a play as I can here for electricity transmission.

And a large sample of what we call combination gas and electrical utilities, they had a dividend yield of right here about something like almost 5 percent plus 6.5 percent growth. And the total would be about 11 and a half.

And, again, if I looked at gas, natural gas distribution companies, we call gas LDC's, the dividend yield was somewhere in the order of 4 and a half percent and the growth expectation was about 7. So the sum of the two is somewhere around 11.75. So this gave me some comfort in terms of a check concerning the reasonableness of my Canadian based estimates.

All right. We are done with rate of return. Now we have got to go to capital structure. And there is a very important idea on this picture here. The question is what is a good capital structure for a utility, okay. And the answer to that question can be found on this graph.

As the company, any company, increases its debt, okay, as the debt becomes higher and higher and higher, you know, 0 percent debt, 10 percent debt, 20, 30, 40, 50 a hundred percent debt, what happens to its cost of money. At first the cost of money declines. Because as you are increasing the weight of low cost debt it makes the average cost of money go down. In other words, you are taking advantage of the low cost, tax deductible advantage of debt and that lowers the average cost of money.

But as you keep doing that, as you keep increasing the debt ratio, as you keep substituting debt for equity, eventually the low cost tax advantage of debt is offset by the rising risks associated with debt. At this particular point here, whoops, the shareholders say, hey, wait a minute now. That's enough debt. I want a high rate of return. I'm pretty far down the food chain here. My position is compromised. I want a higher rate of return in compensation.

And that's the infamous trade off between risk and return. At this particular point is exactly where the low cost tax advantage of debt is exactly off edge, offset by the rising risks associated with debt. At that particular knife edge circumstance, at that exact balance point is where we should be. So at this point here, wherever that may be is where we should strive to be.

Now what is that point? We call this the cost efficient capital structure. This could be ratepayer burden. I could have labelled the graph ratepayer or revenue requirements. So how should a company be financed? Should it be 20 percent debt or 25 or 40 or 50? Well the answer, it depends on the risk.

If a company has a lot of business risk, they are going to have to have a pretty conservative capital structure. On the other hand, if a company has a lot of -- or has very little, excuse me, business risks, they can afford to have more financial risk. So that discussion is intimately related to the question of business risk.

So how did I determine the 35 percent, 60, 35/65 debt ratio that I recommended in the testimony? How did I get there? Well I looked at a lot of things. I looked at the deemed capital structure for Canadian utilities and it's about 37 percent. This is equity ratio, by the way. So on average Canadian regulators have imputed a capital structure consisting of about 37 percent debt. All right. And of course, the balance is equity. If you make a distinction between gas and electric in pipelines, you see the breakdown over here.

I have also examined the actual capital structure of utilities as per their annual reports. Both publicly owned utilities and investor owned utilities. And, again, the averages are remarkably similar to the deemed capital structures.

I also looked at some other Canadian utilities that are not necessarily electric. They are typically gas or pipelines. And again we get that 37 percent figure.

In the United States they have slightly stronger capital structures for both natural gas and gas and electric. These are generation divested now about 41 percent.

So based on all of that, and giving a little less weight to the US result, I arrived at the conclusion that 35 percent would be a reasonable deemed capital structure that would be cost efficient. So in other words if we go back one slide, this particular point in my view occurs at approximately 35 percent.

Well, we are done with rate of return and capital structure, Mr. Chairman. We will move on to a much broader discussion.

Is all this rate of return, rate-based stuff the way to go, you know? And increasingly throughout the world people are really questioning rate of return regulation. Just about everywhere now -- of course in the United States PBR's. When I say PBR I mean performance-based ratemaking is rampant.

The UK is completely regulating its business based on PBR's. Norway, The Netherlands, Australia, New Zealand and most of the states in United States either have implemented or are examining some form of alternative regulatory framework, and in Canada too. So why is that?

Well, what is the problem with traditional rate of return type regulation? Two problems. 1, direct costs, it costs a lot of money. And 2, and more important, the indirect costs.

What do I mean by that, by direct costs? By direct costs I mean these proceedings. We look around the room here. And it costs a lot of money, experts and lawyers and accountants and all of this. It is a very, very costly process in terms of direct dollars.

I'm not sure that the format in which we hold these proceedings, where essentially the rules of evidence are in order here, just like a murder trial, are conducive to discussing things like rate of return and things like capital structure.

It is almost like an adversarial type of proceeding. And I'm not sure that is conducive to being enlightened about, you know, things that are as complex as rate of return and capital structure. There are better ways to do that.

We have hearings that can or cannot be frequent. And they are very involved. I'm talking about thousands of information requests and all of that stuff. And heaven knows we can get rid of experts. You wouldn't have to be listening to me. And perhaps even better get rid of attorneys, you know. I'm just being jovial right now. And of course the administrative costs that are involved. These are direct costs. But those pale in comparison to the next line which are the indirect costs.

And if you think about rate of return regulation there is really a potential for what we call overcapitalizing a company. That means padding up the rate base, all right.

Because the bigger the rate base the bigger the dollars.

Because you are going to apply a rate of return on the rate base. So there is a temptation to inflate the rate base.

More broadly speaking, the investment decisions that are being made by utilities are not subject to the scrutiny of the market. There is nobody out there to tell you whether these are good, value-creating decisions or bad value-destroying decisions. You are not subject to the judgment of the market. You just put in the rate base and pass it on to the ratepayers. So there is a temptation for that. The same thing with operating costs, O & M costs.

In other words what I'm trying to say with bullet number 2 is that traditional regulation breeds a mentality of cost plus, you know, just pass it on, you know. Let's buy everybody in the company a laptop computer, just pass it on to the O & M, you know.

So there is this potential. And in such a regime you really don't have much of an incentive to reduce costs and be efficient and innovate and come up with new ideas and efficiency gains.

Number 4, it is very rigid, you know. There is no flexibility to meet marketing challenges. There is no flexibility to try to unwind cross-subsidizations, which in a competitive world is undesirable.

The next to last point is this notion that, and this is the way regulation works, your profitability is constrained on the upside by virtue of regulation but typically not on the downside. So it sort of breeds a mentality of heads I win and tails you lose type of regulation, which I think is not desirable.

And then finally the system works with fully allocated costs. So individual prices are typically out of line with marginal costs, which means inefficiencies from an economic point of view. You are giving wrong signals to ratepayers as to the proper consumption of electricity.

So these are the indirect costs of traditional regulation which are rather prohibitive.

So if we are going to replace something by something else, we need some criteria. How do you judge a new regime, you know?

Well, I think, in my view, any kind of new regime should meet the following criteria. It should be very efficient from an administrative point of view in terms of limiting direct costs.

Perhaps the most important of all is number 2. It should provide incentives for the company to cut costs, to innovate, to be efficient, to be under the scrutiny of the judgment of the market. It should be fair to everybody, ratepayers, regulators, investors, managers.

Robust means it should be fairly robust to any kind of economy, whether it is a recession or a growth economy or an expansion economy, the regime remains very strong. It should provide adequate returns to investors.

Let's not forget the quality of service. And it should be predictable and consistent particularly for commercial and industrial customers so they can do their planning on the basis of a forecast that is reliable.

So these are the criteria by which I would assess any kind of regime. And I would invite you to look at the price cap proposal and measure it against those criteria and see where you stand on this.

So let's talk a little bit about the price cap proposal. And it is a fairly simple process. And the devil is more in the details, certainly not on the process itself, on the idea.

So it is very simple. Rates are fixed at some existing level. We call these going-in tariffs, which the Board will determine.

And then following that, future rate adjustments will be set according to a formula. We call the formula a price cap. And the price cap will reflect inflation and productivity.

Most price cap regimes throughout the world last three to five years. We propose three here. It doesn't have to but it may include provisions for monitoring service, quality and network security.

Two principles, very, very important, the compensation principle and the incentive principle. The compensation principle says that the price caps, the formula should compensate the company for its costs, its inputs, O & M, labour, materials, depreciation, all of that.

But number 2, and perhaps more importantly, it should provide the company with incentives to reduce costs and innovate and be efficient. So the compensation principle and the incentive principle.

Now here is a very important point. This is perhaps the most important point in the presentation. The price index, the price cap formula that is proposed is essentially a measure of inflation minus productivity.

Now if we stick to the compensation principle, the inflation index and the productivity index should be company-specific. It should be NB Power's costs or its own experience of inflation that should enter the formula. And also it should be its own productivity record that should enter into the formula.

But if we were to do that, where are we? We are back into traditional cost plus rate of return regulation. Nothing has changed.

On the other hand the incentive principle says that those caps, the index, the inflation index should be external to the company. And the productivity measure or threshold should be external to the company, meaning exogenous, not under the control of the company.

And that is the core of the whole thing. Because of those indices are external to the company, the company has an incentive to beat those indices and reap the benefits of its decisions.

So the price cap should incorporate three things. It should incorporate inflation, number 1. Number 2, productivity. Because already in the inflation measure of the Canadian economy there is a productivity threshold that is already built in.

And so number 2, what I call the X factor, is any difference between the Canadian economy productivity and that of the industry, the electric transmission industry.

And number 3, it should also incorporate anything that is completely outside the control of the company, what we call the Z factor.

So the price cap is let's say the GNP price index minus productivity plus or minus anything that is external or exogenous.

Let's do an example, a very simple example. The letter P indicates price or the rates, okay

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So let's say inflation is 3 percent. Let's say that the productivity factor, the X factor, is 2 percent. And there is no Z here, no exogenous stuff. And we start off with rates at $100 or 100 percent. What will be the rates next year?

Well, next year's rates will be last year's rate, 100 times 1 plus the inflation of 3 percent minus the productivity factor. So next year's price will be 101. That is how it works. All right. So this is the guts of the whole thing right here.

Now what if the company was able to keep its inflation at 2? And yet it can increase its prices to 101. It has outperformed the inflation at large in the economy and therefore will be able to sort of pocket the difference and reap a higher profitability.

Now if the company is not in a measure or is not able to keep its costs to 3 percent, let's say their costs inflated 5 percent, they will suffer. They will suffer a loss in terms of profitability.

So the company has a tremendous incentive to beat the 3 percent. And look at the 2 percent productivity. If the company can somehow find a way to beat the threshold of 2 percent, again they will pocket the difference in terms of added profitability. If the company is unable to match the 2 percent threshold, they will suffer in terms of profitability.

So there is a tremendous incentive here to beat these indices. Why? Because they are outside the control of the company. They are exogenous.

Now what if we selected those numbers -- what if we committed an error here? What if those indices were not perfect? What if the company -- what if those indices of 3 minus 2 percent produced returns of, you know, 24 percent ROE?

Well, to guard against that we have a sharing mechanism, okay, which I will discuss in a moment. So the sharing mechanism ensures that those indices are reasonable, that this price cap regime will not produce, you know, astronomical ROE's on the high side and they will not produce Armageddon on the low side either. The sharing mechanism ensures that.

So what do we have to do here? We need to set going-in tariffs which we are doing in this proceeding. You need to figure out what is an appropriate index for inflation, number 2. And number 3, what is an appropriate index for productivity?

What are the good news about a price cap. And we are almost done here.

Obviously the regulatory costs are reduced tremendously. You don't need hearings for three years. The system, you know, is on auto pilot essentially. No lawyers, no attorneys, no expert witnesses, no technical appendices, no burdensome accounting controls and separations. We don't need any of that.

And that is what is so hard to understand, is that there is no link here between rates and rate base. There is no links between rate and rate of return. We are done with that stuff, except with the sharing mechanism.

The company has flexibility as long as it stays within the price cap, they have flexibility. They don't have to raise rates by half of the rate of inflation. They certainly have an incentive to minimize costs and beat those indices and reap the benefits.

Why would you over capitalize? Why would you make bad investment decisions when you are going to suffer? Rate base has nothing to do with price caps. There is no connection between rates and rate base anymore. It is gone. All right. So why would you make bad investment decisions? A lot of pressure on the company here to make good investment decisions. Because they suffer the consequences of bad decisions and the benefits of good ones.

And I want to emphasize that point here. There is no more link between rates and costs. No more. You are protected against inflation. You are guaranteeing that ratepayers -- that rates will be reduced in real terms. Because the price cap is inflation minus half of inflation.

In other words, that is saying to you that you are guaranteed that rates will decrease in real terms. What has been inflation in the last couple of years? 2 percent, 2 and a half percent? 2 percent minus half of 2 percent is 1 percent. So customer rates would have declined in real terms. Let alone sharing, they might even decline even more because of sharing.

Why would you cross-subsidize? There is no more incentive to cross-subsidize, to pass on costs of regulated services to unregulated services or in the reverse direction. There is no more link between rates and costs so there is no more of that gaining process with cross-subsidization of one activity by another activity.

Now we have heard some good news. What about potential bad news? Well maybe the indices are not appropriate for the company. Does the CPI index reflect the inflation experience of the company or not? I think it does but it may not reflect perfectly.

The same with the productivity index. This is a big problem in telecom, not in electricity, but in telecom. How do you distinguish between tremendous gains and progress and innovations and efficiency gains because the managers are so good versus technology change, you know. The digital economy came into play and fibre optics. You know, it wasn't because of managerial efforts that the company was able to reap the rewards of lower rates and higher returns. It was because of technology.

That is a big problem in telecom. And the way they try -- the CRTC tries to combat this is by setting a very high threshold on productivity, the X factor. In the electricity transmission business we are not too concerned with changes in technology.

We lose regulatory lag. In the last several years, a lot of companies, particularly in the US, they are hiding in the bushes. Let's not tell anybody we are earning 12 percent, you know. Regulators are a little slow to call them back in for resetting rates. What we call show cause orders. So you get to keep any excess return during the period of regulatory lag. But course it works the other way too. You get to -- you don't get rescued from the regulator until the next rate case if you have done badly. So all that stuff is gone.

There may be incentive to reduce service quality. In trying to get higher profitability, you may be tempted to reduce service quality. But I can't personally see that. I cannot see dissatisfied customers and happy shareholders, the two go sort of hand in hand here.

Now it could be that the price cap produces returns that are not deemed acceptable. How do we combat that? We have a sharing mechanism if that happens. Does that make the company a little riskier? Yes, a little bit. There is more variability. The company is exposed here. As you will see on the next slide.

How do you deal with acts of God? You know, huge capacity expansion because of a storm. Well that is part of the Z factor, exogenous factor.

Here is the sharing factor. I want to make an important point here. The only role that ROE plays in this thing is in determining the sharing. The rate of return has a very minor role to play in a price cap regime. Very minor, if any. It is only a trigger for sharing mechanism. So to me that is pretty attractive.

But anyway, here is the ROE trigger mechanism. The company is allowed to earn anywhere between 10 and 12 percent and there is no sharing that takes place. Beyond 12 up to 14, half and half sharing. Above 14, they give everything back to ratepayers.

On the downside the same thing. 50/50 sharing down to 9 percent and below that no sharing.

There is also another safety net. If long-term Canada's deviate from 4 to 8 percent range, the Board and/or the company have the luxury or the option to come back to the Board. So that is another safety net. There are so many safety nets in here that the system is almost guaranteed.

So I believe this is the last slide. The price cap proposal of the company I think gives tremendous amount of pricing flexibility. It will definitely incent the company to be very efficient and mindful of innovation and cost cutting.

Its tariffs will be -- this is important from the Board's perspective -- very stable tariffs. For the next three years you know that rates will never -- will go down in real terms. You know that for sure. The sharing mechanism could add even more to that.

Very, very, very simple to administer. It is a formulaic type of regime so it is very easy to administer. And I really, really think in my gut that it is equitable. It is a win, win, win, win situation for everybody. For the Board, for ratepayers, for investors and for all the customers, categories of customers and for utility managers as well.

The risk factors, for three years the company is going to be at risk, no rate relief unless there is acts of God or force majeure. No more non-compensatory investments. If they blow it they suffer the consequence. If they make good decisions, they reap the benefits.

Inflation index, I prefer the GNP deflator, but the CPI index is very well known to the Board and they use it in other contexts. So CPI index is fine by me, and it is highly correlated with the GNP deflator anyway.

Now the productivity factor. And this is the point that I want to finish with. We can have rate cases until we are blue in the face as to what is the productivity of the electric transmission business historically. I have sat through proceeding after proceeding after proceeding of trying to measure productivity. How far back in time, how do you measure it. We don't have samples of companies. It is a can of worms.

So I urge you not to get into this business of benchmarking and measuring and all of that. And that is what I made it half of inflation. That bypasses all the problems of measurement, the fact that you don't have any companies that are comparable to, or perfectly comparable to NB Power transmission. We do away with all of that.

All the empirical studies suggest X factors in the electricity business between 1 and 2 percent. Okay. Closer to 1 percent. So my half of inflation recommendation, I think, is pretty tough actually on the company given the historical productivity.

And then the risk premium for the sharing plan. You know, should we go to 11 percent. I think we should because the company is more at risk than it would be otherwise. So I am very very excited about this. We need to get away in Canada from these copycat formulas and everybody is copying the NEB, you know, and their formulas. We need some new blood, some new innovative techniques, some better way to regulate. And I think the Board has an opportunity to really innovate. And the system is really, really foolproof.

I mean, if I was a regulator, I would love to be a regulator. Maybe I will be one day. I would really go for this. This is a win, win, win, win for everybody.

So that, Mr. Chairman, finishes my presentation.

CHAIRMAN: Thank you, Doctor. We will take a 15 minute break now and put the lights back up.

(Recess)

CHAIRMAN: Ms. MacFarlane, you didn't want to give us an overview of your evidence at this time?

MS. MACFARLANE: No.

CHAIRMAN: Bayside Power? The Canadian Manufacturers and Exporters?

MR. SMELLIE: I will have questions, Mr. Chairman, but I will proceed in the JD Irving slot, if you don't mind?

CHAIRMAN: Okay. The City of Summerside? Mr. Zed?

MR. ZED: No questions of this panel.

CHAIRMAN: All right. Is that for both Emera and Nova Scotia Power?

MR. ZED: Yes.

CHAIRMAN: Thank you. And Energie Edmundston? Mr. Gillis, you are on.

CROSS EXAMINATION BY MR. GILLIS:

Q. - Thank you, Mr. Chairman. Now, Dr. Morin, I had a question that came up at the end of your testimony. You are suggesting this price cap mechanism for regulation of the utility. And how many other electric utilities in Canada use this method?

DR. MORIN: There is a lot of price caps, Hydro Quebec on generation, for example. That's the one that I'm familiar with. But it's not a generalized regime for electric utilities although it is for telecommunications across the board.

Q. - Well I'm just dealing with electric utilities here. So it's used with one of the component parts of Hydro Quebec, being generation. They have price cap. But on the other component parts where it will be local service or transmission, do they use a price cap there as well?

DR. MORIN: There is some bits and pieces in natural gas.

Q. - Bits and pieces.

DR. MORIN: NEB has a price cap on interprovincial pipelines O & M costs, but there is no sort of broad base comprehensive --

Q. - I see.

DR. MORIN: -- full scale regime in Canada. There is lots in other countries, UK, Netherlands. Australia, New Zealand. They are all on price caps for electricity. But in Canada it's basically formulaic type of formula, regulation.

Q. - No, I was just dealing with the electric utilities. So the only electric utility that uses any price cap is Hydro Quebec and only in relation to generation, is that fair?

DR. MORIN: That's correct right now. At this point.

Q. - And how many other electric utilities are there in Canada? I don't have a number at hand.

DR. MORIN: Well if you look in my exhibits there is probably 10, 15 that are publically owned and another six or seven that are investor owned. But a lot of them are monoliths and a lot of them are holding companies. And the electric utility portion of these companies are buried as one division of the company. There are very few pure plays.

Q. - Oh yes, that's another word you had, pure play. And that is when you are comparing apples to apples, isn't it?

DR. MORIN: Yes.

Q. - And what you are looking for is -- a pure play is an apple being a company that just is transmission, to compare it to a transmission here. Is that what you mean by pure play?

DR. MORIN: A pure play is a company that resembles NB Power's transmission activities.

Q. - I see. Okay.

DR. MORIN: And there is no such company at this point in time anywhere.

Q. - All right. I looked at your power point presentation. At page 12 you had a graph relating yield rating and key financial ratios, if you would turn that up please?

DR. MORIN: I have it.

Q. - And that is the first time I have seen somebody draw this out for me, so I think I started to understand it. You have rating. Rating I gather is the bond rating?

DR. MORIN: Yes, sir.

