CHAIR:
Q. Good morning everyone. No preliminary matters, Ms. Gynn?
MS. GLYNN:
Q. We do have two preliminary matters, Mr. Chair. Newfoundland Power did file a response to Undertaking 6. We just had some discussion that that undertaking will be revised to also include the bar graph of Figure 1 and update that. And we do have-- Figure 1 in the rebuttal evidence of Mr. Coyne, yes, and we do have a second preliminary matter that Ms. Greene would like to request another undertaking.
GREENE, KC:
Q. Good morning, Mr. Chair, Commissioners. We had discussed this earlier in the week with counsel for Newfoundland Power, but we would like to place the undertaking on the record. What we would like Newfoundland Power to file is the history of the Hay points for each executive position at Newfoundland Power, starting with the Hay point as reflected in the Hay Report dated March 18th, 2016 that was filed in the 2016 General Rate

Application. The historical record should show the change in points from each position from the date of that report to present, explaining the reasons and the rationale for the change. As well, the history should show the salary range for each executive position that shows a salary range in effect at the time for each change in Hay points. So that is the undertaking.
MR. O'BRIEN:
Q. That's accepted, we'll do it.
MS. GLYNN:
Q. And that will be Undertaking No. 7.
CHAIR:
Q. So we're ready to go?
MS. GLYNN:
Q. We are ready to proceed.
CHAIR:
Q. Okay, back to you, Mr. Coffey.
COFFEY, KC:
Q. Members of the Board, I gather now technical arrangements have been made and Dr. Booth has control of the slides, so he'll be able to flick through them okay. We're back, you had long-term credit spreads, go ahead, Dr. Booth.
DR. BOOTH:
A. I apologize to members of the panel simply because I was trying to get through these last few slides to get a break in my presentation and I understand it was a bit confusing. So I was talking about the state of economy and there's a whole bunch of measures that we look at for the state of the economy. One is what we call credit spreads, the difference between the A bond yield and the Government of Canada bond yield, when we get into recession or a fear of recession, people dump risky securities and they buy Government of Canada securities, and as a result, that spread increases. So if you look at the spreads, you can see the 1980's crash, you can see the severe crisis in the 1990s when Trible-Bs particularly were very high. You can see the Asian crisis of 1997, you can see the 2002 tec rec, you can see the serious problems during the US financial crisis and you can see the impact of COVID. So this is a measure that we look at and right now the

credit spreads are higher than they were in the '90s, but they are consistent with where they've been for the last ten years, no indication of any serious problem accessing the A bond market, which is the market which most utilities access in Canada.
The Bank of Canada also surveys loan offices to say, well what are you doing in terms of lending, are you adjusting the term of your loan or the fees you charge because of a crisis, and this is the Bank of Canada survey and senior loan officers in Canada. And again you can see the financial crisis when you go into recession, loan officers get nervous and they increase fees and they reduce the term of the loan, exactly the same as in the bond market. Right now, we have a little bit, at the end of last year where loan officers were increasing charges a little bit, but nothing untowards and nothing significantly different from 2016. We also look at equity market indicators, the volatility index. We actually have securities that allows us to work out what volatility the equity market is implying.

In the long-run, the equity market has annual volatility of about 20 percent. Right now, equity markets have low volatility and that goes tan and tandem with the strong equity markets we've had for the last several years. And again, you can see the spike in volatility during the COVID and the spike in volatility during the US financial crisis. And during those periods, risk premiums go up because the volatility goes up, fear goes up. In fact, the volatility index is often called the fear index.

And finally, now they are indicators, the Kansas City Federal Reserve Bank puts together a financial stress index called the Kansas City Financial Stress Index and this became popular about 20 years ago to try and encapsulate all of these market measures into one measure that we can look at. So this is the Kansas City Financial Stress Index. When the number is below zero, it indicates the overall easy financial market conditions, the banks are in good shapes, they're lending, credit spreads are normal,

volatility is normal and again, we can see the impact of early 2000s, the tech rec Internet bubble, the US financial crisis, COVID, those are where those spikes come in. Right now, it's not at all unusual, it's indicating relatively easy financial conditions. So that's just to look at these measures to indicate what is the state of the capital markets because the legal standard in Canada is to look at the state of the money or the capital markets. You can't just change the rate of return without thinking about what's going on.