Q. - Now I heard an expression before, what is it called, junk bonds, so what is a junk bond rating? Is that an F or a Z or how will you rate that?

DR. MORIN: The technical legal definition of investment grade is triple B -- or less than triple B. So at triple B you are considered legally investment grade, so the next level down would be double B, single B, triple C, et cetera. From a practical perspective the effective investment grade really is single A, because a lot of Canadian financial institutions are precluded from investing in bonds rated less than A, a home made policy or by law.

Q. - No, no. Okay.

DR. MORIN: That's why you see this rapid increase past the triple B area.

Q. - Past the triple, that is what I'm worried about. Ms.

MacFarlane, you gave evidence here last summer, do you remember that?

MS. MACFARLANE: Mmmm.

Q. - And you gave me some evidence with respect to the investment grade of NB Power's borrowings or bonds. Do you remember what you told me it was?

MS. MACFARLANE: Yes, I do.

Q. - Yes. What was it?

MS. MACFARLANE: In the absence of a provincial government guarantee if the capital structure of NB Power was the same as it is today, i.e. 105 percent, I believe I indicated they would be junk bond status.

Q. - Okay. There we go, Doctor. Now we have junk bonds. And that means the borrowing -- oh my soul --

DR. MORIN: That means the cost of borrowing money is enormously high.

Q. - A lot higher. Enormously high.

MS. MACFARLANE: In the absence of a provincial government guarantee. And with the current capital structure.

Q. - But there is no provincial government guarantee, as you understand, Ms. MacFarlane, isn't that right, coming up April of next year?

MS. MACFARLANE: And that is why we are -- for purposes of this hearing we are proposing a different capital structure.

Q. - I will get to the capital structure. Now if I understand it correctly, the borrowing rates of NB Power are about what 8, 10 percent?

MS. MACFARLANE: The embedded costs, yes.

Q. - Now if you go to junk bond status where you would be without this guarantee from the provincial government, the borrowing rate would be what, 16 percent, 600 basis points?

MS. MACFARLANE: With the current capital structure --

Q. - Yes.

MS. MACFARLANE: -- frankly I doubt that we could borrow to finance the --

Q. - You are insolvent.

MS. MACFARLANE: -- the capital intensity of NB Power's activities.

Q. - I see. So you are basically telling me you are insolvent?

MS. MACFARLANE: With the current capital structure without the provincial guarantee it would be very difficult.

Q. - Well, you can always borrow some money if you agree to pay enough of a premium. People are greedy, that is what I have always found. How much would you have to pay, 20 percent, 30 percent?

MS. MACFARLANE: I'm sorry, I'm not able to answer that.

Q. - I see.

DR. MORIN: Capital would be rationed completely. The company would be out of the bond market essentially. They would have to make due by trying to borrow with commercial paper or short term money. It would simply be closed out of the capital markets with a capital structure like that on a stand alone basis.

Q. - Okay. I understand a little bit now. Dr. Morin, you talked about in another slide that you had there, page 26, segment cost of capital, do you have that?

DR. MORIN: I have it, sir.

Q. - Now this -- you are looking at a return which means how much you have to pay on the equity, is that right?

DR. MORIN: That's correct.

Q. - Now it could be on the transmission company, you are suggesting 11 percent is the appropriate return?

DR. MORIN: I'm suggesting a range of 10 and a half to 11, and with price caps 11.

Q. - All right. Now -- but we all know NB Power is much more than just a transmission company, right?

DR. MORIN: That is correct. It is a vertically integrated company.

Q. - And you have shown that right here on this exhibit, page

26, isn't that right? You have distribution company and generation company. Do you see that?

DR. MORIN: Yes.

Q. - Now if you have an 11 percent cap on the rate of return on transmission, which is a low risk, if I take a look at the distribution company the rate of return you are looking at there -- I'm guessing here that -- it's 11 percent -- it looks like it's about 18 percent?

DR. MORIN: No. The chart is illustrative here.

Q. - Oh.

DR. MORIN: It wasn't meant to convey the orders of magnitude.

Q. - Oh, you had all these dots here. And I thought those were specific pieces of information that you had to prepare a chart?

DR. MORIN: No, the dots indicate the various risk return alternatives available to investors across the board in Canadian capital markets. And was merely to indicate that higher risks must be accompanied with higher rates of returns.

Q. - Oh, I misunderstood.

DR. MORIN: And different activities of the company warrant different kinds of rates of returns because of the risks.

Q. - That is what I understood from this.

DR. MORIN: That's the message.

Q. - The distribution company is going to need a higher rate of return, greater than 11 percent, and generation needs even more and nuclear is probably way off the end of the scale?

DR. MORIN: Well I wouldn't characterize it that way. But generally what you are saying is correct.

Q. - Now usually when I prepare charts like this and it has been years, but I did my degree in math. I would have certain reference data and I would never have plotted this under distribution company without having each of those dots being identified to a particular distribution company. Is that what you did here or you just put a bunch of dots on a piece of paper?

DR. MORIN: This was an illustrative chart for --

Q. - In other words, you put a bunch of dots on a piece of paper without any factual data for each of those dots? Is that what you are telling me?

DR. MORIN: The chart is illustrative and similar to most charts that you find in textbooks. It is illustrative. It's a pedagogical tool. It's an expository device.

Q. - I'm not -- big words I'm not too good. But basically what you are telling me you didn't plot this with any factual data. You just put a bunch of dots on a piece of paper to illustrate a point?

DR. MORIN: That is correct. That is what I have answered you. High risk. High return. And that was merely the message I was trying to convey to the Board.

Q. - All right, Doctor. Well let's really quantify it because I'm concerned when you say the distribution company would need a higher rate of return, how much higher?

DR. MORIN: I don't know. I was concerned with transmission in this proceeding.

Q. - Oh. Now, Doctor, have you ever prepared a rate of return for a company that was involved in the distribution of electric power?

DR. MORIN: Dozens and dozens.

Q. - Dozens and dozens. Well then you can answer my question. Looking back upon your wealth of knowledge and experience, what rate of return do you expect for a distribution company, electric distribution company?

DR. MORIN: I cannot answer that. It depends on the company. It depends on its financial profile. It depends if it has competitive energy services. It depends if it has billing and metering and other services or is it pure distribution. And what kind of territory it's operating in. I cannot answer a statement like that.

Q. - I see. Well look I can give you specific parameters. A provincial distribution company. Does that help you or are you going to come up with some more I can't answer that?

DR. MORIN: I haven't studied that. I haven't studied that.

Q. - Well you haven't studied it. You don't want to answer it. Well let's come at it this way. Give me the parameters from the low to the high based upon your experience in other distribution companies in Canada?

DR. MORIN: 11 to 13.

Q. - 11 to 13. Okay.

DR. MORIN: That's a rough order of magnitude.

Q. - I appreciate that. Now let's do the big one, generation. It's way up there. It's a whole inch further over.

DR. MORIN: The scale is illustrative.

Q. - Oh exaggerated. Illustrative, exaggerated, whatever. Let's just deal with generation companies. Your experience, rate of return, Canadian utilities. 13 to 15?

DR. MORIN: I haven't done any of those. The ones in the States that I have done are -- you know, could be as high as 13 to 15. It depends on the capital structure. It depends on the specifics of the company's territory. On the age of its assets. Its mix of fuels. It depends on a lot of things.

Q. - Look I understand.

DR. MORIN: We are testifying on transmission here, not generation.

MR. HASHEY: Mr. Chairman, aren't we getting a little beyond the evidence of this matter?

CHAIRMAN: Well I think we are.

MR. GILLIS: Mr. Chairman, my question relates specifically to this, where he clearly put on distribution and generation. But if the Board instructs me not to ask questions in relation to the exhibits this witness has brought forward, I will move on.

CHAIRMAN: You have gone beyond the exhibit.

MR. GILLIS: Oh.

CHAIRMAN: The witness has indicated that it was illustrative. That it is -- and the quote is that "It's a bunch of dots on a piece of paper".

MR. GILLIS: Well as long as the Board acknowledges that it's a bunch of dots.

CHAIRMAN: We acknowledge that, Mr. Gillis, so get back to transmission company, sir.

Q. - Now, Doctor, equity, common equity --

DR. MORIN: Yes.

Q. - -- what is that?

DR. MORIN: It's ownership capital.

Q. - What does that mean, money that I invest to buy shares in a company?

DR. MORIN: Yes, sir.

Q. - Okay.

DR. MORIN: You are an owner of that company.

Q. - Now your evidence here you have set out in your written testimony the structure of NB Power. There is a parent company and four subsidiaries?

DR. MORIN: Yes, sir.

Q. - And each one of those subsidiaries would be wholly owned by the parent company?

DR. MORIN: Yes, sir.

Q. - And the common equity that we are talking about here is how much money the parent company paid into the subsidiary company to buy shares?

DR. MORIN: That is correct. The investment into the subsidiary is from the parent company. The parent company is the investor in that case.

Q. - Okay. And the parent company here, what is the total existing long-term debt as of the 31st of March, 2002?

MS. MACFARLANE: It's in the vicinity of 3 billion.

Q. - Okay. And help me, Ms. MacFarlane, would 3,247,000,000 be a little more accurate?

MS. MACFARLANE: I don't have the number in front of me.

Q. - I took that off of table 9 I think attached to your material.

MS. MACFARLANE: Okay.

Q. - So, Doctor, to get this debt to equity thing worked out, and I'm dealing here with hypotheticals, I want you to assume you have a debt of $3 billion. How do you go about then getting 35 percent equity?

DR. MORIN: Well the Board is going to impute, or what we call deem, a capital structure that is worthy of a commercially viable enterprise that will enable the company to compete on capital markets, that will enable the company to present itself to capital markets with investment grade bond rating. And 35 percent equity, 65 percent debt will do that.

Now the details of the actual financing have yet to be worked out, but for purposes of setting a rate the Board will impute a capital structure, and this is quite a popular and widely used procedure in Canada.

Q. - No, I'm just taking it to the next step trying to figure out who is going to pay the money. Would it be the parent company paying the money to the subsidiary transmission company --

DR. MORIN: The parent will be --

Q. - -- or would it be the parent company assuming the debt or a portion of the debt of the subsidiary company?

DR. MORIN: The equity in the company, irrespective of its source, will be deemed to be 35 percent.

Q. - I see. Okay. And I'm looking at -- and again I appreciate that you have a lot of expertise. You have given evidence with respect to rates of return and capital structure for a number of electric utilities in Canada?

DR. MORIN: Yes. 43 states, nine provinces and three different countries.

Q. - And when you gave that evidence, did those electric companies have generation, local service and transmission?

DR. MORIN: Good question. The answer is no.

Q. - None of them?

DR. MORIN: In the United States there are a lot of what we refer to as generation divested electric utilities that are pure T&D, meaning transmission and distribution companies. In a lot of the rate cases I have been involved in in the last three or four years deal solely with the T&D part. Some utilities are vertically integrated, others are not. It depends. I have done both.

Q. - How many have you done that had all three components under the one roof?

DR. MORIN: In the last what, two years, three years?

Q. - Last five years, ten years.

DR. MORIN: Oh, 20, 25.

Q. - And the rates of return for those utilities are what?

DR. MORIN: Which one? It depends when, how, when the interest rates were, what time frame you are talking about.

Q. - I see.

DR. MORIN: Generally speaking, again it's a general proposition, the ROE, the return allowed on a vertically integrated utility, is higher than that allowed on T&D because it is riskier by virtue of the generation component.

Q. - How much higher, based on your experience and observation, or maybe you don't know.

DR. MORIN: 30 to 50 basis points for the consolidated vertically integrated company.

Q. - So half a point in interest.

DR. MORIN: Roughly, yes.

Q. - Okay. So if you are looking at a rate of return for a transmission of 11 percent, then for the vertically integrated company the rate of return you would be looking for would be about 11-and-a-half percent?

DR. MORIN: Correct. Again it depends on the size of the generation component, the size of the transmission, the size of the distribution. The weighted average, roughly speaking, would be that order of magnitude.

Q. - In other words, if they had nuclear liabilities it might be a little bit higher --

DR. MORIN: Correct.

Q. - -- compared to one that had just hydro generating capacity.

DR. MORIN: That's correct. There is a perceptible nuclear risk premium that we can observe on capital markets.

Q. - And that perceptive premium that you have just talked about, is that 50 basis points again?

DR. MORIN: It just depends on the track record of the particular nuclear power plant, the engineering, the operational track record.

Q. - Can you give me the highs and the lows?

DR. MORIN: No, I can't do that.

Q. - I see.

DR. MORIN: It just depends.

Q. - Okay. Now what you have done here, Ms. MacFarlane, I think you have allocated some of the debt to the transmission unit?

MS. MACFARLANE: That's correct.

Q. - And was this something that was just done simply or was it -- did some thought go into it?

MS. MACFARLANE: The allocation itself was a mechanical exercise, but it came out of the recommendation from Dr. Morin as to what the debt equity ratio should be.

Q. - I see. So I think you indicated last summer that if the province were to cut NB Power loose that they would set it up with a proper debt to equity ratio. Do you remember that evidence?

MS. MACFARLANE: Yes, I do.

Q. - And at that time you indicated for the entire operation it would be what?

MS. MACFARLANE: I'm sorry, I don't recall.

Q. - 65/35, does that refresh your memory?

MS. MACFARLANE: I don't recall what it was.

Q. - Well let's just deal with the allocation of debt. How did you go about doing that? You just took whatever the total debt was for the transmission facilities, the total assets? Just tell me the mechanics.

MS. MACFARLANE: This is Panel C evidence. Could we deal with --

Q. - So you don't know?

MS. MACFARLANE: I do know, but could we deal with those questions in Panel C.

Q. - Okay. Allocation of debt for Panel C. I will deal with the specifics. How about the generalities. How many calculations were made by NB Power with respect to allocation of debt, just one, or several scenarios?

MS. MACFARLANE: Are you talking about for the transmission company?

Q. - Well I would think it would be for the parent company because there is only one debt and you are allocating it.

MS. MACFARLANE: Yes.

Q. - So how many calculations were made for the parent company allocating this debt, just one or were there a number?

MS. MACFARLANE: We would have allocated the debt to the transmission company based on the debt equity ratio that Dr. Morin suggested, and we did that based on the evidence as filed going back to the last audited financial statements, and then following the debt as it attrits into the future.

Q. - Look, I may not have made myself clear. I just want to know how many calculations did you make of allocation of debt in the parent company, just one or a number of different scenarios?

MS. MACFARLANE: For purposes of this hearing we did one.

Q. - So there has only been one calculation made with respect to allocation of debt from the parent company. Thank you.

MS. MACFARLANE: I just want to correct it. For purposes of this hearing in the evidence we have relied on Dr. Morin's testimony and we did the calculation. However, there is an interrogatory which asks the question, what would be the tariff if in fact we had a 60/40 debt equity ratio and a ten percent return. So we did that calculation as well.

Q. - I see. So there is only two calculations that have been made by the parent company with respect to the allocation of debt, and that's the $3 billion worth of debt.

MS. MACFARLANE: This is for purposes of this hearing.

Q. - Just for the purposes of this hearing. Okay.

DR. MORIN: But the calculation is based on a variety of methodologies that were summarized on page 32 of my presentation. It was based on their deemed capital structures elsewhere in Canada, on actual observed capital structures, on guidelines for investment grade bond rating. There was a lot of support behind that single "calculation".

Q. - I wasn't getting down to that detail. I just wanted to satisfy myself, Doctor, that they hadn't made any calculation allocating debt for generation on local service at any time, and this witness has confirmed that under oath, which I am satisfied.

MS. MACFARLANE: No. I confirmed that for purposes of this hearing we relied on Dr. Morin's evidence, we relied on his recommendation of 35 percent, and therefore one calculation was necessary for purposes of the hearing.

Q. - Well can I get to the heart of it then, Ms. MacFarlane. What you are telling me is that you have made allocations or calculations allocating debt for the other units, but you don't consider them relevant for the purpose of this hearing and you don't want to talk about them. Is that fair to say.

MS. MACFARLANE: I don't believe they are relevant for this hearing and I don't believe I'm in a position to talk about them.

Q. - Oh. You want to hide something.

MR. HASHEY: Mr. Chairman, I think this is getting a little bit objectionable.

MR. GILLIS: All right. I will withdraw the question, Mr. Hashey, about them hiding something.

Q. - If I -- the debt couldn't be any more than 3.2 billion dollars, could it?

MS. MACFARLANE: That table that you are looking at is an accumulation of debt issues that are outstanding. So it is not offset by sinking funds and it doesn't include the avoided debt of nuclear commissioning. It's just a chart that shows the outstanding debt issues, their interest rate and how they attrit over time.

Q. - Okay. I know you fellows are working down there at

Coleson Cove, and that's another what, $750 million, is that right?

MS. MACFARLANE: That's correct.

Q. - And that's not factored into the 3.2 billion that you have set out in the exhibit attached to your testimony, is it?

MS. MACFARLANE: That's correct.

Q. - So somebody has got to go out and borrow that money?

MS. MACFARLANE: Somebody has to, yes.

Q. - And without a provincial government guarantee?

MS. MACFARLANE: The entity that borrows it may or may not have a provincial government guarantee. The investor in that plant.

Q. - Oh, the investor. You mean it's not the province? It's not NB Power?

MS. MACFARLANE: Those decisions are not made yet. As you know, the Minister has announced there is an equity search related to that project.

Q. - Now I want to deal with the capital structure, Doctor. You indicate that the optimal capital structure for the transmission unit is 65/35?

DR. MORIN: Yes, sir.

Q. - I see. And your evidence with respect to those other utilities that were vertically integrated, were they in today's market, structured the same way, 65/35?

DR. MORIN: No. Vertically integrated electrics tend to have stronger equity ratios because they have more business risk as a result of their generation activities. You find that pure T&D companies, to the extent that they exist, they do in the natural gas business, have less equity. Whereas vertically integrated companies have more equity. Because they are riskier.

Q. - So with more equity, could you quantify more? Is that like 2 percent or 5 percent, 50 percent?

DR. MORIN: No, it would be more in the order of 5 to 10 percent.

Q. - So for a company -- let's say the parent company of NB Power, what you would be looking at there would be a debt to equity ratio of about 50, 55 percent debt and 50 to 45 percent equity. Is that what you are saying?

DR. MORIN: Well we haven't investigated that in this proceeding.

Q. - No, I --

DR. MORIN: But as an order -- general order of magnitude, I would not be surprised to find a 45 percent common equity ratio for a vertically integrated enterprise.

Q. - And for that type of organization, a vertically integrated enterprise, the rate of return that you are looking for, depending whether they have any nuclear liability, is about 13 to 14 percent.

DR. MORIN: Only for the generation component of that.

Q. - But you sum them all up. If transmission is only worth 500 million and the other component generation is worth a billion-and-a-half or 2 billion, the weight for each of those units pushes the rate of return up, does it not?

DR. MORIN: To the extent that the higher -- they are associated with higher risk, yes.

Q. - And so that would push it up to as I say 13, 14 percent roughly as an order of magnitude?

DR. MORIN: As an order of magnitude, although I haven't studied that for this proceeding, those numbers don't surprise me for generation.

Q. - For generation.

DR. MORIN: But of course the trend in North America and in Canada is to have generation as a fully competitive spun off activity. Hydro Quebec does not have rate of return regulation on its generation activities. It's price cap, for example.

Q. - And I guess what you are saying here is what you say for New Brunswick, is that you have this transmission tariff and then the other business units, whether it be generation or local service, they will just merely send a bill in to the parent company, then you will have some rate hearing in the future to deal with how much the customer should pay?

DR. MORIN: Yes. There will have to be a tariff determined for the distribution arm and perhaps for the generation arm, unless it's spun off completely in a competitive basis.

Q. - And the tariff that will be calculated for those will be using the same methodology that you are proposing here?

DR. MORIN: I believe so, but we don't know that yet.

Q. - Okay. Really my problem here, I do appreciate the constraints I have, that I can't ask you questions about local service and generation and rates of return and those specifically for NB Power, but to get a fair understanding, if you break NB Power down into four business units, no matter what you do the total debt stays the same?

DR. MORIN: Yes. It's just allocated on the basis of respective individual business risks of each of the components of the company.

Q. - Right. And if there is no provincial government guarantee, the cost of borrowing is going to be a little higher, half a basis point?

DR. MORIN: Yes.

Q. - Would it take a rocket scientist to work out, using your rates of return that you have given here, debt of NB Power, as to what the total return you would expect looking forward in the year 2004 would be or 2005.

DR. MORIN: It would take a separate hearing for distribution, another one for generation, another one for nuclear, to figure out what the appropriate rates of returns are for each of the four constituents of NB Power vertically integrated and assign debt on the basis of respective business risks. It's not a complicated process.

Q. - It's not complicated at all.

DR. MORIN: I don't think so.

Q. - And this rate of return, that's to go to the owner of the company?

DR. MORIN: The shareholders, whoever -- whatever their identity might be, the shareholder, the owner of the shares, is entitled to a fair and reasonable rate of return, whether it's the parent or individual shareholders or the government, they have an opportunity cost for those moneys that they are investing in NB Power.

Q. - Now, Ms. MacFarlane, other than Dr. Morin, did NB Power have any other studies or opinions from anyone of different capital structure other than 65/35 for any of its business?

MS. MACFARLANE: For purposes of this hearing we relied on only one study and that would be Dr. Morin's.

Q. - My question is a little broader. I'm trying to --

MR. HASHEY: I don't think Mr. Gillis can go broader, in fairness.

CHAIRMAN: Well, Mr. Gillis, we are here on a transmission hearing.

MR. GILLIS: I appreciate that, Mr. Chairman. My question is focused upon the fact that if they have made or obtained other opinions of different rates of return, that that would be germane to this hearing, because the follow-up question would be why didn't you apply both rates of return to this transmission tariff. So I'm digging back into the records to find out other rates of return that they have been provided with for any reason whatsoever in the last year.

CHAIRMAN: What do you say to that, Mr. Hashey?

MR. HASHEY: Well if it's related to transmission I have no problem.

CHAIRMAN: Are you saying related to transmission.

MR. GILLIS: Yes. I want to see what the difference is. If they have other rates of return then provide it for anything else, why not consider that for the transmission?

And they should have some explanation as to why they didn't. And I just want to first of all find out, one, do they have calculations of rates of return other than this one for any part of NB Power in the last year, if so, what were they, and then I will ask the doctor to apply it here to see what it does to the tariff.

CHAIRMAN: Well can you answer the question and then we will deal with the answer bit by bit?

MS. MACFARLANE: (MIke off) changing the capital structure of the utility and requiring it to borrow on the future without the provincial government covering guarantees to operate on a commercial basis and to pay taxes.

MR. MACNUTT: Sorry, Mr. Chairman. I'm having difficulty hearing.

CHAIRMAN: It's the witness.

MS. MACFARLANE: As you know, the province has announced that they will be putting NB Power effective April 1st, 2003, on a commercial basis, and in future it will be operating on a level playing field, it will be required to pay a dividend to the owner and to pay taxes, payments in lieu of taxes to the owner, and it will be required to borrow for its future activities without a provincial government guarantee. For that reason the capital structure will have to be one that will allow it to attract capital in markets where it competes for those dollars.

The province has engaged investment bankers to assist them in making their determination of debt equity ratios and returns that would be appropriate. And NB Power has been involved in the discussions with the investment bankers and has become aware of the methodology that they have used and the results that they have given. And I will say that the methodology that the investment bankers have recommended to the Province of New Brunswick is not inconsistent with what Dr. Morin has used, similar type of test. The outcome is slightly different but largely because of the time period from when we submitted our evidence until now.

The bankers are suggesting for the transmission entity that it have 40 percent equity and that's really a result of the markets becoming more bearish over the past six months with some of the difficulties in the utility industry in the US in particular and the markets becoming more skiddish both on the debt front and the equity front. Investors are looking for a stronger equity cushion.

So in order to get the investment grade credit rating for our debt the bankers are suggesting a 40 percent equity.

They are also suggesting -- I believe they are recommending a slightly lower return that you would expect to see if you had a bigger equity cushion. I believe they are recommending in the range of ten to ten-and-a-half percent return on equity. And again one of our interrogatories responded to a question, what would be the impact on the tariff of a 60/40 debt equity ratio with a ten percent return, and it was effectively equivalent to what we have recommended which is 65/35 and an 11 percent return.

Q. - Thank you. So I understand what you are saying is that you have the results of these investment bankers and they have only recommended one capital structure, 60/40.

MS. MACFARLANE: In the models that they have used, and again this is advice they are giving to the Minister, they have looked at many capital structures and what the ratios would be coming out of those and how the credit rating agencies would assess those various coverages. But their recommendation I believe is coming out of all of those different tests that they have done and the different models that they have run and the outcomes from those models, their recommendation is to have a stronger equity cushion than what we have proposed as a deemed capital structure.

Q. - And what does that give you by way of a bond rating for your borrowings?

MS. MACFARLANE: That would give us an investment grade bond rating.

Q. - Which would be --

MS. MACFARLANE: A.

Q. - A. And this really begs the question or your answer begs me to ask the question, where does the 40 percent come from? That is what I don't understand.

MS. MACFARLANE: As I indicated earlier, the review that the investment bankers did is based on very similar methodology to what Dr. Morin did. They used several different tests and looked at those in relation to what the most cost-efficient capital structure for NB Power would be.

They also looked at the different coverages and different debt equity ratios and returns of other Canadian utilities and how the debt rating agencies have applied their tests against them in order to make some assessment of what our rating would be under that capital structure with that return.

Q. - And you being an accountant, how do I get that equity? Either pay money in or take over debt? Is that the two options you have?

MS. MACFARLANE: The premise is based on a debt equity swap, that the owner would invest equity and assume debt and expect a return for having done that.

Q. - Who is going to make the determination with respect to the debt equity structure of the transmission unit? NB Power or the Province?

MS. MACFARLANE: For purposes of the tariff the Board will make that determination.

Q. - But you are proposing what that would be. And is that the proposition of NB Power? Or is that the proposition of the Province through NB Power?

MS. MACFARLANE: The proposal for the deemed capital structure has been filed by NB Power.

Q. - Without consultation with the Province, the owner?

MS. MACFARLANE: I believe it was without consultation with the owner.

DR. MORIN: I never consulted with the investment bankers. It just happens that we reached very similar conclusions. Mine are more conservative.

Hopefully the deemed capital structure which is under the jurisdiction of this Board will coincide with the actual capital structure that will emerge from the government's deliberations.

Q. - Ms. MacFarlane, if NB Power has made the decision with respect to the debt to equity ratio concerning the transmission unit, why would the debt to equity ratio with respect to the other units be made by the province and not NB Power?

MS. MACFARLANE: NB Power has not made a decision on what the debt equity ratio will be for transmission. It has made a recommendation to the Board on what the deemed structure should be for purposes of this tariff.

Q. - All right. That is on the semantics. So your recommendation is what it should be for the transmission unit.

To whom will you make the recommendation as to what it should be for the other units?

DR. MORIN: Presumably we will have a hearing for the distribution component of NB Power. And at that time, depending on prevailing market conditions, depending on the business risk of the distribution company, we will recommend a -- or the company will recommend a deemed capital structure for the distribution component --

Q. - I see.

DR. MORIN: -- that will reflect its risk at the time.

Q. - And would there be a similar hearing that you foresee for generation, Doctor?

DR. MORIN: Perhaps, unless it is deregulated or spun off or divested.

MS. MACFARLANE: Until the legislation coming out of the Minister's announcement is filed, and I believe that will be happening within a matter of weeks, it is not entirely -- the decisions will not be revealed, shall we say, as to what the future regulatory regime for those will be.

But if you are asking in the initial set up of those companies, it is a decision that will be made by the owner which is typical. Debt equity ratios are typically started out by the owner. And it will be effected by them as well. And it will be made on the basis of recommendations from their investment bankers.

Q. - I see. But transmission was a separate kettle of fish. That is why you fellows made the recommendation to the Board what it should be?

MS. MACFARLANE: We were in a position where we needed a tariff in order for the market to open on April 1st. And we were required to put a recommendation together. And in so doing we developed a deemed capital structure recommendation.

Q. - Now I'm really concerned, Ms. MacFarlane. And maybe I'm jumping ahead of myself, with all of these complicated structures and rates of return.

What does it mean in the end? Who pays?

MS. MACFARLANE: There is -- as I indicated earlier, there is no indication that the -- as to what the future regulatory regime will be over rates. But there is also no indication that it will necessarily change from today.

The Minister's announcement indicates that there will be a standard offer service. It will be provided on bases not dissimilar to what is provided today. Today the regulatory regime, as you know, is a legislative permission. Have I got that right?

CHAIRMAN: It certainly isn't a price cap.

MS. MACFARLANE: The future regulatory regime is one that may or not be affected by legislation. But the fact that the Minister has announced standard offer services will be provided on terms and conditions similar to today would suggest that there will be protection against rate shock in the future.

DR. MORIN: I note, Mr. Chairman, that under a price cap regime the capital structure issues disappear completely. It is up to the company to select a cost-efficient capital structure and be responsible to its owners. And if they blow it they suffer the consequence.

So that is one attractive feature of price caps. There is no more capital structure considerations.

Because the rates are not related to capital structure at all.

Q. - Ms. MacFarlane, you used the word "rate shock". What is rate shock?

MS. MACFARLANE: I would suggest it would be rates that would be difficult for customers to absorb in the near term.

Q. - Can you give me a percent? A 2 percent, a 10 percent, a 50 percent or a 100 percent rate hike? What is rate shock?

MS. MACFARLANE: I believe that would be a matter of judgment.

Q. - I see.

MS. MACFARLANE: The current regulatory regime which speaks to rates being constrained within inflation or 3 percent would suggest that the judgment of the current regulatory regime would be that anything in excess of inflation or 3 percent might lead to rate shock or be getting into that range on an annual basis.

Q. - Dr. Morin, in your filed testimony you use the word "rate shock" as well, don't you?

DR. MORIN: That is correct. On the price cap regime you don't have rate shock because rate increases are limited to one-half of the inflation rate or less through sharing, so --

Q. - But rate shock, based upon your experience and your observation in the US, is what percent rate hike on a yearly basis?

DR. MORIN: Well, that depends. A successful attorney like yourself, 50 percent would be okay, you know. But it depends on -- you know, for lower income people, any increase is a shock, you know. It depends on the income level.

Q. - I see. And rate shock is something that leads, as I understand it, to some outcry?

DR. MORIN: The economic definition of rate shock would be unexpected increase or a major surprise.

Q. - And based upon your experience, to deal with the subject matter of rate shock that was brought up by Ms. MacFarlane, is that dealt with by consultation with the private sector that is affected by the rate or the industrial sector that is affected by the rate, making them non-competitive? How do you deal with rate shock?

DR. MORIN: The rate shock is the outcome of the process, you know, not the starting point. We go through cost of service procedures, rate of return, capital structure. Out of that deliberation emerges a rate, a tariff. And it can or cannot lead to rate shock. It just depends.

Q. - I see.

DR. MORIN: It is the output.

Q. - Ms. MacFarlane, from NB Power's perspective, what meetings and consultation have they had with public interest groups, with the business sector, concerning the issue of rate shock as a result of the government's decision to break NB Power into four units? Any?

MR. HASHEY: I think this is going way beyond anything we are dealing with here, Mr. Chairman.

MR. GILLIS: Mr. Chairman, she brought up the word "rate shock". And I'm just trying to find out when I'm going to experience this rate shock and whether I'm going to like it.

CHAIRMAN: It just depends on whether it is a billing or what it is, Mr. Gillis. Seriously, you are going pretty far afield.

MR. GILLIS: I see.

Q. - Is rate shock a good thing or a bad thing, Ms. MacFarlane?

MS. MACFARLANE: I think it would generally be perceived as a bad thing.

Q. - And when is the earliest I could expect possibly to see this rate shock based upon your information that you have?

MS. MACFARLANE: I believe I used the term in reference to efforts to avoid rate shock. And there was no indication that the regulatory regime would change such that it would lead to rate shock.

The regulatory regime generally tries to avoid rate shock. And I believe that is the context within which I used the term.

Q. - I see.

MS. MACFARLANE: As Dr. Morin pointed out, under a PBR price cap, that is a natural protection.

MR. GILLIS: I believe those would be the questions that I would have, Mr. Chairman.

CHAIRMAN: Those are all your questions?

MR. GILLIS: Yes.

CHAIRMAN: Just before you leave, Mr. Gillis. I had one question that maybe Ms. MacFarlane, you can expand a little bit for me.

You have indicated that you have assigned the debt on the basis of the business risk. What do you mean by that? In other words, the debt of NB Power, that portion which is assigned to the Transco --

MS. MACFARLANE: Yes.

CHAIRMAN: -- it is assigned on the basis of the business risk?

MS. MACFARLANE: Yes. In determining what the capital structure, the optimum capital structure should be, the most cost-efficient one, we relied on Dr. Morin's evidence as to what equity cushion should be there.

And he made that assessment on a number of bases, one of which was an assessment of the business risk. The higher the risk, whether it is business risk, financial risk or regulatory risk, the greater equity cushion that is required.

So we -- if I said we allocated it based on the business risk I would have been shortening the process. Because in fact the business risk sets the debt equity ratio. And we allocated it on the basis of the debt equity ratio.

CHAIRMAN: Does that mean, for my simplistic sense of higher finance, that if you did that and you did it first with Transmission and then next with the Disco and then on down the line, you may have debt left over?

MS. MACFARLANE: No. The assets today on our balance sheet equal the liabilities and equity. And the assets would be allocated to the business units or to the subsidiaries.

CHAIRMAN: I thought --

MS. MACFARLANE: And they would be capitalized accordingly.

CHAIRMAN: Sorry to interrupt.

MS. MACFARLANE: Okay.

CHAIRMAN: But the recollection, the last time I looked at it, was that in fact you had greater debt than you did have assets?

MS. MACFARLANE: The last financial statement, I believe the debt equity ratio was 105 percent.

CHAIRMAN: So again I ask the question would you not perhaps have debt left over after that allocation goes through?

MS. MACFARLANE: In the debt equity swap, another organization typically would undertake that debt equity swap. And they would absorb that deficit in their investment in the company.

So if you are asking if there is any stranded debt, certainly the calculations that have been done would indicate that there is no stranded debt. It can all be managed.

But as to taking the debt over to another organization and issuing back equity in debt, the investment -- the body that does that would effectively pick up the amount of the deficit as an investment and would expect a return on that over time.

CHAIRMAN: And it is my understanding, just confirm it, that it will be NB Power holding company that will hold that debt? That is what my understanding is.

MS. MACFARLANE: That is --

CHAIRMAN: Obviously not yours?

MS. MACFARLANE: Let me just state that for example in Ontario a separate Crown corporation was created to hold that debt and to do the debt equity swap with the electricity company. And that is an efficacious way to do it, shall we say.

CHAIRMAN: All right. So that decision hasn't been made --

MS. MACFARLANE: That is right.

CHAIRMAN: -- yet?

MS. MACFARLANE: It hasn't --

CHAIRMAN: Because my understanding was there would be -- someone in your organization called them the butterflies. There would be four butterflies coming out of NB Power as it now stands plus that holding company?

MS. MACFARLANE: Yes.

CHAIRMAN: So there may in fact be six companies? Is this what you are saying?

MS. MACFARLANE: There may in fact be six companies. That is what I'm saying.

CHAIRMAN: Mr. Gillis, after all that, is there anything further you wanted to ask on what I have had to say?

MR. GILLIS: No. I have already had difficulty with butterflies from the tax perspective.

CHAIRMAN: I will not touch that. Okay. Good. Thank you.

Mr. Smellie, I think.

MR. SMELLIE: If you wanted to rise for lunch that would be fine, sir. I'm quite prepared to proceed.

Rising for lunch would allow me to make a couple of brief comments to you about the documentation that is going to be relevant to my cross examination. I wanted to inform the Board as to --

CHAIRMAN: I would suggest we do break for lunch after you make those comments, Mr. Smellie. Go ahead, sir.

MR. SMELLIE: Thank you. Mr. Chairman, yesterday I provided to my friend Mr. Hashey copies of documents that I intend to refer to during the cross examination of these witnesses.

This morning, with the assistance of Mr. Nettleton and Mr. Goddard from JD Irving and several photocopy machines, we have managed to place copies that I believe are sufficient for everybody in the room at the back of the room, so that everybody in the room has them.

Excuse me, I got ahead of myself. Mr. Nettleton has copies of the documents for other than New Brunswick Power. And will put them at the back of the room so everybody will have them.

At the same time, and before I begin this afternoon, Mr. Nettleton will provide to the secretary copies for the

Board and Board staff.

And what I would prefer to do, Mr. Chairman, is to mark these documents as we get to them over the course of my cross examination, assuming that you are prepared to admit them from time to time, rather than try and do them all at once.

CHAIRMAN: That's fine, Mr. Smellie. We will do that.

MR. SMELLIE: And just so that the witnesses are prepared, Mr. Chairman, just through you I will tell them that I will be referring in addition to Dr. Morin's presentation exhibit A-22, to their direct evidence and to the information or interrogatory responses that relate to their evidence. So if they could ensure that they have that material available to them, I would be grateful.

CHAIRMAN: Thank you.

MR. HASHEY: I have no problem with Mr. Smellie as to the way he wishes to mark the exhibits. He did supply me copies of them and I have supplied copies to this Panel overnight.

I got them yesterday. And so I'm happy with the way he is operating here.

CHAIRMAN: Fine. Thank you, Mr. Hashey. All right. Then we will break for lunch and come back at 1:30.

(Recess - 12:00 p.m. - 1:30 p.m.)

CHAIRMAN: Good afternoon, ladies and gentlemen. Before we begin, any preliminary matters? Okay. Mr. Smellie?

MR. SMELLIE: Thank you, Mr. Chairman. It should be the case as I mentioned before lunch that all who are interested, including the witnesses as I understand it, have copies of the documents that I distributed to my friend, Mr. Hashey, yesterday.

And, hopefully, in the name of organization and efficiency, when I come to them they can be marked by you, Mr. Chairman, if they are otherwise admissible. And, hopefully, we won't have any hiccups along the way.

MR. HASHEY: You see me scrambling here. I think there is one additional document that we didn't have yesterday and only one, from my quick review of the new pack, which is called the Spirit of Service -- I don't remember having seen that before. But other than that, what Mr. Smellie says is absolutely correct. I don't think this Board -- or, sorry, that Panel would have that document in front of them.

MR. SMELLIE: Well in due course maybe my friend could put a copy in front of them. It's not a particularly contentious point, Mr. Chairman. It has to do with a list of utilities in one of Dr. Morin's exhibits. And I wish to discuss some of those entities with him. And by the time we get there, I'm sure we will be able to make a copy available.

CHAIRMAN: Sure.

CROSS EXAMINATION BY MR. SMELLIE:

Q. - Lady and gentleman, good afternoon.

MS. MACFARLANE: Good afternoon.

Q. - For the record, my name is Jim Smellie. I appear in these proceedings for JD Irving Limited and the New Brunswick Division of Canadian Manufacturers and Exporters.

I want to begin, although I will be looking at the transcript associated with your presentation later tonight or tomorrow morning, Doctor. And I suppose I should ask you, Ms. MacFarlane refers in her evidence to you as Professor. And I know that elsewhere you have said that that is what you are. And do you prefer Doctor or Professor?

DR. MORIN: Doctor.

Q. - Thank you, sir. And let me ask both of you this question. There is evidence filed by both of you in exhibit A-2. Do I assume correctly that that evidence was prepared by each of you or under each of your respective direction and control?

DR. MORIN: Yes, sir.

MS. MACFARLANE: Yes, sir.

Q. - And similarly there are a number of interrogatory responses that -- or supplementary interrogatory responses that relate to that evidence. And were those prepared under your respective direction and control?

DR. MORIN: Yes.

MS. MACFARLANE: Yes.

Q. - Thank you. Doctor, do you have exhibit A-22 at hand, which is your presentation?

DR. MORIN: Yes.

Q. - And a lot of these questions are by way of clarification. Slide number 6 was an illustration of the allocation of a transmission revenue requirement, correct?

DR. MORIN: Yes.

Q. - And just for clarity, the largest piece of the pie, the 40 percent allowed return does include both debt and equity, does it?

DR. MORIN: Yes, sir. It's the weighted average cost of capital.

Q. - Thank you. At slide number 15 there is an example of the risk premium method which uses as a proxy for the risk free rate long-term Canada bonds which I believe you told us were at or about 6 percent at the time you prepared your evidence last summer, correct?

DR. MORIN: Correct.

Q. - I think you also told us that long-term Canada bonds were a good indicator for the risk free rate?

DR. MORIN: 30 year long-term Canada bonds, yes, sir.

Q. - It's now December the 10th. What is your current view or what can you tell us today about long-term Canada bonds and their yield?