Now in terms of the estimates, 2008- sorry, 2016 Mr. Kelly said I was the principle proponent of the Capital Asset Pricing Model and I said you put too much faith in me, that's not correct. But it is correct that the capital asset pricing model is the premium model in academic finance mainly because it captures two of the three principle factors in valuation which is the time valued money, current cashflows are more valuable than cashflows in 20 years time and that's represented by the risk-free

rate and the risk premium. Investors don't like risk. They prefer a certain cashflow in a year's time than a roulette wheel on certain cashflow. So those are the two basic measures captured by the CAPM.

The third one is the tax value of money. In Canada you prefer dividends to interest because dividends are favourably taxed at the individual level.

(9:15 a.m.)

So when I talk to my students, I always tell them never forget the three iron rules of finance: time valued money, risk valued money, tax valued money. And the CAPM captures two of those. Primary reliance by the National Energy Board in 2008, RH1 2008, prime realized by the Regie and in answers to information requests, I gave the--this Board in 2009 the decision was entirely a cap asset pricing model decision. The New Brunswick board in their decision, the Liberty, the former Enbridge gas New Brunswick was entirely a capital asset pricing model decision. There's no question that it's the premium model.

Academically, this is a survey, Mr. Coyne takes exception of this because he says well it's primarily for capital budgeting. Absolutely, that is why we calculate discount rates in order to evaluate investments, whether they're security market investments or whether they're cashflows within a project. The fundamental of all of this is what does the investor want which is what the discount rate is. CAPM overwhelmingly the most important.

Second one, Arithmetic average historical estimates, which is what I also look at. Multi-Beta CAPM, that is what academics love, it's way more sophisticated when than a CAPM, only one expert in Canada has attempted that, Dr. Chretien before the Regie and I said at the time it converts litigation over one or two values to litigation over about eight values because there's multiple betas which means there's multiple areas of dispute. So that, as far as I'm aware, has not been used in Canada, apart from Professor Chretien's. Divid (phonetic) the discount model, way down in terms of importance by major CFOs. Investor expectations, what do people want. And the only way you get those investor expectations is by asking them, doing a survey. And then regulatory decisions, so if you believe in multiple uses of sources of information, these are the major sources of information that people can look at when they make estimates on the fair rate of return. And I also provide a Canadian article, so in terms of the average historical rates of return, this is the average rates going back to 1926. I actually also provide the Canadian evidence going back to 1922, but most of the US evidence is based from 1926 because it's based upon data put together by a couple of Chicago professors and then taken over by Duff and Phelps and now used by Kroll. No question the risk premium is higher in the United States than it is in Canada. Why? Because the US is the great winner in the global capital markets and as a result, the experienced equity returns in the US, particular the S&P 500, exceed the equity returns almost anywhere else. On the other

hand, Canada has traditionally had problems accessing debt and bond yields in Canada have been higher up until the government sold its financial problems when in the Liberal government, in the early 1990s when they slashed government spending by 20 percent across the boarder, we moved into surplus since then.

Our interest rates have been significantly lower than those in the United States, so I don't take the historic data. I look at the historic data and I tell my students, well first of all I tell my students, engineers are a real problem and I don't know whether any members of the Board are engineers, but engineers believe models, their models tell you what to do with a house and the house doesn't fall down. They tell you what to do with a bridge and with luck, the bridge doesn't fall down. They tell you want to do with a damn and hopefully the damn works, but that's what engineers do. They believe in models and then they come to a finance class and they take the dividend discount model, which I

talk about, and it doesn't work and they torture the model to try and make it work because they believe in models. There was a discussion yesterday about judgment, finance models, I argue and have been saying for years, they're a restraint on judgment. They are not a substitute for judgment. You put the estimates into an equation and it constrains what you can do so that you can't produce outlandish estimates. But nobody in finance, except in a certain area of the derivative market, is slavishly attached to models. If I was slavishly attached to the empirical estimates in Canada, I'd be using a market risk premium under 5 percent. I don't do that. If I was slavishly looking in the United States using the US data, I'd be using a market risk premium of 6.6 percent. I don't do that. You look at other things. As the survey, as the work on the capital asset pricing model indicated, it was the best model indicates, you look at expectations. This is what Fernandez does, he surveys well over a thousand people in the United States and they report back. Now

this is survey work. There are biases in survey work, but he's been doing this for the last ten years and consistently. The market risk premium is between 5 and 6 percent. This is what professionals say and these are people that, they get this, they're professionals, they're either people working in investments banks, they're working in corporate finance in a finance function, they're professors of finance and this is what they say. Of course, there are extremes, somebody answers this response and they give a ridiculous number, but we look at the median, the middle number, and that's 5.56 percent, something like that.

We then look at people who are actually professionals in this area selling their service and Mr. Coyne says it uses the Duff and Phelps, so now the Kroll data. He doesn't say what the Kroll estimate of the market risk premium is. This was at a time in my testimony where Kroll used 5.5 percent over an adjusted risk-free rate of 3.5 percent. That's exactly what I do and I would have to confess an interest, I author their Canadian analysis for their cost of capital navigator publication. That was just recently, last week they lowered the market risk premium to 5 percent. So that's people whose business is to make estimates and sell these estimates to corporations. Aswath Damodoran is a profession at NYU. He's a very good instructor. NYU, a lot of their students end up on Wall Street, it's literally right on Wall Street. This is his estimate of the market risk premium. I could disagree with the technical issues about how he do write that estimate and the risk premium over what sort of bond, but his market risk premium has been about, guess, what, 5.5 percent. 5.5 percent Damodoran, 5 percent Kroll, 5.5 to 6 percent by the responses to surveys, 5 to 6.5 historic evidence, that's approximately where the market risk premium is. And I have differences with Mr. Coyne about how to calculate a market risk premium. I'm not going to go into it here, but I hope Ms. Greene, if she's listening, will ask me a question about it because that's a technical

issue.

Other investor expectations, this is required, what do people want and who provides the expectations, who provides the advice? Investment bankers do. TD, this was the report just before COVID and there's a new one that I provided in answer to an information request, market risk premium of 5 to 6 percent by TD. Why do they do this? Because they give advice to pension plans, basically. What assumptions do you have to use in your pension plan to determine whether contribution rates go up and whether the pension is funded. So that's TD, that's not me, that's TD. AQR, they're a group set up in Chicago, Lower Chicago and Northwestern PHDs, these are their real return, medium term expectations, not long-term expectations. I've looked at AQR for a long time. They're pioneers in the use of a lot of areas in finance.

Equity return has gone down '24 versus 2023. The bond return has gone up. Is this unanimous? No. Bank of New York, Mellon, major custodian bank, their estimate of the

US expected rate of return has gone up. Their expectation of the bond return has gone up, and these are people, just to emphasize, these are people who advise major institutions on what they're doing with their money.

Black Rock, the worlds biggest manager of money, I always have trouble understanding what they're doing and I think I made a mistake here because I put in there stuff for Canada, but they don't have the Canadian equity market, they just have the US equity market. The middle point of their estimate is that dot to dot value in the middle, very low expected returns on bonds because people expect bond yields to go up and as the bond yields go up, bond returns go down. So that's Black Rock. JP Morgan, Jamie Dimon, the CEO of JP Morgan is the sort of rockstar of financial offices, he's frequently consulted by the US government. When he announced his retirement plans, the price of JP Morgan stock went down, he's that important in the capital markets. He didn't prepare this, but his staff prepared

this. Expectations of the capital market returns in the United States, straight DCF with a few twists. Basically dividend yield, plus the US growth rate in GDP with some tweaks in terms of where are we in the business cycle in terms of profit margins. How does this translate into a per share value? But basically we're looking at 7 percent plus, 8 percent, for the equity market. And as it gets more difficult to look at individual utilities, I've looked more at what constrains are judgment which is the overall expectation for the capital market. Does Newfoundland Power accept this? The answer is that they do. They have a defined benefit pension plan. In answer to an information request, I asked them to tell us what assumptions does Newfoundland Power use in their pension plan in terms of the equity rate of return and they reported 3 percent for bonds, 7.1 percent for equities, 4.1 percent risk premium and then they immediately, I think immediately, I don't know exactly the timespan, but they asked Mercer, their consultant, to convert these long run returns to a one year return, which is what we tend to use when we calculate risk premiums, and that increases the equity return from 7.1 to 8.63. That's exactly the adjustment that I made in the report to the TD Bank returns. It's a standard adjustment to convert a long-run rate of return to a short-run rate of return, a one-year rate of return.