DR. MORIN: Right now they are trading below 6 percent at approximately the 5.7, 5.8 level. And the latest consensus forecast that I have examined from the Consensus Economics Organization is 6 percent for one year from now.

Q. - What is the date of that forecast, sir?

DR. MORIN: November -- the latest one available, November '02.

Q. - So do I have it correctly then, that the consensus forecast hasn't changed since you wrote your evidence?

DR. MORIN: That is correct. The actual has changed but not the forecast.

Q. - Thank you. And then just turn to page 17 of the presentation, a slide which concerns risk and return on capital markets. Did I understand you to say, sir, this morning that Treasury Bills have absolutely no risk at all?

DR. MORIN: The nominal rate on Canadian or US Treasury

Bills is riskless.

Q. - Yes.

DR. MORIN: Yes. The answer is yes.

Q. - Can you give me some sense of what the current yield on a 30 day Treasury Bill is in Canada?

DR. MORIN: It's very, very low, 2 percent.

Q. - But just to be clear, as against this slide, you are and we are using 30 year long Canada bonds and the consensus forecast for the purposes of proxy for the risk free rate?

DR. MORIN: That is correct. To implement the risk premium methodology, since we are dealing with stocks that have a very long-term, in fact, infinite maturities, it makes sense to use very, very long-term bonds so the answer is yes.

Q. - And then at page 25 of exhibit A-22, we have in summary form your conclusion on rate of return, which shows the return on equity of 10 and a half to 11 percent. And that is, as I understand it, based on the deemed capital structure that you are recommending?

DR. MORIN: Correct.

Q. - And I think I heard you say this morning that having determined that range, you have taken New Brunswick Power Transmission to the top end of 11 percent, due in part to debt load?

DR. MORIN: Due mostly to the additional risks in terms of variability that are induced by the price cap regime.

Q. - Yes, I know that. I just thought I heard you say that it was in part due to the level of debt as well?

DR. MORIN: In part. It's the fact that New Brunswick Power Transmission or New Brunswick Power itself needs to solidify and reinforce its capital structure and its interest coverages before it is able to go on its own in capital markets and compete for funds effectively.

Q. - Right. And just for clarity, when you refer to debt in order to take New Brunswick Power Transmission to the top end of your range, did I just hear you refer to New Brunswick Power or to New Brunswick Power Transmission?

DR. MORIN: New Brunswick Power Transmission. Let's use the acronym NBPT from now on.

Q. - Well we may have to be more precise than that. So when you tell us this morning that you take NB Power Transmission to the top of your range, it is not because of the level of debt of New Brunswick Power today?

DR. MORIN: That's correct. It's mostly due to the additional risks that are precipitated by the price cap regime.

Q. - Thank you. Slide 35 is the next one I would like to clarify. And I will just invite you to agree with me, Doctor, that the process that we are engaged in here today is not at all like a murder trial, is it?

DR. MORIN: Not yet.

Q. - Well if it were like a murder trial, I would make the analogy that New Brunswick Power is like the Crown. And the Crown, of course, has the burden beyond a reasonable doubt of proving every element of its case. Do you agree with that?

DR. MORIN: No. I don't have any opinion on that. I'm not a lawyer. I was just trying to make the case that to discuss technical and complex matters such as rate of return, an adversarial style of proceeding is not very conducive to enlightenment and to make sound decisions.

Q. - Just generally and without reference to your slides, but with reference to your presentation, I understood you to say that one of the problems in respect of determining return on equity or NBPT, as you put it, is that there are no pure play electricity transmission companies in this country?

DR. MORIN: That is correct, that are publicly traded or private for that matter.

Q. - Right. And if there was such a company would its cost of debt, Doctor, be of some assistance to this Board, do you think?

DR. MORIN: If it was comparable, yes. It would have to be comparable to the new NBPT.

Q. - Are you familiar with a company called Altalink?

DR. MORIN: No.

Q. - You don't know -- well, let me ask you this. Are you familiar with a company called TransAlta Utilities?

DR. MORIN: Yes.

Q. - Are you aware that earlier this year Altalink purchased the bulk of TransAlta's transmission assets in Alberta?

DR. MORIN: I'm aware of that.

Q. - I thought you told me you didn't know who Altalink was?

DR. MORIN: Well, I'm aware of the purchase. But I don't know anything about the company's specifics or capital structure, their size.

Q. - Stay tuned. Ms. MacFarlane, am I right that matters and issues and questions concerning the actual cost of debt for NBPT should be dealt with when you are back here on Panel C?

MS. MACFARLANE: That is where it is in the evidence, in Panel C, yes.

Q. - You had a discussion, Ms. MacFarlane, with Mr. Gillis. And as I understood the gist of that conversation, New Brunswick Power has been in discussions with investment bankers concerning matters such as capital structure?

MS. MACFARLANE: The Province has engaged investment bankers. NB Power has been, shall we say, at the table during the discussions in an observer and consultation role.

Q. - Have you been at the table before this application was filed or after or both?

MS. MACFARLANE: The announcement was made the end of May. So any consultations or any meetings that we would have participated in would be subsequent to that announcement.

Q. - And after the filing of your application as well?

MS. MACFARLANE: I'm sorry. I can't remember the exact date of filing.

Q. - June-ish?

MS. MACFARLANE: June-ish? Certainly there were very few details available to us at the time of the announcement. And so I would say yes -- or no, we were not involved in any of those discussions prior to the filing of the hearings -- of the evidence, pardon me.

Q. - But you have been since?

MS. MACFARLANE: We have been since, yes.

Q. - And tell me, did those discussions concern New Brunswick Power, New Brunswick Power Transmission, other butterflies or -- help me with that?

MS. MACFARLANE: I would suggest they would include all of the above.

Q. - Are you able to tell me what the purpose of the Province having engaged investment bankers is?

MS. MACFARLANE: This is an important undertaking. And they want to ensure they make decisions that are appropriate. And they have sought advice on that front.

Q. - Do you understand the purpose of the Province having engaged investment bankers to include one or more of the butterflies possibly issuing equity?

MS. MACFARLANE: That is not my understanding.

Q. - Does it concern the cost of debt for New Brunswick Power Transmission or one or other of the several entities without the benefit of a provincial guarantee?

MS. MACFARLANE: It involves the capital structures of the entities so that they can borrow in the future without a government guarantee, yes.

Q. - To your knowledge are there opinions of these investment bankers in existence which support the evidence that you gave Mr. Gillis this morning?

I'm thinking in terms of the 60/40 capital structure that you mentioned.

MS. MACFARLANE: Could you repeat the question just so that I'm clear on exactly what you are looking for?

Q. - Are you aware as to whether or not these investment bankers have provided opinions which support the evidence you gave to Mr. Gillis this morning concerning a 60/40 capital structure.

MS. MACFARLANE: As I understand it, we are still in -- they are and we are with them still in the modeling stages. But the initial recommendations very much support what I indicated this morning.

Q. - And what you indicated this morning, relative to the 60/40 capital structure, what entity was that in relation to?

MS. MACFARLANE: That was specifically for transmission.

Q. - I see.

MS. MACFARLANE: The modeling for all of the entities is to provide them with investment grade credit rating. And as was indicated by Dr. Morin, the businesses are in different industries and have different risk profiles. So they will have different capital structures.

Q. - So they are still in the modeling stage. And that doesn't answer my direct question.

Are there opinions, to your knowledge, which have been issued by investment bankers which support the evidence you gave this morning?

MS. MACFARLANE: There --

Q. - Written opinions?

MS. MACFARLANE: Written opinions? I'm not aware of any written opinions. It has been a very interactive process to date. And what I indicated this morning was based on verbal recommendations.

Q. - Are you able to tell me, having indicated that this exercise concerns New Brunswick Power Transmission, what bond rating the capital structure that you mentioned this morning, 60/40 implies?

MS. MACFARLANE: The objective is to have investment grade credit ratings for bonds. And that would be an A rating based on that debt equity structure.

Q. - You made, Ms. MacFarlane, a number of references this morning to some legislation that I gather we may see shortly.

Is my understanding correct that that legislation is going to govern New Brunswick Power as at the 1st of April of next year?

MS. MACFARLANE: That is my understanding.

Q. - I don't mean this to be in any way critical. You seemed a little tentative in your responses on that subject to Mr. Gillis.

But is it the case that New Brunswick Power has had or is having discussions with the Government of New Brunswick about that legislation?

MS. MACFARLANE: Mr. Smellie, the reason I'm tentative is because all of these discussions represent advice to the Minister. And in that vein they are all subject to confidentiality requirements. That is why I'm answering with some degree of hesitancy.

Q. - Is it the case that the fact of those discussions is confidential? That is all I want to know. Have you had discussions with the government?

I don't know what -- I don't want to know what they are. I just want to know whether you had them.

MS. MACFARLANE: Had discussions with the government on what topic?

Q. - About the legislation?

MS. MACFARLANE: About the legislation? We have been consulted on certain areas of the legislation, which one would hope would be the case, to ensure that there are not grievous errors made in its construction.

Q. - You will agree with me, Ms. MacFarlane, that that implies a certain asymmetry in the sense that you guys know stuff that my guys don't. Fair?

You know more about what is going on with that legislation than my client does.

MS. MACFARLANE: But the legislation does not affect the evidence of Panel B as it is put forward here.

We are putting forward a proposal for a deemed capital structure that would create a level playing field and would ensure that all users of the system pay a fair amount for the use of that system, regardless of restructuring, regardless of changes in legislation.

Q. - Why did you mention it this morning then if it is not relevant?

MS. MACFARLANE: I believe I was asked.

Q. - In any event, I think we can agree, Ms. MacFarlane, that this legislation is of some significance, correct?

MS. MACFARLANE: It is important legislation, yes.

Q. - Yes. Without knowing what this legislation says, Dr. Morin, how do you know with confidence that your proposal for an alternate form of regulation is going to do what you say it is going to do?

DR. MORIN: Could you give me a more precise example? I mean, price caps are price caps.

Q. - How do you know that price caps are not going to be prohibited by the legislation, to be extreme about it?

DR. MORIN: If you recall the slides this morning, I elaborated some criteria for a sound regulation. And the price cap proposal that I have meets all these various criteria.

And if the legislation that finally emerges contradicts price caps, I guess the company always has the luxury to come back before the Board.

But it is hard to imagine a legislation that would be so specific and so detailed and so intrusive as to even specify the very modes of regulation that it has in mind. It could be. But I would be surprised.

Q. - What if the legislation dictated a return on equity for New Brunswick Power Transmission equal to its embedded cost of debt? Do you find that fanciful?

DR. MORIN: That would be extremely misguided regulation if that were the case. Because the cost of debt is strictly a function of the borrowing rates that prevail at the time of borrowing money, whether it was seven years ago or 12 years ago or 15 years ago.

And you end up having a cost of equity which was a complete happenstance of whatever the cost of debt was at the time the company borrowed money, which is contrary to any principles of finance or economics that I know.

Q. - Ms. MacFarlane, what did you do before you joined New Brunswick Power?

MS. MACFARLANE: I was Vice-president Finance at Mount Allison University.

Q. - Okay. And I take it that you are the New Brunswick Power policy witness on this panel?

MS. MACFARLANE: On this panel, yes.

Q. - It is my understanding that the last rate or rate-related case which New Brunswick Power had before this Board was in 1993?

MS. MACFARLANE: That is correct.

Q. - I want to understand, Ms. MacFarlane, where we are coming from as we sit here today. And in the package of documents that I have provided to your counsel yesterday, there were a number, I think three PUB decisions.

I'm not sure of your practice, Mr. Chairman, as to whether or not these decisions need to be marked. But they are the first three documents in the pile that the Secretary has.

CHAIRMAN: They really don't.

MR. SMELLIE: That is fine.

CHAIRMAN: On occasion we have. But that is just for ease of reference, that is all, Mr. Smellie.

MR. SMELLIE: That is fine. I will nevertheless ask that the Secretary give to the Panel the Board's decision of May the 22nd, 1991 which was a generic hearing concerning accounting and financial policies of what was then NB Electric Power Commission. Do you have that, Ms. MacFarlane? And accounting and financial policies of New Brunswick Power are matters which I take it you are familiar with?

MS. MACFARLANE: Yes.

Q. - My understanding is that this case arose as a result of the Board becoming involved in the regulation of New Brunswick Power's rates as of the 1st of January, 1990, is that your recollection?

MS. MACFARLANE: Yes.

Q. - And in April of that year New Brunswick Power requested the Board approve certain rate changes and as the matter came before the Board it also concerned certain generic issues about New Brunswick Power's rates, is that fair?

MS. MACFARLANE: Yes.

Q. - Just turn to page 46 of that decision, please.

MS. MACFARLANE: I'm sorry, I don't have page 46.

Q. - Okay then. Let me give you a brief quote.

MR. HASHEY: Shouldn't we have the full decision.

CHAIRMAN: Was this an error or was that purposeful, Mr. Smellie, do you know.

MR. SMELLIE: I can assure you, sir, it wasn't purposeful.

CHAIRMAN: All right. Well I don't know because there have been excerpts from various decisions. It probably would be appropriate to get the entire decision so the witness could --

MR. SMELLIE: I thought that was unnecessary for my purposes, Chairman, but --

CHAIRMAN: All right. You are referring to page 46 though.

MR. SMELLIE: I am referring to page 46 and I will just move on and see what luck I have with -- do you have page 52, Ms. MacFarlane? We will come back. I gather there are quite a number of pages missing from this excerpt.

MS. MACFARLANE: I have page 52.

Q. - You do?

MS. MACFARLANE: Yes.

Q. - Good. At page 52 there commenced a section of the decision regarding financial policies and hopefully over the page, at page 53, in the first full paragraph the Board says, and I quote, "New Brunswick Power is a Crown corporation and therefore has no shareholders." Do you see that?

MS. MACFARLANE: Yes.

Q. - That is still the case today?

MS. MACFARLANE: That's correct. Excuse me. That isn't quite correct. It has no shareholders outside the government, but the government is a shareholder.

Q. - So when the Board said that New Brunswick is a Crown corporation and therefore has no shareholders, it was wrong?

MS. MACFARLANE: I think it is referring to any shareholders outside of the government.

Q. - How do you get that? It's a very simple statement.

MR. HASHEY: I think as to what the Board meant maybe he should cross examine you, Mr. Chairman.

CHAIRMAN: I could point out, Mr. Hashey, that I do believe that subsequent to this decision NB Power Corporation was incorporated pursuant to the Business Corporations Act of the Province of New Brunswick, and I think that is what has happened here.

MR. SMELLIE: Thank you, sir.

CHAIRMAN: I don't want to be sworn, but --

MR. HASHEY: Thank you, Mr. Chairman.

Q. - At page 55 of the decision, Ms. MacFarlane, there was a discussion about the guarantee fee that is charged to New Brunswick Power for the guarantee which the province provides on certain New Brunswick Power debt?

MS. MACFARLANE: Yes.

Q. - You see that. And as I understand it, the burden of the next few pages of this decision concerns certain standards which New Brunswick Power has to meet in consequence of that guarantee in order to demonstrate adequate financial strength and stability. Is that a fair summary.

MS. MACFARLANE: Well I'm sorry, that's not -- I didn't read that they would have to meet those targets in order to support the guarantee fee. I read that they would have to meet those targets in order to support the provinces credit rating not being damaged by virtue of guaranteeing the utility's debt.

Q. - That's fine. And I understand that at the time of this application or this case that it was the position of NB Power that a debt to equity target of 80/20 was appropriate and should be endorsed by the Board, and I'm referring to page 59, if you need it. Is that correct?

MS. MACFARLANE: That was the recommendation at that time, yes.

Q. - And the Board accepted it?

MS. MACFARLANE: Yes.

Q. - To your knowledge, Ms. MacFarlane, has that target prior to the filing of this application ever been changed?

MS. MACFARLANE: No.

Q. - Turn to page 73, please. We can agree, can we, that in this case the Board concluded that one of the benefits of New Brunswick Power's ownership by the province is that New Brunswick Power could operate with a higher debt to equity ratio than would be possible for a privately owned utility, correct?

MS. MACFARLANE: That was the conclusion at that day based on the facts of the day, yes.

Q. - And it was similarly the Board's conclusion about five lines below where I have referred you there, is that the use of a market related cost of equity would not be appropriate for the purposes of setting rates for New Brunswick Power. You see that?

MS. MACFARLANE: I see that and I believe that that conclusion has to be taken in context with the previous paragraph that says that the Board considers that the ownership of NB Power by the Province of New Brunswick should benefit the people of New Brunswick. Our transmission tariff proposal is very cognizant of that fact and agrees with it vehemently. The people of New Brunswick who took the risk to build the transmission system will no longer be the sole beneficiaries of it. With open access there will be other users and other beneficiaries of this system and we believe therefore that in order to ensure that the owners, being the people of New Brunswick, get their appropriate return, that we should deem the capital structure and ensure that the tariff has appropriate compensatory bases to it.

Q. - Thank you. And it was in this decision having came to the conclusion that it came to, that you have just discussed with me, that the Board concluded, as I understand it, that an appropriate rate of return on the equity component of New Brunswick Power's capital structure ought to be the imbedded cost of its debt?

MS. MACFARLANE: They did conclude that and I think in the subsequent excerpts that you have given us, NB Power agreed with that at the time, given that it was a closed loop system, there was no leakage outside of the citizens of the Province of New Brunswick. It is a different day and we now have a different purpose ahead of us and a different future, and in order to protect those benefits we believe we should be deeming a capital structure.

Q. - Thank you. Could I ask you, Ms. Legere, to put before the Panel the second document, which is a December 1991 decision of this Board.

Again, Mr. Chairman, it is an excerpt only. I think it will suffice for these purposes. I think this is the case that if I did have the whole decision it would be the one where I think Mr. Sollows represented himself.

CHAIRMAN: Well he does that admirably.

Q. - And this was a decision made in respect of an application by NBP to change certain of its charges, rates and tolls, Ms. MacFarlane, correct?

MS. MACFARLANE: I believe so, yes.

MR. HASHEY: Mr. Smellie, not to interrupt what you are doing here but are these being marked with numbers?

MR. SMELLIE: No.

CHAIRMAN: Not the Board's decisions, Mr. Hashey.

MR. HASHEY: Okay. I see. Thank you. I understand.

CHAIRMAN: Go ahead, Mr. Smellie.

Q. - The only point I wish to raise with you, Ms. MacFarlane, arises I believe at page 44. There you will see the Board's recollection of its accounting and financial policy's decision. And the Board concluded in this case in its opinion that the use of a return on equity approach will realistically permit New Brunswick Power to achieve appropriate interest coverage and debt to equity ratios. Do you see that?

MS. MACFARLANE: Yes. By the way, our evidence doesn't in any way suggest that it wouldn't lead to appropriate interest coverage and debt to equity ratios. I believe Dr. Morin's evidence speaks to other concerns about rate of return regulation and other advantages of moving away from that to a PBR regime.

Q. - Thank you. And then -- and finally on this line, Ms. Legere, if you could put to the Panel the Board's April 1993 decision. That decision concerned, as I understand it, Ms. MacFarlane, an application for a 5 percent general rate increase, an increase that had been implemented by New Brunswick Power prior to the filing of the application, as it was allowed to do?

MS. MACFARLANE: It's before my time and I'm not sure of the exact reason for the application. But it speaks on the front cover to an application for approval of changes in its charges, rates and tolls. I don't have the full decision in front of me, so I'm not able to speak to the purpose of it.

Q. - And on page 6 there was a discussion of return on equity approach to regulation. And there is reference to an exhibit 1. One of New Brunswick Power's exhibits. And at that time New Brunswick Power took the view that a return on equity approach would add a useful third dimension to the question of the appropriate level of net income provided that did not take precedence over the utility's more traditional test. Do you see that?

MS. MACFARLANE: I see that, yes.

Q. - And New Brunswick Power also stated at that time, and I quote, "We also believe that subject to the forgoing, the utility's cost of debt is appropriate as a rate of return so long as NB Power is a crown corporation and the government has not established any market based rate of return criteria".

Do you see that?

MS. MACFARLANE: I do. And as I indicated earlier that was very much the case in the days of a regulated monopoly where all benefits from the investment accrued back to the citizens of the province of New Brunswick. That is no longer the case in -- with the market opening up and that is why we are suggesting a deemed capital structure.

Q. - What market based rate of return criteria has the government of New Brunswick established?

MS. MACFARLANE: For purposes of the tariff, the government has not established a particular market based rate of return criteria. NB Power is proposing that there be a fair and equitable rate of return on investment in order to ensure that the citizens of New Brunswick receive benefits from the investment they made. And with respect to restructuring, there are criteria being established, but as I say, the transmission tariff is one where we believe an appropriate market based return is what the tariff should be based on, regardless of restructuring.

Q. - What criteria are being established?

MS. MACFARLANE: The Minister in his announcement indicated that the new subsidiary companies after April 1st would be required to earn a market based rate of return and they would be required to pay dividends to the owner.

Q. - Are you referring to the Minister's statement in the legislature on May 30th of this year?

MS. MACFARLANE: I am.

Q. - Are you referring to anything else?

MS. MACFARLANE: No. I believe there have been a number of other statements made. I think they have all been consistent.

Q. - Ms. MacFarlane, you filed evidence with this Board in support of the company's Coleson Cove Refurbishment Project hearing earlier this year?

MS. MACFARLANE: Yes.

Q. - And there you discussed, amongst other things, the company's business plan and financial projection as at March of 2001?

MS. MACFARLANE: Yes.

Q. - Is there a current -- more current version of that business plan and financial projection extant?

MS. MACFARLANE: No.

Q. - I'm just going to read you a brief statement from page 2 of the executive summary of that business plan?

MS. MACFARLANE: Yes.

Q. - New Brunswick Power's mandate in the Electric Power Act is to, quote, "Provide for the continuous supply of energy adequate for the needs and future development of the province and to promote economy and efficiency in the generation, distribution, supply, sale and use of power".

The Act, that is the Electric Power Act, also calls for the corporation to conduct its operations using sound business principles.

Is that still the case?

MS. MACFARLANE: It is the case today, yes.

Q. - And that took me to the Electric Power Act because I wanted to see precisely what it said. And the Electric Power Act in (3)(vii) says this. And I imagine you are quite familiar with it. "The Board of Directors shall administer the affairs of the corporation on a commercial basis and all decisions and actions of the Board of Directors are to be based, subject to public policy, as determined from time to time by the Lieutenant Governor in Council on sound business practice".

Is that what you were getting at in the executive summary of your 2001 business plan?

MS. MACFARLANE: Yes.

Q. - And subject to check, Ms. MacFarlane, will you take it from me that the last time that section of the Electric Power Act was amended was 1993?

MS. MACFARLANE: It sounds reasonable subject to check, yes.

Q. - Thank you. So when the Minister rose in the House of -- in the legislature on the 30th of May to say that the restructured New Brunswick Power Companies were to operate on a commercial business like basis, I take it that that wasn't much of a revelation to you?

MS. MACFARLANE: The fact that we were to continue on the path that we had already embarked on a number of years before to operate more like a business was not a surprise to me, no.

Q. - Thank you. Just while I am switching gears here for Ms. MacFarlane, Doctor, the cover of your presentation indicates that you are chair and the chief executive officer of Utility Research International --

DR. MORIN: Yes.

Q. - -- whereas Exhibit RAM-1 tells us that you are employed at Georgia State University. What is Utility Research International?

DR. MORIN: It's a consulting firm in the financial and regulatory economics.

Q. - That's your company?

DR. MORIN: Yes, sir.

Q. - Prior to this case, Ms. MacFarlane, have you had any experience with performance based ratemaking?

MS. MACFARLANE: I have not, no.

Q. - Rate base methodology?

MS. MACFARLANE: Rate base methodology?

Q. - Yes.

MS. MACFARLANE: The traditional rate of return. I have not been involved in rate cases for New Brunswick Power, no.

Q. - Deemed capital structures, have you had any experience with that before this case?

MS. MACFARLANE: Not in a regulatory sense, no.

Q. - Thank you. At page 2, line 4, of your Panel B evidence in Exhibit A-4 --

MS. MACFARLANE: Do you mean Exhibit A-2.

Q. - I do.

MS. MACFARLANE: Thank you.

MR. MACNUTT: Mr. Chairman, could we have that reference again, please?

MR. SMELLIE: The reference, Mr. MacNutt, is to Ms. MacFarlane's Panel B evidence which is a four page document found in Exhibit A-2. Page 2. Ms. MacFarlane, do you have that?

MS. MACFARLANE: Yes, I do.

Q. - In line 4 you say that in line with the energy policy NB Power hopes to move toward performance base regulation of the tariff to maximize the benefits to the stakeholders in New Brunswick. You are referring to the White Paper?

MS. MACFARLANE: Yes.

Q. - Let me see how I do here, Mr. Chairman. I believe Exhibit A-4 are the interrogatory responses. Page 484, Ms. MacFarlane, you will find your response to Saint John

Energy 11. Have you got that, ma'am?

MS. MACFARLANE: Yes.

Q. - You were asked in that question how the performance based tariff conforms to the market design committee's recommendations and having noted that there are no market design committee recommendations pertaining to the performance based aspect of the tariff, you refer to the White Paper and in particular you refer to section 3.1.6.1 of the White Paper, correct?

MS. MACFARLANE: Yes.

Q. - That is a section entitled Refinements to the Regulatory Regime and it does indeed include the two statements that you excerpted there. Do you say, Ms. MacFarlane, that the Board -- sorry -- that the province has directed this Board to adopt a performance base method of regulation?

MS. MACFARLANE: If I said that I certainly didn't intend to.

Q. - No. Because the policy says the province will direct the Board to adopt performance based method of regulation. Do you see that? It's a time sensitive question.

MS. MACFARLANE: Yes. I believe in the White Paper it's on the top of page 29.

Q. - You are referring to what is Exhibit JDI-3 in these proceedings which is the White Paper. Yes, you have it.

And you are referring to the top of page 29 and in particular -- what in particular are you referring to?

MS. MACFARLANE: It's the end of paragraph number -- the paragraph 1, the first paragraph. That was the quote I took, the province will direct the Board to adopt a light-handed performance base method of regulation.

Q. - And my question to you is has the province directed the Board to adopt a light-handed performance based method of regulation?

MS. MACFARLANE: I'm not aware that it has.

Q. - What do you understand would be the expression of that direction as and when it is given.

MS. MACFARLANE: I'm sorry. I'm not familiar with how the Board and the province work together.

DR. MORIN: It gives the Board a tremendous amount of latitude in terms of how it wishes to regulate NB Power. It can be free to adopt whatever style of performance base regulation it deems to be desirable, whether it's zones of reasonableness or price caps or sharing mechanisms or incentive returns, or whatever it may be. It's pretty --

Q. - What gives the Board that latitude?

DR. MORIN: I said it would give that latitude. That statement would give the Board a tremendous amount of latitude in the regime of incentive regulation that it chooses, that it deems appropriate for NB Power and the ratepayers.

Q. - I was trying to get this answer from Mr. Marshall and I didn't get a satisfactory one. What I am interested to know, Ms. MacFarlane, particularly since you have referred to it in your response to Saint John Energy 11, is that is there another step that the province has to take to give this direction, or does New Brunswick Power say that the White Paper is the direction?

MS. MACFARLANE: Correct me if I am wrong but I think the Board operates under legislation and there is a Public Utilities Board Act which presumably provides them with direction from the province and I understand that there is also recent legislation which gives them the opportunity to regulate or the responsibility to regulate tariffs, transmission tariffs. If there is -- if there are other mechanisms that provide direction to the Board I'm not aware of them, but you could certainly ask the Board.

Q. - So it's your understanding, is it, that this Board has the discretion to adopt or not to adopt the performance based method of regulation that has been proposed by the applicant?

MS. MACFARLANE: That's our understanding, yes.

Q. - Thank you. Turning back to your evidence, Ms.

MacFarlane, but don't put that other volume away, you say at line 21 to 23 of your evidence that Dr. Morin was engaged by the company to recommend a price cap system, the appropriate debt equity ratio for the deemed capital structure and appropriate rate of return on equity. Do you see that?

MS. MACFARLANE: Could you provide me with a page reference, please?

Q. - 1.

MS. MACFARLANE: Yes, I see that.

Q. - And I want to understand how it came to pass that a price cap regulatory framework got recommended. Now my understanding, Doctor, is that you were first contacted by New Brunswick Power in March of this year?

DR. MORIN: That's correct.

Q. - And you were contacted by way of having received, as I understand it, what amounts to a request for proposal?

DR. MORIN: Correct.

Q. - And that request for proposal invited a response on an assignment to prepare a report to support a recommended deemed capital structure, a rate of return and tax treatment for a transmission tariff --

DR. MORIN: That's correct.

Q. - -- is that your recollection?

DR. MORIN: That's correct.

Q. - And you responded on March 11th of this year expressing your interest in doing that work, correct?

DR. MORIN: Correct.

Q. - The request for proposal does not and did not, as I understand it, make any specific recommendation to performance based ratemaking?

DR. MORIN: Not specifically, but one has to view right of return as a very broad topic.

Q. - And when you wrote to Mr. Little on the 11th of March very early on in your letter you referenced a seminar that you conducted with Board members on the subject of performance based ratemaking, do you recall that?

DR. MORIN: Yes. This was not the New Brunswick Board. This was the Nova Scotia Board.

Q. - Right. Was there any particular reason why you mentioned performance based ratemaking in the first ten lines of your letter when the RFP hadn't even mentioned it?

DR. MORIN: It's a topic that is dear to my heart and I really believe in the benefits of performance based regulation for all stakeholders, and it's something that I have written a lot about. I do a national seminar in Washington, D.C., that deals extensively with performance based ratemaking. I have elaborated and participated in a lot of PBR regimes throughout United States and Canada and it's just a topic that is dear to me and that's what I do. So I obviously mentioned it.

Q. - What PBR regimes have you participated in in Canada?

DR. MORIN: Gas Metropol -- very extensive earnings sharing mechanism, the Hydro Quebec -- well, that is not official yet, so we will mark that one out.

The main one would be the CRTC's price cap regulation. I was the chief rate of return witness for all the Stentor companies, in other words all the Canadian telephone companies before the CRTC when we designed the price caps.

Q. - Okay. In any event, when your retainer was confirmed by Mr. Little on the 10th of April of this year, you were not at that time engaged on PBR matters, correct?

DR. MORIN: I was engaged on rate of return matters which to me encompasses a variety of things, including performance based returns.

Q. - Did you understand that you were going to write a report on PBR when you were retained in April?

DR. MORIN: I thought the focus would be on traditional rate of return in capital structure. And it evolved into a more flexible rate of return regime and eventually evolved into price caps.

Q. - And it evolved, as I understand it, at your first formal meeting with NB Power in Fredericton in early June?

DR. MORIN: Well, the exact genesis I don't know. But I think Ms. MacFarlane attended one of my national seminars in Washington, D.C.

And I do recall some interest on the part of PBR's in general. And we discussed it. And things evolved and led to the present proposal.

Q. - And in fact it was your idea that New Brunswick Power --

DR. MORIN: Well, I'm not going to take credit for price cap regulation as my idea, but --

Q. - I didn't suggest that price cap regulation was your idea. I suggested to you, sir, that New Brunswick Power's application for a price cap framework was your idea?

DR. MORIN: Well, it evolved. It was -- I told the company it was worthy of consideration. And we spent a lot of time talking about it and all the implications.

And at the end of the day everybody agreed that this was a good, desirable regime for all the stakeholders.

MS. MACFARLANE: Price cap regulation is not new. People from NB Power --

Q. - I didn't suggest it was.

MS. MACFARLANE: People from NB Power have contacts in the industry attending district conferences where the developments of PBR are discussed, et cetera.

When the business units were developed, one of the early exercises was to put in place key performance indicators, and as they have developed over time they have developed with the thinking that we would at some time move into performance based regulation, and we would need to be ready for it.

Q. - So when we are told in response to PUB supplemental 11 which is at page 107 of the volume that includes the supplementary interrogatories -- Mr. Chairman, I believe it is A-6, that --

CHAIRMAN: What was the page number again?

MR. SMELLIE: 107, sir.

Q. - When we are told that you, Dr. Morin, suggested the price cap regulatory framework at your first formal meeting with NB Power officials, that really means that it evolved?

DR. MORIN: Well, I think this was the culmination of a lot of soul-searching and thinking on the part of the company. And it evolved over time.

The company is quite aware of PBR regimes throughout the world and through its industry association contacts and meeting with trade peers.

And it is not surprising that this particular company would opt for PBR, especially -- this is a golden opportunity to do this, by the way. Here we are, a brand-new company going out to brave the new world on its own stand-alone merits, an ideal opportunity to put in place a PBR.

Q. - I guess we will have to see what the legislation says, Doctor, right?

DR. MORIN: Well, I'm not a lawyer. But I don't think the legislation is inconsistent with PBR.

Q. - Well, you made reference to a brand-new company?

DR. MORIN: The brand-new company, if -- well, if and when this happens. But even if it wasn't, it is a great opportunity to embrace performance based regulation, for all the reasons I discussed in my presentation this morning.

Q. - There is nothing sinister in this, Doctor. Your evidence at page 7, line 5 says that you have been asked to recommend a price cap regulatory framework. You were asked to recommend a price cap framework?

DR. MORIN: Well, I was asked to delineate the details, the institutional implementation details of the price cap and the parameters of the price cap.

Q. - And you were asked to recommend it by New Brunswick Power after you recommended it, correct?

DR. MORIN: I'm recommending price cap regulation for this company. Because I think it is the right way to go.

CHAIRMAN: I think it is a good time to take a 15-minute break.

MR. SMELLIE: Sure.

(Recess)

CHAIRMAN: Go ahead, Mr. Smellie.

Q. - Thank you, Mr. Chairman. Ms. MacFarlane, is it the case that as taxpayers New Brunswickers are the owners of New Brunswick Power?

MS. MACFARLANE: I suppose so.

Q. - That is what Mr. Skalling says in today's newspaper.

MS. MACFARLANE: Okay.

Q. - Do you agree with it?

MS. MACFARLANE: The -- to the extent that the government is the owner of NB Power and the government is there representing the people of New Brunswick, yes.

Q. - And as energy consumers New Brunswickers are the ratepayers of New Brunswick Power, correct?

MS. MACFARLANE: That's correct. They are not the sole users or ratepayers of New Brunswick Power but they are ratepayers, yes.

Q. - And I think, Dr. Morin, you were talking before the break about the golden opportunity that this case presents. Ms. MacFarlane, I think we have covered this, but it has been a number of years since New Brunswick Power was before this Board on a rate application, correct?

MS. MACFARLANE: That's correct.

Q. - Has there been any reason in your view why the opportunity that Dr. Morin refers to could not have been pursued before now?

MS. MACFARLANE: The opportunity he has referred to is specifically about the transmission tariff and it couldn't have been assumed because we didn't have a separate transmission tariff. We were dealing with the bundled rate regime.

Q. - I thought he was referring to performance based ratemaking?

MS. MACFARLANE: In that context performance based ratemaking is part of a performance measurement regime and NB Power has been using a part of that rate setting process in the sense that we do have a legislative permission type of regulation on our rates. They are disconnected from costs. And we internally have been setting for ourselves performance indicators to measure our own performance to make improvements in that way.

Q. - There is no reason you couldn't have applied for the performance based regime that you are applying for today last year or the year before, correct?

MS. MACFARLANE: We could have applied for it, yes, but we have been taking advantage of proxies for it to meet a similar end.

Q. - At page 2 of your evidence, question 4 at line 7 is why is New Brunswick Power proposing a rate based tariff as a starting point. Do you see that?

MS. MACFARLANE: Yes.

Q. - What do you mean by the phrase rate based tariff?

MS. MACFARLANE: I am making reference to the comment that Dr. Morin made earlier and has made in his evidence that you have to start somewhere. You have to use a rate of return framework in order to have a starting or a going in point. And from that -- that's what that reference is intended to mean.

Q. - And the proposal I think as we all know is for an initial three year period, correct?

MS. MACFARLANE: That's correct.

Q. - And you will agree with me then that it's of prime importance to get the rate base and the associated revenue requirement correct, do you agree with that?

DR. MORIN: Yes. I agree that for purposes of going in, of starting the clock, so to speak, one needs an initial set of tariffs based on traditional rate based rate of return style of regulation.

Q. - And it is important to get the rate base and the associated revenue requirement, is it not?

DR. MORIN: Yes, the Board has extensive experience in that regard. And it has done a good job in the past. And there is no reason to think that it shouldn't in this case.

Q. - At line 16 to the end of page 2, you provide some comments as to the rationale for a deemed capital structure and market base return on equity, Ms. MacFarlane. And I have some questions for you on that evidence. The construction of the transmission system you say was undertaken under the terms of the Electric Power Act which established an obligation on the part of New Brunswick Power to serve. Do you see that?

MS. MACFARLANE: Yes.

Q. - That obligation to serve came with a monopoly franchise throughout the province?

MS. MACFARLANE: That's correct.

Q. - And that monopoly, as I understand the evidence, is expected to continue for New Brunswick Power Transmission?

MS. MACFARLANE: I believe so, yes.

Q. - You expect that New Brunswick Power Transmission will inherit the New Brunswick Power Transmission franchise?

MS. MACFARLANE: I believe so, but I have not seen the legislation, if that's what you are asking me.

Q. - I don't think you need to turn it up but your response to Saint John Energy 12 concludes with the words "New Brunswick Power currently has a province wide franchise for transmission under the Electric Power Act and it is expected that NB Power Transmission would inherit that franchise".

MS. MACFARLANE: Mmmm. Yes.

Q. - You are not changing that answer?

MS. MACFARLANE: I'm not changing the answer but as I say I have not seen the legislation.

Q. - You refer in lines 18 and 19 to low cost government guaranteed borrowings, and I take that to be a reference to the provincial guarantee of New Brunswick Power's debt?

MS. MACFARLANE: That's correct.

Q. - That is a guarantee that New Brunswick Power's ratepayers have paid for pursuant to the fees regulation enacted under the Electric Power Act?

MS. MACFARLANE: That's correct.

Q. - You refer at line 19 to the utility's robust transmission network. Do you see that?

MS. MACFARLANE: Yes.

Q. - What does that mean, robust transmission network?

MS. MACFARLANE: The reference is specifically to the fact that there is a 345 KV ring around the province and strong interconnections to jurisdictions outside of New Brunswick. That improves our reliability and supports our ability to provide reliable service to industry. We have a very strong industry base, particularly in the northern part of the province.

Q. - My understanding is that at the peak the transmission system of New Brunswick Power is -- or the capacity of that system is used as to about 75 percent, is that your understanding?

MS. MACFARLANE: I'm sorry, Mr. Smellie, I can't confirm that.

Q. - Is that your understanding, Dr. Morin, or do you know?

DR. MORIN: Would you repeat that please? I'm writing down your question.

Q. - My understanding is that the capacity of the transmission system at the peak is used as to about 75 percent?

DR. MORIN: I have no opinion on that, sorry.

Q. - Does robust transmission network mean, Ms. MacFarlane, that the transmission system includes sufficient facilities to permit all possible transactions to take place?

MS. MACFARLANE: At the current time, yes. It speaks specifically, as I said, to the 345 KV portion of the system. If robust means in good maintenance order it does not refer to the smaller voltage lines, the 138 and the 230 KV where we indicate that those sections of the system are older and requiring higher maintenance costs.

Q. - Does robust transmission system or transmission network mean that the system is over built?

MS. MACFARLANE: No, it does not. As I believe is indicated in the evidence, the fact that NB Power supports a large industrial base requires that level of robustness and the fact that we have interconnections -- many more interconnections than other utilities relative to our size, supports reliability in the province and reduces our requirement for reserves. It also provides us with export opportunities that go back to the benefit of ratepayers.

Q. - It is a system, as I understand it, that has a low cost of losses?

MS. MACFARLANE: You are really getting in beyond my scope. You are getting into the operating panel's.

Q. - Is it your understanding that the system suffers from congestion?

MS. MACFARLANE: I do not believe the system suffers from congestion.

Q. - And you make reference to export sales?

MS. MACFARLANE: Yes.

Q. - The rewards that you referred to in line 19, as I understand it by way of margins from export sales, have been significant, have they not?

MS. MACFARLANE: Yes.

Q. - Beginning at line 22, as I read this paragraph, it is your evidence that the open access transmission tariff may disadvantage in-province customers, is that fair?

MS. MACFARLANE: If it is not properly constructed it could, that's true. I think the point of that paragraph though is more that it would disadvantage not only in-province ratepayers, it would also disadvantage in-province residents to the extent that they are the owners who originally took on the risk.