So, now, Newfoundland Power, their actually is exactly the same as where I am. No difference whatsoever. In fact, I've done a lot of work for some of the biggest pension plans in Canada and they have to work out exactly the same problem, what do the markets expert for the rate of return, for our pension plan and the flip of that is what does the corporation have to think about in terms of return for this cost of capital. They're two sides of the same coin. The supply and the demand for the debt.

Relative risk beta, Mr. Coyne uses current values and in fact, one RFI asked me

why don't I use current values? That's because current values are not current values. They're simply the most recent estimates generally over the past five year period. The last five-year period has been COVID, a massive Central Bank intervention. That's a valued estimate if we think there's going to be another COVID and another massive Central Bank intervention in the future. I don't think we're anticipating another COVID 19 over the test years. This also became a major issue in the early 2000s and if you look at those numbers, the green line is a sensitivity of utility stocks to interest rates, what I call gamma, and I hate to say it, but we use alpha for the intercept, beta for the first coefficient, gamma for the third, delta for the fourth, epsilon for the—we use Greek letters and that's the standard thing in statistics. So the gamma or the sensitivity of utilities talks of interest rates is very significant. At times utility stocks of Canada have been almost equivalent to the Long Canada Bond because we've had huge volatility of the

Long Canada Bond in the '70s and the '80s, and there was a suggestion that we need to adjust betas for this risk. So I got two estimates for the beta then, the direct estimate for beta which is what I've got down as beta 2, and then the other one is the beta after we strip out the impact of interest rate chances, to all intents and purposes they are exactly the same. But in the early 2000s, we had negative betas and I noticed a reference to Jonathan Lesser in the BCUC where he said he adjusted betas. I adjust betas, I adjusted betas in the 2000 because the reason for that and there may be some people in this room who got a memory as long as mine, a particular Canadian company called Nortel, Nortel and JDS Uniphase, at one point made up about 35 percent of the Toronto Stock Exchange by market value and we were crazy and basically buying Internet stocks during the Internet bubble in the early 2000s. They pushed out the Canadian Stock Market and guess what, utilities stocks were not affected by the Internet bubble, so the recorded statistical estimate

of the beta during that period was in fact zero and negative. Was that expected to go forward? No. Nortel, as we know went bankrupt as soon as it dropped out of the estimation window to estimate betas. Utility betas reverted back to where they were. So I adjusted betas during that period. There's no question that you need judgment to interpret beta coefficients. Any statistic measures what's happened during that period.

(9:30 a.m.)

There's an old bit of Zen philosophy, if a tree in the forest falls down, does it make any noise if there's no one there to hear it? Well, if nothing happens, you can't measure it and if something peculiar happens, we measure it, but when we look at interpreting that going forward, I didn't think we would end up with another internet bubble, it was a fad, the capital markets sometimes go off on these faddish things, and I adjusted my betas during the 2000— everybody did. I do not slavishly adopt any statistic. A statistic just represents what

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happened during that time period. A statistician can estimate that, I could get an undergraduate to estimate betas and do a whole bunch of the work that I do, but you need an economist, somebody to understand what was the economic environment that generated that datapoint? And that's what I had, I do not slavishly produce statistics for the Board to use. I produce those statistics to the Board can look at them, but I would tell the Board what I think happened to generate that statistic and whether it's valued going forward. That's the judgment, a professor of finance and somebody that's being doing this for 38 years. I've lived through all of these periods that came out with these estimates. Betas in the US versus Canada.

Canada is a different market to the United States. The betas for the gas companies in the United States are quite similar to what they are in Canada. For the last 30 years betas for electric companies in the United States have been significantly higher than the Canadian companies in the

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utility index, to the tune of about Nord .2. Nord .2 times the 6 percent market risk premium means a different of 1.2 percent in the allowed ROE. I haven't seen anything to demonstrate that the betas of US utilities, electric utilities can be used in Canada without exercising judgment. What about the Canadian sample? I've been cross-examined because I used the words "forced to rely upon or use American data". I would prefer not to use American data, it's a different country with different laws, different regulations and different capital market conditions. We're forced to look at the United States. A lot of the Canadian companies simply don't exist anymore and some that do, that I relied on for many years, Enbridge and Trans Canada in particular, they were both rate of return regulated companies, particularly Trans Canada, until the TQM decision in 2008 that took them off rate of return regulation and basically put them on settlements and they've been on settlements for the last 12 years. And as we know, the pipelines have