Q. - Yes. Your evidence is that the people of New Brunswick are to be compensated for risks taken on their behalf to construct the assets?

MS. MACFARLANE: That's correct.

Q. - That is the point you have just made to me?

MS. MACFARLANE: Yes.

Q. - The assertion, as I read it -- excuse me one second. Could I get you to turn up Saint John Energy 59. This is at page 536, Mr. Chairman. Exhibit A-4, Ms. MacFarlane.

Now admittedly, Ms. MacFarlane, this is a reference to Mr. Porter's evidence but the answer refers to your evidence just where we were, page 2, lines 25 to 27.

And what I'm interested in is the second last sentence

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MS. MACFARLANE: Yes.

Q. - Is this hearing about generation assets?

MS. MACFARLANE: The hearing is not about generation assets, but the utility has been operated and investments have been made on the basis of an integrated operation. Generation -- pardon me -- transmission has been built to support generation. The benefits of that generation and the fact that there is transmission access into the US and the two have been operated as if they are inextricably entwined and investment decisions in the past have been made on that basis.

Q. - But to be clear, if we turn back to your evidence at page 2, you are arguing that all users of the system should pay full financial returns for access to the transmission system to ensure that the people of New Brunswick are compensated for risks taken on their behalf to construct the assets. But I -- in conjunction with that, what I wish you to confirm to me, and I think you have, is that the competitive disadvantage concerns the generation assets that are owned by the people of New Brunswick, correct?

MS. MACFARLANE: It would also concern the transmission assets to the extent that the tariff does not compensate the investors behind it with appropriate returns. The transmission assets have been built with a purpose and the investment decisions both of transmission assets and generation assets in the past have been made coincidentally, one to support the other to get an overall benefit to the investor who was in this instance the people of the Province of New Brunswick.

Q. - Thank you.

MS. MACFARLANE: Generation doesn't do you much good unless you can get it somewhere.

Q. - You are not by this evidence at lines 22 to 27 suggesting, are you, that domestic ratepayers of New Brunswick Power have acquired via their past use of the transmission system and the payment of imbedded transmission tolls some right to compensation, are you?

MS. MACFARLANE: I'm referring to investor compensation.

Q. - And to be clear, what is the risks -- or what is the risk that you are referring to in this portion of your evidence?

MS. MACFARLANE: That is the subject of a couple of interrogatories, one of them being PUB-3. It refers to the -- it refers specifically to the fact that third party users now have the right to reserve transmission service on a non-discriminatory basis, and to that end some of the benefits of the system will no longer accrue to those who made the investment in the system.

Q. - Let's unpack that. Third party users can access the system and pay for it, correct?

MS. MACFARLANE: Assuming there is a properly constructed tariff, yes.

Q. - Well they will pay rates for the use of the system.

MS. MACFARLANE: They will pay rates for the use of the system, yes.

Q. - The benefit of the payment of those rates inures to the benefit of the taxpayers of New Brunswick?

MS. MACFARLANE: Yes, but it had -- it had ought to be constructed in a way that -- in such a way that all of the costs of that investment and the ownership of it are covered. It has to be a properly constructed tariff to ensure that the risks taken on by the investor are properly compensated.

Q. - And what do you mean by full financial concerns at line 26?

MS. MACFARLANE: I'm referring to the total cost of ownership, for example, as described by Dr. Morin in his presentation. The operating costs, the cost of capital including a return to investors, and taxes -- payment in lieu of taxes again in support of the assets.

Q. - You are not suggesting, are you, that those who have used the transmission system, or will have used it prior to April 1st of next year, have been getting some sort of a free ride, are you?

MS. MACFARLANE: I'm suggesting that it's a different world. The world that we are in now is -- pardon me -- the world we were in prior to open access is a closed loop system. All of the benefits accrue to the people who make the investment, and once the system is opened up and others have the opportunity to use it they should be paying for it, and if the tariff is not properly constructed to cover all of the costs then they will benefit and the investor being the people of the Province of New Brunswick will lose.

Q. - And the long-term disadvantage that you refer to at line 24, can we agree that that involves the risk of New Brunswick Power potentially losing export market share because it will no longer have a monopoly over the use of its transmission system?

MS. MACFARLANE: Well that is one interpretation of it, yes.

Q. - Thank you. That long-term disadvantage I suggest to you is a matter of speculation at this point.

MS. MACFARLANE: I think there are a number of areas where one could foresee that there would be a disadvantage in the future unless investors are properly compensated.

Q. - Do you agree with me that whether New Brunswick Power loses market share -- loses export market share by reason of the fact that it will no longer have a monopoly over the use of its transmission system, sitting here today is a matter of some speculation?

MS. MACFARLANE: No, I don't agree with that. New Brunswick Power --

Q. - You therefore think that New Brunswick Power will definitely lose export market share?

MS. MACFARLANE: NB Power has a competitive cost structure such that it is able to export in certain circumstances, and to the extent that other competitors who may be able to use the system block transmission access for generation through bids on the Oasis, then yes, New Brunswick Power would lose advantage.

Q. - Thank you. And as I understand it, whether it is a matter of opinion or fact, what you want this Board to approve is the inclusion in New Brunswick Power transmission's revenue requirement of a return on equity and a payment in lieu of taxes in order to mitigate the change from a closed to an open transmission system, is that correct?

MS. MACFARLANE: That's one of the primary drivers, yes.

Q. - Mr. Marshall told me when he was here, Ms. MacFarlane, and I will ask you as well, does New Brunswick Power subscribe to the principle of cost causation?

MS. MACFARLANE: Cost causation in what regard? In regards to rate setting or --

Q. - Yes.

MS. MACFARLANE: In regards to rate setting. That is not the structure we operate under today.

Q. - Explain that to me, please?

MS. MACFARLANE: Today our rates are not directly linked to our cost.

Q. - What do you understand by the phrase cost based rates?

MS. MACFARLANE: What do I understand by that? I understand that the intent of rates is to ensure the cost recovered.

Q. - Thank you. Can we agree, Ms. MacFarlane, that where a utility is not obliged to incur a cost in accordance with either a legal or regulatory requirement, or in the normal course of business, that it should not seek to recover such a cost from its ratepayers?

MS. MACFARLANE: I wouldn't necessarily agree with that.

Q. - Why not?

MS. MACFARLANE: I think you are indicating that unless there is a legal requirement to make a payment out of the utility -- is that what you are referring to?

Q. - What I'm putting to you is the general proposition that unless the utility is obliged to incur a cost, that it shouldn't seek to recover that cost from its ratepayers. Let's leave the reason for the incurrence to the side for the moment. The simple proposition is unless the utility is obliged to incur a cost, it should not seek to recover that cost from its ratepayers.

MS. MACFARLANE: I'm sorry, Mr. Smellie. We are having a difficult time understanding what you are trying to ask.

DR. MORIN: Tariffs should cover all inescapable costs of providing service, including opportunity costs.

Q. - Let me try it this way, Ms. MacFarlane. New Brunswick Power is a crown corporation and will remain so, so far as you know?

MS. MACFARLANE: So far as I know, yes.

Q. - As will New Brunswick Power Transmission as and when it is created?

MS. MACFARLANE: That's correct.

Q. - I suppose I should say if, as and when it's created. And accordingly, New Brunswick Power is exempt, as I understand it, from the payment of federal and provincial income and capital taxes, correct?

MS. MACFARLANE: As a crown corporation it is exempt from payment of those in the new regime. It certainly has been indicated by the Minister that there would be a requirement to make payments in lieu of taxes in order to put the various subsidiary companies on a level playing field.

Q. - New Brunswick Power does not today recover in its rate corporate income and capital taxes, correct?

MS. MACFARLANE: That's correct.

Q. - The obligation, as I understand it, that New Brunswick Power seeks through the tariff to impose on its transmission ratepayers by way of a payment in lieu of taxes is some 9.8 to $10 million a year, correct?

MS. MACFARLANE: I would have to confirm the number but it's in that vicinity, yes.

Q. - Which New Brunswick Power Transmission, as I understand it, proposes to remit to the Government of New Brunswick?

MS. MACFARLANE: That's correct.

Q. - Are you able to point me to the legal requirement for New Brunswick Power Transmission to pay to the Government of New Brunswick an amount equal to the federal and/or provincial income in capital taxes which New Brunswick

Power Transmission is exempt from paying as a crown corporation

MS. MACFARLANE: Again we are in that difficult territory. We submit the tariff on the basis of a deemed capital structure. We submit the tariff on the basis of a full recovery equivalent to a privately held investor based corporation which would include the payment of taxes. Since the time that we filed the evidence the Minister has announced -- the Minister of Energy has announced that in the new structure, NB Power will be required to make payments in lieu of taxes. So the legislation that is pending that will become effective April 1st, will include a requirement, a legislative requirement, as we understand it, to pay those taxes. That is not why we put it in the tariff. We put it in the tariff because we believe it's a cost that should be recovered and returned to the original investors. But the reality is that we will be paying it.

Q. - So you don't know whether that requirement is going to be in place before the Board decides this application?

MS. MACFARLANE: The requirement as I understand it will not be in place until the new companies are formed which is April 1st, 03. That's also the date that we proposed the tariff take effect.

Q. - Is it your position, Ms. MacFarlane, that unless the requirement to recover a payment in lieu of taxes in transmission rates is in legislation, that this Board should not permit you to recover it?

MS. MACFARLANE: No. That's not my position. That's not NB Power's position. We believe that that -- that users of the system should be paying full costs as if it was a privately held system. And the benefits of that should -- to the owners who are the people of the province of New Brunswick. To put it on a level playing field it would mean that full costs would include both taxes and a return on investment, a market based return on investment.

Q. - One of the reason that you cite for the recovery of a payment in lieu of taxes from ratepayers, is that such a payment is integral to the deemed commercial -- deemed commercial structure which New Brunswick Power wants this Board to approve. Correct?

MS. MACFARLANE: Yes.

Q. - You have been operating as a or on a commercial basis in accordance with sound business principles without paying taxes or any amount in lieu thereof since 1993. Correct?

MS. MACFARLANE: NB Power does not pay provincial or federal taxes, nor do we make payments in lieu of taxes.

Q. - Can you point me, Ms. MacFarlane, to a commercially driven entity in the private sector that volunteers the payment of capital and income taxes?

MS. MACFARLANE: Mr. Smellie, our proposal is that the tariff be based on a situation where in fact full costs are recovered as if it was a commercial entity. And commercial entities are included in their cost, a requirement to pay taxes.

Q. - So the answer to my question is no, or do you remember it?

MS. MACFARLANE: I'm sorry, I don't remember the question.

Q. - Are you able to point me to a commercially driven entity in the private sector that volunteers the payment of capital and income taxes?

MS. MACFARLANE: Well, in the absence of legislation there might be some that would volunteer. But since legislation exists, we don't know whether they are doing it voluntarily or not do we.

Q. - Do you know of any utilities in Canada that collect taxes from their ratepayers without a legislative obligation to do so?

MS. MACFARLANE: I believe Ontario collects payment in lieu of taxes.

Q. - Without an obligation to do so in legislation?

MS. MACFARLANE: Actually theirs is in legislation, you are right. Yes.

Q. - Another reason -- so aside from Ontario Hydro, which you have no conceded to me does have a legislative obligation, do you know of any other?

MS. MACFARLANE: I know that Hydro Quebec collects payments in lieu of taxes and remits them to the provincial government. I'm sorry. I don't know whether that's a legislative requirement or not.

Q. - Any others?

MS. MACFARLANE: Those are two that I'm aware of.

Q. - Another reason that you offer for the collection of a payment in lieu of taxes from transmission ratepayers is to place New Brunswick Power Transmission on a level playing field in a competitive market. Is that correct?

MS. MACFARLANE: Yes.

Q. - I think you have already agreed with me that Transmission is expected to remain a monopoly franchise in the Province?

MS. MACFARLANE: It is. But the competitive element there is the one Dr. Morin referred to in his presentation. It may be a monopoly as it goes to provision of transmission services. But it isn't in a competitive market for investments, for labour, for materials, for any of those things. But particularly for investment capital.

Q. - What has that got to do with being on a level playing field?

MS. MACFARLANE: Because we have to have integrity in our financial structure, particularly in our balance sheet in order to compete with other investment opportunities for attracting -- attracting capital to NB Power.

Q. - Well, let's go back to basics here. As I understand it, there aren't going to be any other transmission entities that team New Brunswick Power Transmission is going to be playing against on this field. Correct?

MS. MACFARLANE: As it goes to transmission services, that is correct. As it goes to attraction of capital, which is critical in a capital intensive industry like Transmission, that is not correct. They will be competing with any number of other players in the market to attract capital.

Q. - Excuse me, Mr. Chairman. How does the collection from transmission ratepayers of a payment in lieu of taxes help, or for that matter hinder, New Brunswick Power Transmission in seeking to attract capital?

MS. MACFARLANE: Certainly one way that it does it is it makes our financial performance comparable to other entities of like risk. So from that perspective we are on a level playing field as it goes to those -- those assessments.

Q. - Isn't it an entirely -- well, let me put it this way. Isn't it simply a flow through?

MS. MACFARLANE: It's a flow through in the sense that we collect it from our customers and we remit it to the Province of New Brunswick, yes.

Q. - And whose capital are you trying to attract?

MS. MACFARLANE: We are trying to attract in the case of the transmission tariff as applied for it's irrelevant who the investor would be. We are competing in the deemed -- in the tariff with a deemed capital structure. We are competing for capital, and the nature of the investor is irrelevant.

Under the new legislation we will be competing in the debt markets, in the bond markets.

Q. - Thank you.

MS. MACFARLANE: Without a provincial guarantee.

Q. - Another reason that is offered for recovering a payment in lieu of taxes from transmission ratepayers is to help mitigate the loss of export and wheeling benefits of a closed transmission system, correct?

MS. MACFARLANE: Yes.

Q. - In my world, Ms. MacFarlane, the word "mitigation" implies that some damage has been done. And I want you to tell me what damage you see having been done which justifies mitigating a supposed loss of export and wheeling benefits?

MS. MACFARLANE: I don't believe the word as used in the testimony has a legalistic sense to it. I think it's a lay sense. And as we discussed earlier, in the closed loop the owners of the system being the investors are also the beneficiaries of all of the returns of that by ensuring that in-province customers receive all the benefit of the transmission system and it's investments. That's no longer the case when third parties users can have it in the absence of a properly constructed tariff that ensures full cost recovery is returned to the investor.

Q. - If it should transpire, Ms. MacFarlane, or to the extent that it does not transpire that the generation assets owned by the people of New Brunswick do not suffer competitive disadvantage in the three year period for which this tariff will be in place, that is to say there is not competitive generation -- are you with me so far?

MS. MACFARLANE: Yes.

Q. - Will the rates whose methodology has been fixed by this Board for three years be just and reasonable?

MS. MACFARLANE: I believe so, yes.

Q. - Why?

MS. MACFARLANE: In Dr. Morin's testimony he refers to the concept that an investor. regardless of who they are, should receive full returns. And they should receive returns that compensate them both for opportunity that they have forgone and for time, regardless of who the investor is. In this instance the investor happens to also be an owner of generation assets that is potentially at risk. But the reality is that regardless of who the investor is we believe they should receive full returns from third party users.

Q. - At page 3 of your evidence, the first question on the page is, do you expect the deemed capital structure to change over time? And the answer is no.

Are you saying that there cannot be any change in the deemed capital structure over time?

DR. MORIN: If the price --

Q. - Deemed capital structures change all the time, Doctor, don't they?

MS. MACFARLANE: Yes, they do.

DR. MORIN: No, they do not. Deemed capital structure is ascribed by the regulator specifically for rate making purposes. It is not something that changes in mid-stream unless the Board orders it to be --

Q. - I.E. it be changed?

DR. MORIN: It can change at the next hearing in three years, yes.

Q. - Right.

DR. MORIN: In light of new developments on the business risks it can impute more or less debt than it thought was relevant three years before that. But it cannot change for the next three years once the Board makes a decision on the deemed capital structure.

Q. - Is that the context in which you gave the answer, Ms. MacFarlane?

MS. MACFARLANE: I would suggest in having reread it over the past few weeks that it perhaps was not as carefully worded as it might have been.

Q. - So to change over the next three years might be better?

MS. MACFARLANE: That's right. Unless the Board calls for it to change in the interim.

Q. - At line 15 on page 3 you are asked the question, how do the NB Power recommendations affect the way the tariff is developed? And you say in response to that question, that your proposal establishes revenue requirements based on costs attributable to an asset base for transmission services. Do you see that?

MS. MACFARLANE: Yes.

Q. - Is it your understanding that the establishment of the revenue requirement adheres to FERC's transmission pricing policy?

MS. MACFARLANE: It's my understanding.

Q. - And the revenue requirement for New Brunswick Power Transmission must also comply with all applicable New Brunswick legislation. Do you agree with that?

MS. MACFARLANE: I would agree with it to the extent that there is applicable legislation.

Q. - Of course. And the determination of revenue requirements fundamentally requires the determination of an appropriate asset base, correct?

MS. MACFARLANE: That's correct.

Q. - You wouldn't, for example, wish to include any assets in the rate base that aren't necessary for the provision of transmission services?

MS. MACFARLANE: That's correct. We are getting into Panel C evidence.

Q. - Not very far.

MS. MACFARLANE: Okay.

Q. - Your Panel B evidence actually gets us into Panel C evidence, so --

MS. MACFARLANE: Yes.

Q. - And you would agree with me it's important to ensure that the operating and finance costs are, indeed, attributable to transmission services and not others, correct?

MS. MACFARLANE: Yes.

Q. - And from a ratepayer's perspective you would agree with me that it's important to get these things correct, because you want the relief you seek, as Dr. Morin and you have just told me, for a period of three years? Correct?

MS. MACFARLANE: That's correct.

DR. MORIN: Interestingly enough that would no longer be true under price cap regulation, where the system works independent of the company's cost and productivity.

Q. - Subject to getting it right going in, Doctor, correct?

DR. MORIN: But subject to going in, tariffs being determined properly. I agree with you.

Q. - Yes. You keep saying that, as you said this morning, it is not a panacea, but it works very well once you get it up and running?

DR. MORIN: That's correct.

Q. - Making it all the more important to get it right before you get it up and running?

DR. MORIN: Yes. But this Board has been doing that for decades.

MS. MACFARLANE: And it is also the case that there are a number of safeguards in the recommended PBR structure such that any unforeseen exogenous factors affecting the utility can be reviewed.

There are other things that would cause the Board to be able to review the tariff during that three-year interim period. There are a number of safeguards built in in the event that one does not get it perfectly correct going in.

Q. - That is no reason not to try though?

MS. MACFARLANE: That is absolutely no reason not to try.

DR. MORIN: But this Board has been doing this successfully for decades. So there is no reason --

Q. - They haven't done it since 1993, Doctor, correct?

DR. MORIN: Well, they have been doing it for a long time. They have experience. They know about cost of service. They know about allocating cost to classes of customers. They have been doing this for years. It is no different here.

Q. - Thank you. Because we are not perfectly knowledgeable sitting here today, Ms. MacFarlane, and in particular because we don't know what the legislation is going to say, if there is not legislation that obliges you to collect from transmission ratepayers a payment in lieu of taxes, can you tell me what you intend to do with the money you nevertheless collect?

MS. MACFARLANE: That has -- a decision has not been made on that between the owner and the company.

Q. - Thank you.

MS. MACFARLANE: The reality, Mr. Smellie, is that I don't think a decision on that will have to be made, because the minister's statement says that the legislation will require the payment to the Province.

Q. - You are putting an awful lot of faith on ministerial statements on the floor of the legislature, Ms. MacFarlane.

Doctor, your evidence which is part of exhibit A-2 recites amongst other things your academic career including various positions held at a number of universities. And these include McGill and Drexel?

DR. MORIN: Correct.

Q. - Can you tell me why Drexel and McGill aren't mentioned in exhibit RAM-1, page 2?

DR. MORIN: When I was at the Wharton School as a doctoral student I was teaching classes at Drexel University while I was a full professor at Université de Montreal. Ecole des aux Etude Commerciale, which is the business school.

We had a joint Ph. D. program at McGill and at University of Montreal. And I was teaching in that program. So I fitted in under the nomenclature of

University of Montreal instead of McGill in the résumé.

Q. - You refer at page 2 and 3 of your evidence to three entities. At line 25, 26 you refer to Financial Research Foundation of Canada?

DR. MORIN: Yes.

Q. - At line 3 of page 15 -- I'm sorry, line 15 of page 3, excuse me, you refer to the Financial Research Institute of Canada. And in line 16 you refer to the Canadian Finance Research Foundation.

DR. MORIN: Yes.

Q. - Those are all separate entities?

DR. MORIN: All spawned from the same genesis. Financial Research Institute or FRI financed the Financial Research Foundation of Canada which sponsored academic research in Canadian capital markets.

And the third organization was also a spinoff from that same initial one, FRI.

Q. - Over the course of your career, sir, you have offered testimony before the National Energy Board, the CRTC and a number of provincial regulatory tribunals?

DR. MORIN: Yes. I counted about 45 states and provinces and three different countries. And I guess when I get to 50 states and 10 provinces I will retire.

\Q. - You have offered testimony before the National Energy

Board and --

A. Oh yes.

Q. - -- the CRTC?

A. Yes, sir. Numerous times.

Q. - From your curriculum vitae it is fair of me to say, is it, sir, that the vast majority of your appearances and consulting work has concerned US matters, for example Hope Gas as one?

DR. MORIN: I would say my career has been split about 60/40 between US 60 and Canada 40.

Q. - Thank you.

DR. MORIN: I must say that the burden of Canadian rate cases far surpasses that of US rate cases, if you want to put it in terms of hours and days and data requests and so on and so forth. A different environment. So it is about 60/40.

Q. - And in Canada on electric utility matters, as I understand your c.v., you have offered testimony in cases involving what is now EPCOR, Edmonton Power?

DR. MORIN: Correct. Edmonton Power a long time ago.

Q. - Newfoundland Light and Power?

DR. MORIN: Yes.

Q. - ATCO, what was then Alberta Power?

DR. MORIN: It was then Alberta Power, yes.

Q. - And Hydro Quebec and Hydro Quebec Transmission?

DR. MORIN: Yes. Trans Energie and of course their distribution activities and their generation activities as well.

Q. - And in addition to this matter, you as I understand it have currently offered testimony which is pending before provincial regulators concerning Hydro Quebec Distribution and Newfoundland Power, am I right?

DR. MORIN: That is correct. Distribution.

Q. - Hydro Quebec Distribution?

DR. MORIN: Correct.

Q. - And Newfoundland Power?

DR. MORIN: Yes. But Newfoundland Power is a vertically integrated company.

Q. - Yes. It is your view that New Brunswick Power Transmission will have a comparable -- or has a comparable risk profile to that of natural gas transmission utilities such as Trans Canada Pipelines Limited?

DR. MORIN: They are in the same risk class. Not to put too fine a point on it, you can't subdivide the risk classes, it's a finer sub, sub, sub, finer classifications of risk. But broadly speaking they are in the same risk class.

Q. - Trans Canada Pipe is one of the natural gas transmission utilities that you use in one of your proxy groups to determine beta for New Brunswick Power Transmission?

DR. MORIN: Yes. Not too many that are publicly traded that offer meaningful historical data and that is certainly one of them.

Q. - And your appearances before the National Energy Board have been on behalf of Trans Quebec Maritimes Pipeline?

DR. MORIN: Yes.

Q. - And those appearances began in 1988 and ran through 1994?

DR. MORIN: Yes. All the way through the generic -- the famous generic proceeding in '94.

Q. - Have you appeared before the National Energy Board since that time, sir?

DR. MORIN: No. Because they have abandoned traditional rate of return regulation and went to a formulaic, sort of automatic formula type of regime.

So there have been very, very, very, very few if any cases since then, except the one last year to review the whole thing.

Q. - When you say review the whole thing --

DR. MORIN: The whole formula approach to determining ROE.

Q. - For Trans Canada Pipelines?

DR. MORIN: For all the pipelines. But for Trans Canada specifically.

Q. - Your evidence, sir, makes a number of references to a publication known as the Journal of Finance?

DR. MORIN: Yes.

Q. - There are further references in your c.v., for example at page 16 of 19, to the Journal of Finance in which I see you have been published in the past?

DR. MORIN: Yes.

Q. - You will agree with me, sir, that this is a reliable and leading journal in the area of finance?

DR. MORIN: Yes. The Journal of Finance is one of the two or three or four prestigious scholarly journal in our -- in my profession.

Q. - And you will agree with me that papers that are published in the Journal of Finance undergo a thorough refereeing and review process?

DR. MORIN: Yes, they do.

Q. - And we can agree, sir, that there are other such leading journals of finance such as the Journal of Empirical Finance and the Journal of Financial Economics?

DR. MORIN: The latter one certainly is probably the most prestigious. The first one you mention is -- would not be in the same category.

Q. - Is it a peer review journal?

DR. MORIN: It is a peer review. But it is just not in the same league as the second one you mentioned.

Q. - And we can agree, sir, can we, that in the field of economics the same may be said of the American Economic Review?

DR. MORIN: That is a very, very, prestigious journal indeed.

Q. - Journal of Political Economy?

DR. MORIN: Very much so. I agree.

Q. - Econometrica?

DR. MORIN: Yes.

Q. - My point in all of that, Doctor, is to see if you will agree with me that the gold standard in sound objective research in both finance and economics is publication in such leading journals?

DR. MORIN: Yes. And generally research and in textbooks and monographs.

Q. - You are not, or are you -- I guess you are suggesting to me that the publication in a textbook is the same thing as publication in a peer review journal?

DR. MORIN: Well, I don't know how you judge a professional in finance. But I would certainly judge it on the merits of research, number 1, number 2 on the merits of pedagogy, as evidenced through very, very popular textbooks, and also ability to do consulting work, to translate your knowledge into the real world. So those are the three attributes of a professional in my field.

Q. - All right, sir. The types of journals that we have been reviewing, you will agree with me, sir, from time to time publish innovative thinking and major breakthroughs in economics and finance?

DR. MORIN: Yes. Most of -- new paradigms initially emerge as embryonic articles in such journals, yes.

Q. - Indeed some authors have gone on to be or have been awarded Nobel Prizes for their work?

DR. MORIN: Absolutely. I can mention quite a few. But in the last decade or so most of the Nobel Prize winners in Economics have been finance people.

Q. - And the list of publications that you provide for us on page 16 of 19 of your exhibit RAM-1, Doctor, is it complete? I assume it is.

DR. MORIN: To the best of my knowledge. It is not something that I redo very often. But it is fairly complete, yes.

Q. - Would you agree with me, Doctor, that grants are a meaningful indicator of serious research?

DR. MORIN: Yes. Somebody is putting their money where their mouth is by giving you a 20', 50', $100,000 grant to conduct research. It is asymptomatic of quality and trust and credibility and productivity of future research.

Q. - And the list of research grants which appears on page 18 and 19 of your exhibit RAM-1, I take to be complete, sir?

DR. MORIN: Yes, to the best of my knowledge.

Q. - Your evidence, Doctor, contains a number of references to studies in which you say you have performed?

DR. MORIN: Yes.

Q. - For example page 10, line 16 refers to cost of capital studies?

DR. MORIN: Yes.

Q. - Page 38, line 22 and page 59, line 10 refers to risk premium studies?

DR. MORIN: Yes.

Q. - Page 44, lines 1 to 5 refers to your examination of hundreds of regulatory decisions?

DR. MORIN: Yes, sir.

Q. - Page 47, line 25 refers to a DCF risk premium study?

DR. MORIN: What is the question? The answer is yes.

Q. - Have any of those studies --

DR. MORIN: But I'm not --

Q. - -- have any of those studies been published in a leading peer review journal, Doctor?

DR. MORIN: No. They are not those kinds of studies. Those are studies in the context of regulation, in the context of expert testimony. These are studies that are used over and over that are fairly generic in nature that can serve several purposes in a rate proceeding.

Most of them are summarized or contained or referred to in my 600 page textbook entitled Regulatory Finance.

Q. - Let's go back and talk a little bit about your appearances before the National Energy Board, Doctor.

Maybe Ms. Legere could pass out -- I should say something else. Maybe Ms. Legere could pass out the next exhibit, which should be, Madame Secretary, the NEB's Reasons for Decision in RH-2-88. It is by way of an excerpt, Mr. Chairman.

Do you have that, Doctor?

DR. MORIN: Yes. I have it in front of me. After building me up so well I knew the boom was going to come down, so here we go.

CHAIRMAN: Mark that as an exhibit?

MR. SMELLIE: That would be fine, Mr. Chairman.

CHAIRMAN: JDI-8.

Q. - This case involved, Doctor, an application by TQM for new tolls for 1989 and 1990?

DR. MORIN: Correct.

Q. - And in its application TQM sought to change its deemed capital structure from 25 to 30 percent?

DR. MORIN: Correct.

Q. - And in particular it wanted that change to begin at or about the time of a debt refinancing that was going to take place in November of 1990. Is that your recollection?

DR. MORIN: That is the exact context of that case.

Q. - TQM also asked the National Energy Board to change its -- to increase its return on equity from 13.75 percent to 14 and a half percent for 1989 and to 14.75 percent for 1990?

DR. MORIN: Correct.

Q. - And TQM asked the National Energy Board to do that in particular on the strength of your evidence?

DR. MORIN: That is correct.

Q. - And the NEB dismissed both of TQM's requests?

DR. MORIN: That is simply not true. How can you say something like that?

Q. - Well, they denied the request, didn't they?

DR. MORIN: On page 17 they approved the rate of return of 13.75 percent. You can't say they dismissed the evidence. On page 17 --

Q. - Well, forgive me, Doctor. Will you agree with me they denied the two requests I have just identified?

DR. MORIN: They denied it in the first year. But they eventually approved it in subsequent cases.

Q. - Well we will get to those.

DR. MORIN: Yes. They denied the increase in common equity from 25 to 30 percent --

Q. - Yes. They found that --

DR. MORIN: -- in this case.

Q. - -- they found that as to your capital structure recommendation -- and I'm looking at page 13 and paraphrasing -- that an increase in the equity ratio was not necessary for TQM to reasonably access capital markets and would not be cost-effective for the ratepayer, correct?

DR. MORIN: That is what they decided upon. And of course they did reverse course in the years following that case. They eventually did award a 30 percent equity ratio.

Because the company was rated triple B. And that makes it a little bit difficult to access capital markets in turbulent times. And the chickens came home to roost so to speak.

So eventually the National Energy Board did finally increase the deemed ratio to 30 percent. But not in this case. And they awarded the 13.75.

Q. - So if I have understood you correctly, Doctor, insofar as this case was concerned TQM came to the Board having a return on equity of 13.75 percent and came away with a return on equity of 13.75 percent, correct?

DR. MORIN: That's correct.

Q. - Thank you. Could I ask you, Madam Secretary, to hand to the panel the National Energy Board's decision concerning Trans Quebec and Maritimes Pipeline Inc., RH-2-90, dated February 1991, and I will ask you, Doctor, whether you have a copy of the excerpt that I have provided to you of that decision?

DR. MORIN: Yes, sir, I have it.

CHAIRMAN: That will be JDI-9. Mr. Smellie, could you enlighten me a little bit. What is the method of assigning numbers to cases before the NEB?

MR. SMELLIE: RH stands for rate hearing, GH stands for gas hearing, facilities, MH is miscellaneous.

CHAIRMAN: Okay. So then for instance in exhibit JDI-8 it's RH-2-88. That means it's the second --

MR. SMELLIE: That would have been the second gas rate case that the NEB heard that year.

CHAIRMAN: I see. So the one in '90 was the second one as well?

MR. SMELLIE: Absolutely correct, Mr. Chairman.

CHAIRMAN: Thank you.

Q. - Of course it is the case, Doctor, is it not, if my memory serves me, that in the latter part of the 1980's interest rates were considerably higher than they are today?

DR. MORIN: That's correct. That case is what 11, 12 years old. So interest rates were higher at the time, yes.

Q. - Thank you.

DR. MORIN: Hence the 13.75 percent ROE that was allowed.

Q. - Thank you. And you again appeared in support of the Trans Quebec and Maritime Pipeline application for tolls for 1991 and 1992 which is the subject of JDI-9, correct?

DR. MORIN: December '92 is what I have in front of me. Which decision? Give me the number.

Q. - RH-2-90, the exhibit we just marked, Doctor.

DR. MORIN: I have it.

Q. - Thank you. Just again that was an application by TQM for new tolls for 1991 and 1992?

DR. MORIN: Yes, sir.

Q. - And unlike RH-2-88 TQM in this case did not seek an increase in its equity ratio, correct?

DR. MORIN: Correct.

Q. - It again sought an increase in its return on equity from 13.75 to 14 and a half percent for those years, correct?

DR. MORIN: That's correct.

Q. - And you sponsored testimony in support of that application?

DR. MORIN: Correct.

Q. - And that request, I put it to you this way, Doctor, was not accepted by the National Energy Board?

DR. MORIN: Well they finally awarded 13.75.

Q. - When you say they finally awarded 13.75, they determined not to change or not to adjust the return on equity, correct?

DR. MORIN: That's correct.

Q. - And thank you for that. Doctor, and, Madam Secretary, would you hand up to the panel the NEB's December 1992 decision in RH-4-92, again concerning Trans Quebec and Maritimes Pipeline Inc. This was a case which you were also involved in, Dr. Morin?

DR. MORIN: Yes.

CHAIRMAN: That will be JDI-10.

MR. SMELLIE: Thank you.

Q. - And as was its habit in those years, Doctor, TQM applied for new tolls for the years 1993 and 1994 in this application?

DR. MORIN: Yes. They always try to function two years ahead of time to lessen the regulatory burden.

Q. - And at this particular time things have changed a little bit?

DR. MORIN: Interest rates have come down a little bit and we requested 13 and a quarter and they granted 12 and a quarter.

Q. - Yes. 13.125 percent for '93 and 13 and a quarter for

'94, correct?

DR. MORIN: Correct.

Q. - This continued to be on the 75/25 capital structure?

A. Yes. The reason for the very thin equity ratio in the case of TQM is because essentially TQM, Trans Quebec Maritime, is a small bit of pipe that was spun off the Trans Canada Pipeline for political reasons. And in terms of rate making it's rolled into Trans Canada Pipeline's costs. So it's a strict pass-on with little, if any, business risk at all. So hence the very low equity ratio that was prevailing at the time.

Q. - And --

DR. MORIN: And again the major point being that their costs were rolled in the cost of service of Trans Canada Pipeline and passed on to the ratepayers. So there was no risk. No business risk, I should say.

Q. - And while TQM did not formally ask the Board to change its deemed equity ratio, US TQM's expert witness reiterated your views concerning the relatively low common equity component of 25 percent, correct?

DR. MORIN: Yes. I was concerned about their triple B bond rating and for most of the period that you are referring to, this is what, 12, 13, 14 years ago, the company did not have any capital requirements. They do not have to go and tap capital markets. So the bond rating wasn't such a big deal.

But then with the expansion and suddenly with the prospect of having to go to capital markets, the triple B bond rating was problematic. So then the company sought vigorously to increase its equity ratio to 30 percent and then finally succeeded.

But the key here, we are trying to get away from that triple B bond rating which increases the cost of money and sometimes just completely takes you out of the capital markets where money is not available at any cost. So that was the context of all these cases.

Q. - In its decision -- and you may have mentioned this forgive me if you did -- but the National Energy Board as against your recommended return on equity fixed TQM's return on equity at 12 and a quarter percent?

DR. MORIN: Correct, they did.

Q. - And then finally in this series, could I ask the Secretary to hand up to the panel and ask you to refer, Doctor, to the NEB's RH-2-94 decision dated March 1995. Do you have that, sir?

DR. MORIN: Yes, I have it in front of you and me.

CHAIRMAN: That will be JDI-11.

MR. SMELLIE: Thank you, Chairman.

DR. MORIN: This is the generic hearing.

Q. - This is different.

DR. MORIN: This is different.

Q. - This is all of the group 1 gas and oil pipelines that were then regulated by the National Energy Board and whose names appear on the cover of the decision?

DR. MORIN: Correct.

Q. - And is it fair to say in layman's terms that what the Board was endeavouring to do here was to see if it could determine a generic cost of capital -- well let me put it to you this way in terms of the second paragraph on page 1, the Board was attracted by the concept of a generic hearing where all pipeline companies could make their cases simultaneously using a consistent set of financial parameters?

DR. MORIN: That's the proper context. The Board was essentially inundated with dozens and dozens and dozens of decisions and applications I should say, very time consuming, very burdensome. So they were seeking sort of a formula approach, what I call a quick fix, to see if they could not have a algebraic formula to determine the ROE for all the pipelines. And they came up with such a formula of course.

Q. - Yes. And this decision represents the formula, as you call it, correct?

DR. MORIN: Yes. This particular decision was noteworthy in two ways. Number 1, they finally did increase the equity ratio to 30 percent for TQM and others, and they also promulgated their automatic ROE determination formula in 1994.

Q. - Just so we are clear, there had been a number of years as we have seen in the case of TQM of consistent, if not constant, cost of service rate regulation and the testing of costs in that context before this new approach was adopted by the National Energy Board?

DR. MORIN: Prior to 1994, this decision, the Board adhered to a traditional rate of return rate base style of regulation.

Q. - And in that context there would have been the opportunity for the Board to discover and test the costs of the various applicants that it had before it?

DR. MORIN: Well of course. It was based on cost of service including return on capital.

Q. - And what we know from this brief excerpt -- it's quite a lengthy decision, Mr. Chairman, and for my purposes I thought it would be sufficient to just have the overview and the two tables which conveniently summarize where the various pipelines were coming from.

Your recommendation, Doctor, was for a 13 percent return on common equity for TQM, and I see that on table 2-1 on page 3?

DR. MORIN: That's correct.

Q. - And as against that and indeed against the other recommendations that were made on behalf of other companies, the Board determined that a return on equity of 12.25 percent would be appropriate?

DR. MORIN: Correct. And they came up with a formula --

Q. - Yes. And --

DR. MORIN: -- for subsequent rate decisions.

Q. - And that return, as we see in the first paragraph of the overview on page ix, it was based on a finding -- a risk free rate or effectively a risk free rate of nine and a quarter percent and a reasonable all inclusive equity risk premium of 300 basis points?

DR. MORIN: Correct.

Q. - And then just to conclude on the point that you have been making since we started way back in 1988. And your recommendation was for a 35 percent common equity ratio? I see that in table 3-1 on page 7.

DR. MORIN: Yes.

Q. - And the Board approved a 30 percent deemed common equity ratio for, amongst others, TQM?

DR. MORIN: Yes.

Q. - And that's found on page ix?

DR. MORIN: That's correct.

Q. - And just having regard to where we are today, Doctor, as against the more heady interest days of that era, your risk free rate in this application is 6 percent?

DR. MORIN: Correct.

Q. - And if we added 300 bases points to that we would get 9 percent, right?

DR. MORIN: Well as a matter of pure arithmetic, you know, 6 plus 3 is equal to 9. But as a matter of financial and sound economics that -- those numbers wouldn't add up.

Q. - Thank you. And the formula, Doctor, that you have referred to, as I understand it, the effect of that formula was to add three quarters of the change in the annual forecast bond yields to each companies return on equity?

DR. MORIN: Yes. It's kind of an auto pilot mechanism. Interest rates go up 1 percent the REO goes up 75 percent of that. Interest rates go down 1 percent, the ROE will go down 75 bases points or 75 percent of that. It's an algebraic type of formula. Regardless of risk changes in the industry and all those massive developments that have occurred in the energy business in the last few years, the formula is completely insensitive to changes in risk, which is one of my objections to such a formula. And one of the reasons why FERC abandoned all its formula.

Q. - And in fact you describe those Canadian provincial jurisdictions who subscribe to the National Energy Board's approach as copycats, right?

DR. MORIN: Yes. Everybody wanted their quick fix and their formulas to sort of get away from ROE, which I can sympathize with their wishes, but you have to have the formula right.

So, yes, everybody came up with their own rendition or variation on the NEB formula with minor changes.

Q. - Everybody?

DR. MORIN: Not everybody, but a lot of provincial jurisdictions.

Q. - How many?

DR. MORIN: Oh, gee, one, two, three, four, five. I would think, five. Yes, about five.

Q. - I gather from what you have just told me that you would not be an enthusiastic supporter of an automatic return on equity formula?

DR. MORIN: Yes. For two reasons. One of them is that you are essentially indexing ROE to interest rates only as if nothing else matters in this world. And certainly risk does matter especially nowadays. But my main, main, main, main objection to formulas, is that there is absolutely no incentive for any utility to reduce costs or innovate or be efficient in its investment decisions. You are on auto pilot. What is the point, you know? And that's my main, main concern with formulas. It's really almost the opposite extreme of performance based rate making.

Q. - In which you are also on auto pilot?

DR. MORIN: No, you are not, because you have an incentive to perform. You want to out perform in the case of price gaps those indices and beat those indices. And cut costs and be efficient. And reap the benefits of your management decisions. And you can share that with ratepayers if it produces returns that are too high.

Q. - Is part of your evidence that is currently before the New Brunswick -- excuse me, Mr. Chairman, the Newfoundland Board of Public Utility Commissioners on behalf of Newfoundland Power supportive of a formula approach?

DR. MORIN: No.

Q. - It is not?

DR. MORIN: Not really. The only time that I support formula is in the following context. If you want a formula -- if the Board has already said, well, we want a formula, and I will say well here is the right formula.

But as a generic proposition I am not an advocate of formulas for the reasons that I have indicated. You are essentially converting the stock of these utilities into variable rate bonds that are indexed interest rates, and there is absolutely no incentive.

Q. - But you have recommended that the Newfoundland Board --

DR. MORIN: I was asked to recommend a formula. Which case are you talking about, two years ago?

Q. - No, I -- well, no. Oh, no.

DR. MORIN: Oh, in general?

Q. - I'm just generally given your --

DR. MORIN: If I was --

Q. - If I was Yeats I would ask you if you were a big fan of formulas and you would say, no?

DR. MORIN: I am not a big fan of formulas.

Q. - Right.

DR. MORIN: But if I'm asked to recommend a formula, I will provide one.

Q. - Exactly.

DR. MORIN: Correct.

Q. - And that's what you have done.

DR. MORIN: Reluctantly. I don't like formulas for the reasons I have indicated. I don't think utilities should be on auto pilot.

Q. - Well let's be clear on this. Maybe the Secretary could hand up to the panel the testimony of Roger A. Morin entitled, Fair Return on Common Equity for Newfoundland Power Inc., dated October 2002. It's a very brief excerpt, Chairman.

CHAIRMAN: JDI-12.

Q. - And as I understand it, Doctor, reluctantly or not it is true that there is in place for Newfoundland Power in its jurisdiction right now, a return on equity adjustment formula that is producing, in your view and in its view, an inadequate return on equity?

DR. MORIN: Well it's very curious that one of the riskiest utilities in Canada --

Q. - I am happy to have your answer, Doctor, am I right or am I wrong? Yes or no?

DR. MORIN: Well what is your question again? And I will try to be very terse.

Q. - I'm happy to have your explanation. But I think it's fair to me if you just gave me an answer.

DR. MORIN: Sure, go ahead.

Q. - Okay. There is in place for Newfoundland Power in its jurisdiction an ROE adjustment formula, correct?

DR. MORIN: Correct.

Q. - Newfoundland Power wishes to have that formula changed because it is producing in its view an inadequate return on equity. Correct?

DR. MORIN: That is correct.

Q. - Please give me your explanation?

DR. MORIN: Well the only reason that -- well, it's an important one, that the company feels that it has the lowest rates of returns produced from the formula in the country, while it is a triple B utility in the province of Newfoundland with lots of business risk. So there is obviously something that's wrong with the mechanics of the formula. So they have asked me, you know, how would you remedy the formula? And I answered, well, if you want a formula and a correct one, here is the way to do it.

Q. - Thank you. Doctor, just before we switch to another bit of history here, are you aware of any utilities in Canada whose price cap regimes contain an NEB like formula?

DR. MORIN: No. I'm not aware of any. Maybe you can help me out here. The price cap with automatic ROE.

Q. - I'm advised that Enbridge is one such entity. But if you are not aware of it, that is fine.

DR. MORIN: I'm not aware.

CHAIRMAN: Mr. Smellie, it is the Board's intention to rise by 5:00 o'clock. I'm just wondering --

MR. SMELLIE: That is fine, Mr. Chairman. I think that would be -- I'm quite happy to keep going.

CHAIRMAN: Okay. fine.

MR. SMELLIE: If you are.

CHAIRMAN: Oh, yes. As long as we are through by 5:00.

MR. SMELLIE: I will keep an eye on my clock.

CHAIRMAN: Great. Thank you.

MR. SMELLIE: I will be back tomorrow morning though. When you said "through" I didn't want to take you literally.

CHAIRMAN: I have no doubt, Mr. Smellie.

MR. SMELLIE: Thank you, Chairman.

Q. - We mentioned sometime ago, Doctor, the CRTC or Canadian Radio-Television -- oh, the Canadian Radio-Television and Telecommunications Commission?

DR. MORIN: Yes.

Q. - An entity for whom you worked at one time?

DR. MORIN: Yes.

Q. - And before whom you appeared on more than one occasion?

DR. MORIN: Several times. Yes.

Q. - You appeared on behalf of Alberta Government Telephones Limited in 1992, correct?

DR. MORIN: Yes.

Q. - Would the Secretary hand up to the panel please Telecom Decision, CRTC 92-9. And if you could put that one before you, Doctor?

CHAIRMAN: JDI-12.

MR. SMELLIE: 13, Chairman?

CHAIRMAN: I beg your pardon. 13, it is. Yes. It is getting late in the day.

Q. - I have provided you with two CRTC decisions, Doctor. This is the first of the two. Do you have it?

DR. MORIN: Yes. I have it in front of me.

Q. - This is a decision dated May the 26th of 1992. And it followed, as I understand it, the determination that Alberta Government Telephones or AGT was indeed subject to Federal jurisdiction.

And I understand that you were engaged by the company to provide evidence on an appropriate rate of return for the company for 1992?

DR. MORIN: That is correct.

MR. SMELLIE: This again, Chairman, is an excerpt. The pagination at the top reflects the fact that there is indeed more to it than what is here. This is the overview.

I'm sure if it misstates anything, my friend Mr. Hashey will bring it to the witness' attention in redirect or Dr. Morin will tell me right up front. But this was convenient for my purposes.

Q. - And just to summarize what transpired, Doctor, I understand that you were joined in the task of giving evidence by Dr. Andrews?

DR. MORIN: Yes, sir.

Q. - And AGT -- and I'm looking at page 462 -- requested a return on equity of 13 to 14 percent for 1992 which it updated or revised to 12 1/4 to 13 3/4.

And ultimately, as we see down below that, the Commission approved a return on equity range of 11 1/4 to 12 1/4?

DR. MORIN: That is correct.

Q. - And you and Dr. Andrews were the sponsors of that AGT request?

DR. MORIN: Yes, we were.

Q. - And as I understand it, looking at page 44 --

DR. MORIN: You are making me very nostalgic, Mr. Smellie, going back 10, 11 years.

Q. - Times were simpler then, Doctor?

DR. MORIN: Yes. They were simpler.

Q. - Sorry. I may be on -- no. I am on page 44.

You and Dr. Andrews proffered a market risk premium, and I'm looking at the penultimate paragraph on the page, of 6 to 7 percent?

DR. MORIN: Yes.

Q. - And you did so based on three historical and one prospective risk premium study --

DR. MORIN: Correct.

Q. - -- studies?

DR. MORIN: That is correct. Right.

Q. - You apparently -- and I'm looking over the page at page 45 at the last sentence of the first paragraph at the top of that page.

The Commission was satisfied. And they considered that adding recent data in respect of market risk premiums would support a market risk premium lower than the range used by yourself and Dr. Andrews, correct?

DR. MORIN: That is correct.

Q. - And now we have a brief entry into the wonderful world of beta which you and I will talk about at some length tomorrow.

But you and Dr. Andrews relied on an adjusted five-year stock market beta of .54 for AGT in both your CAPM and ECAPM, or as you called it, Morin CAPM approaches, correct?

DR. MORIN: That is correct. Betas for telephone companies are closer to 1 these days. But 12 years ago they were very low risk, those companies, before competition and deregulation. And .54 was prevailing at the time.

Q. - And the .54 beta was the result of an adjustment to the average five-year beta of .31 in order to reflect the assumption that utility betas tend to regress to a value of 1 over time?

DR. MORIN: Well, you have a very academic point of view on this. We simply took the Value Line betas. Value Line Investment Survey is the most widely circulated investment information service in the world. And their betas are widely seen by investors.

And we simply took their reported betas. And they happened to be adjusted betas in the same way that the Bloomberg betas are adjusted and others as well. So the answer is yes, but not really for the academic reasons that you suggest. These are so visible.

Q. - I'm just reading from the decision, Doctor --

DR. MORIN: Yes.

Q. - -- or the overview, to be precise. I'm looking at the second sentence of the paragraph under the heading "C. Beta".

They, referring to the witnesses for AGT, which is yourself and Dr. Andrews, arrived at your .54 estimate by adjusting your average five-year beta of .31 upward to reflect their, referring to the AGT witnesses, i.e. you, assumption that utility betas tend to regress to a value of 1 over time?

DR. MORIN: Well, this is your own editorial that you have added to the decision. The reason why we used adjusted betas is because they are widely reported and that is what the investment community sees.

Q. - They are widely reported by Value Line? They are widely reported by others?

DR. MORIN: Yes, by Bloomberg. They use adjusted betas as well. So the reason we use them is not because of statistical regression tendency -- to 1.

It is because that is what investors are seeing. And that is the basis on which they make their investment decisions.

Q. - And it is not only adjusted betas that are available from Bloomberg or Value Line, correct?

DR. MORIN: Value Line does not make raw betas available. And I know that for sure.

Q. - Does Bloomberg?

DR. MORIN: Bloomberg does.

Q. - On this latter point, it is the case, Doctor, is it not, that the CRTC did not accept your evidence on this point? If you need a reference, I'm looking at the fourth paragraph --

DR. MORIN: Yes, that's correct.

Q. - -- under the heading C Beta -- I'm sorry. I cut you off.

DR. MORIN: No, you are right. I agree with you.

Q. - And in fact the Commission determined that the appropriate betas in this case would fall in a range of .31 to .36, slightly lower than what you recommended.

DR. MORIN: That's correct.

Q. - And do you recall, Doctor, whether the notion of incentive mechanisms arose in this case?

DR. MORIN: Yes, it did. I'm trying -- you are going back a long way here, you are really testing my memory, but I think the CRTC made a comment somewhere to the effect that -- yes, I have got it -- on page 48, the last full paragraph at the bottom, the Commission -- and I quote here -- "the Commission is prepared to consider in future proceedings an alternative regulatory mechanism AGT". In other words they have opened the door.

Q. - Yes. My understanding, Doctor, is the Commission operated on the basis, generally speaking, of 100 basis point range around ROE at that time?

DR. MORIN: That's correct. And I thought this was pretty good policy on the part of CRTC to allow a range in a rate of return because that gives an incentive to the company to try to get to the top of the range.

Q. - And what AGT had asked for was a little bit of a higher spread. They wanted a 150 point spread.

DR. MORIN: That's correct.

Q. - Right. And they did so for various reasons amongst which was this one, they suggested that 150 basis point range would be a potent incentive device for the company to minimize costs and operate efficiently. I'm looking at the bottom of the first paragraph under conclusions.

DR. MORIN: Page?

Q. - 48.

DR. MORIN: Yes, I have it. That's correct.

Q. - And Dr. Andrews stated, according to the next paragraph, that as a result of experience in the U.S. he would recommend that any incentive regulatory regime be carefully studied before being implemented. Do you see that?

DR. MORIN: Yes.

Q. - Was that a recommendation that you did not align yourself with and is that why Dr. Andrews is singled out, or is that something you supported?

DR. MORIN: No, it's something that I supported at the time. Remember, you are going back -- you are what, 12 years old now. At the time we had little experience with price cap regulations, little data to go on. So naturally before treading in such waters the Commission wanted to make sure that it had the maximum information and evidence

in its

pockets before committing to price cap. So in the context of 1992 and 1991 you can understand the Commission's posture on this.

Q. - And as you properly did, Doctor, you took us to the last paragraph on that -- sorry -- penultimate paragraph on that page and there we find the reasons and discussion by the Commission on its view of incentive regulatory regimes for AGT, correct?

DR. MORIN: Yes.

Q. - Thank you.

DR. MORIN: Well as we all know they eventually did implement a price gap regime for all the telephone companies in Canada.

Q. - Eventually they did. Let's go there, shall we?

DR. MORIN: Where?

Q. - To the implementation of price cap regulation for the telephone companies. I think we can do this, sir, in ten minutes or so.

CHAIRMAN: Okay. CRTC 98-2 is JDI-14.

MR. SMELLIE: 14, sir?

CHAIRMAN: Yes.

Q. - Again, Doctor, you were involved in this important decision by the CRTC made March 5, 1998.

DR. MORIN: Yes.

Q. - And you were involved in the application, as I understand it, and I think as you mentioned earlier today, for the Stentor group of telephone companies?

DR. MORIN: That's correct.

Q. - And this hearing was one in a series of proceedings that the CRTC undertook I think beginning in 1997 on the subject of implementing price cap regulation?

DR. MORIN: That's correct. This preceded the price caps, yes.

MR. SMELLIE: And again what I have provided, Chairman, is an excerpt, three pages -- four pages of the overview, and then the portion of the decision dealing with return on equity.

DR. MORIN: Yes. What page are we on, excuse me?

Q. - I'm sorry.

DR. MORIN: Are you on any specific page?

Q. - No, not yet.

DR. MORIN: Okay.

Q. - And just briefly, Doctor, Stentor consisted of whom? You don't have to name them but if you can just --

DR. MORIN: Most of the telephone companies in Canada including Maritime Tel, NBTel. Of course, Bell Canada and B.C. Tel.

Q. - And if I understand the proceeding correctly, and I'm looking now at page 2 of 4, i.e., the second page of the document, what was going on here under introduction is that the CRTC initiated a proceeding to implement price cap regulation and to determine the going-in rates for the utility segments prior to that implementation.

DR. MORIN: That is correct.

Q. - Sort of where we are now in this case?

DR. MORIN: Well yes, there is a parallel here. This Board has to determine a set of going-in tariffs for transmission services in much the same way that the CRTC was trying to determine going-in rates before implementing price caps.

Q. - And turning over to page 3 of 4, paragraph E, the Commission found that a rate of return of 11 percent was appropriate for the phone company's utility segments in determining the going-in rates effective 1 January 1998.

DR. MORIN: That's correct, but if you keep reading this was matched with a 55 percent common equity ratio.

Q. - Yes. I see that. It was, as I understand it from reading this exhibit, sir, that based on each company's capital structure it was your proposal that a return on equity of 12.75 percent be fixed.

DR. MORIN: I will take it subject to check. I just don't remember that far back.

Q. - I'm looking and I'm now --

DR. MORIN: Yes, I see it. Yes.

Q. - -- now page 1 of 13, Doctor, paragraph 195.

DR. MORIN: Yes, I have got it.

Q. - You will see at 196 Dr. Waters suggested much lower returns on equity -- or return on equity levels?

DR. MORIN: That's correct.

Q. - And the Commission dealt with market risk premium beginning at page 3 of 13. And I understand it was your view, sir -- and I am looking particularly at paragraph 209, that you were of the view that the only relevant measure of historical risk premium is the arithmetic average of annual risk premiums over a long period of time. Do you see that?

DR. MORIN: That's correct.

Q. - Now I assure you, Doctor, we are going to have an opportunity tomorrow to get into that.

DR. MORIN: I am looking forward to it.

Q. - All right. But that view notwithstanding, it was the conclusion of the CRTC at paragraph 213 that the use of such arithmetically-averaged premiums -- risk premiums would, on their own, tend to overstate the market risk premium for any of the telephone companies. Do you see that?

DR. MORIN: Yes.

Q. - And the Commission in this case considered it more appropriate to rely on the geometric mean?

DR. MORIN: That's correct.

Q. - Thank you. And similarly on the issue of US data, which appears at the bottom of this page 3 of 13, it was Stentor's proposal, and I take it yours, that the US experience should be given equal weighting in light of the internationalization of world capital markets. Correct?

DR. MORIN: Yes, that was the main reason. And also the US telecom industry had already gone through deregulation and restructuring. So that experience was very instructive.

Q. - And others, as reasonable people will do from time to time, disagreed with that proposition. There were those who didn't share that view that you expressed?

DR. MORIN: Well, yes, that's -- it's not really specified here in detail, but, yes.

Q. - Drs. Booth and Berkowitz were told at paragraph 219, maintained that the use of US data in a Canadian regulatory context to directly estimate a fair rate of return is not acceptable. That's pretty diverse, isn't it?

DR. MORIN: That's a pretty strong statement. And the CRTC did not endorse it either.

Q. - No, what the CRTC determined is that some weight should be given to the US experience, correct? I am at 221.

DR. MORIN: That's correct.

Q. - But the Commission considered that it would be inappropriate to provide the equal weighting that you had suggested?

DR. MORIN: It did whatever it did. And I told you why I disagreed with that. The US had just gone through massive deregulation and price cap regime. It was the ideal laboratory situation to examine and that's why I gave it quite a bit of weight as a precursor to what was likely to be forthcoming in Canada.

Q. - Just if you turn over the page to page 5 of 13, the Commission dealt with beta coefficients beginning at paragraph 232. And you together with Ms. McShane and Dr. Vander Weide -- have I pronounced that correctly?

DR. MORIN: Yes, Vander Weide.

Q. - Vander Weide. Recommended an adjusted beta of .85. Do you see that?

DR. MORIN: Yes.

Q. - Others had a different view, correct?

DR. MORIN: Yes. Some people advocated raw betas and most of us advocated adjusted betas. And the Commission finally adopted .70 to .75.

Q. - Right. And the Commission summarizes the reasons for the adjustment in paragraph 233, is that a fair characterization of that? The reasons that you were espousing for adjusting upwards?

DR. MORIN: Yes.

Q. - And the Commission concluded at paragraph 234 -- they sided with Drs. Booth and Berkowitz --

DR. MORIN: Yes.

Q. - -- and concluded that there was no basis to make the adjustment proposed by Stentor's witnesses either in theory or in the way in which Canadian capital markets work, correct?

DR. MORIN: Yes. The mystery was on line 238 they ended up adopting .70 to .75, which were much, much, much closer to adjusted betas than they were unadjusted betas. So it was kind of an inconsistency there.

Booth and Berkowitz recommended .55. We recommended something like .75 and the Commission ended up with .70 to .75, which was a lot closer to the adjusted betas.

Q. - Well let's talk about that, Doctor.

DR. MORIN: And I am reading from paragraph 232.

Q. - 232?

DR. MORIN: Yes.

Q. - Yes.

DR. MORIN: Booth and Berkowitz, if I recall, advocated .55.

Q. - Right.

DR. MORIN: And then the Commission says, well we don't believe in raw betas of .55.

Q. - Right.

DR. MORIN: Or excuse me, we don't believe in adjusted betas, and yet they adopted a beta much closer to the adjusted beta by finally adopting .75. So that was an inconsistency.

Q. - And the reason they did that is that in fact the CRTC concurred with you that an upward adjustment to the beta value was required?

DR. MORIN: Yes, because at the time the telephone business was intensifying in risk.

Q. - Right.

DR. MORIN: And the historical beta was not picking that up.

Q. - So the CRTC agreed with you that an adjustment was in order. What they didn't agree with you on was the extent of the adjustment or the nature of the adjustment, isn't that correct?

DR. MORIN: Oh, they were pretty close to us.

Q. - Oh, I am not talking about the number, Doctor. What the Commission said is that the estimation of an individual telephone company beta is prone to error?

DR. MORIN: Well of course it is. That's why you use a portfolio of companies.

Q. - Right. And since the Commission is estimating a risk for the telephone companies' equity overall, some weight should be given to the average beta for the telephone companies as measured by the TSE, Telephone Utilities Sub-Index. Do you see that in paragraph 237?

DR. MORIN: Yes.

Q. - So as against making an adjustment of the sort that you were espousing, they were -- they settled on an adjustment having regard to a utility grouping, is that fair?

DR. MORIN: The bottom line is they adopted a risk measure that was a lot closer to what we recommended. That's the bottom line. They recognized the increase in risk in the industry.

Q. - By way of making an adjustment that was different than the one that you were recommending, correct?

DR. MORIN: Slightly different. The bottom line is they picked .7 to .75, which was awfully close to the adjusted beta at the time.

MR. SMELLIE: That would be a convenient moment, Mr. Chairman.

CHAIRMAN: That would be 5:00 o'clock, Mr. Smellie.

MR. SMELLIE: Thank you, sir.

CHAIRMAN: We will adjourn until tomorrow at 9:30.

(Adjourned)

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

Reporter