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become incredibly risky. Just yesterday I read a newspaper article, Michigan has gone back again to try to get Enbridge's line five oil pipeline under the Lake Michigan basically taken out of service. There's a lot of pressure on the pipelines. Does the capital market recognize that? Yes, they do. Ever since early 2000, Enbridge, Trans Canada and Pembina, which is another huge pipeline, their betas are way higher than they are for the utility holding companies, so I've taken them out of my sample because they are bias, they are no longer rate of return regulated utilities. To include them in the sample, well basically put in Bell Canada, BCE, because that used to be a rate of return regulated company, but it's no longer a rate or return regulated company, it hasn't been for 20 years. So I take out the pipes, I take out—I look at the Americans, now I like to see Mr. Coyne in the audience because I have to say he gets me really annoyed, really annoyed. He says things that are simply not true. And I say that with great trepidation because I'm sure

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Mr. O'Brien is going to ask me questions. He said, and it's only his rebuttal testimony if somebody wants to maybe look at that, he said Professor Booth is judgment, judgment, judgment. My beta estimates are not judgment. My beta estimates are the statistical estimates without any exercise of judgment. I present those to the Board because they can look at them to see whether they trend towards one or what the values are, and I go out and get other beta estimates that are in the capital market. RBC, the Royal Bank of Canada, does not use my beta estimates. They produce their own beta estimates or they provide them to their clients. Yahoo, they use Compustats, Standard and Poor's, they're not my beta estimates. CFRA, it's interesting to think who they are. After the analyst scandal in the early 2000s, they were required to put money providing independent research reports and CFRA is one of those independent research reports. They're not my betas. Reuters, I have influence over what Reuters whatsoever, now their betas, I don't know where they come from, but they're in the capital market. So what I do is I provide my beta estimates and I benchmark them relative to Reuters, Thomson Reuters, one of the biggest companies, RBC, biggest bank in Canada, Yahoo, one of the major providers with Standard and Poor's of data. CFRA, an independent research firm. I've benchmarked by betas against their betas and lo and behold they're pretty similar. There are differences because they used slightly different techniques, and then finally I started looking at the Global Mail. I read the Global Mail is they claim to be Canada's premier newspaper, they report on business. They produce beta estimates. Now they have beta estimates over three years, but they're there, they're not my judgment. They are the statistics, those are the numbers that are in the capital market and I really get annoyed with Mr. Coyne says, well it's Booth's judgment. It's not my judgment. These are what are in the capital market.

What about the US? Same organizations estimate the betas for the US and these are

the current estimates for the betas for the year of the United States and they're about Nord.6 and there's no question they have increased over the last couple of years, but when we look at this, had they increased over a long period of time? Well if you look at the last little blip at the end of that 2018 until now, they've increased, but they're not as high as they were in 2007. They tend to go up and down with the state of the capital market. Beta adjustment, Mr. Coyne is fond of saying that I'm the only person that uses unadjusted betas and it's standard to use adjusted betas. That is absolutely, absolutely nonsense, that is incorrect. What Marshall Blume did was he estimated the beta in time period T and then he looked at how does that compare with the beta of 5 years earlier and four years and three years, he used different time periods. And you have to go back to long periods of time to avoid using the same datapoint in both of the estimates, so you have to make sure that you don't use overlapping betas. So this is what we call a partial adjustment

model. How do the current beta compare to five years ago or three years ago and is it adjusting in any way to its true value, because you can calculate the true value simply by setting beta T equal to beta T minus 5 and then solve it. And if you do that, which is what Marshall Blume did, you get .33 for the Blume adjustment and a two-thirds adjustment on the past value. That's not controversial, in fact, it's a truism, the overall beta has to be equal to one, that's by construction of the capital asset pricing model, it's the yardstick, it's the market, and we rate securities relative to the market. So if you use all of the securities in the database and you come up that its (unintelligible) beta is one, well, honky dory, that's absolutely predictable, that's by construction, it's a truism. Now do utilities trend towards one, well Blume was a statistical analysis, so if you told me don't know anything about the company, the beta is equal to Nord .2. I would say, well I know the beta is equal to 1 for the overall market, probably that's a

measurement error, it's a problem, so I would adjust it towards 1 and that's all that Blume does. So the question the Board needs to ask is if they were told the beta for a utility was Nord.5, do they say I know nothing about that Nord.5, I know nothing about the utility, I will adjust it towards 1? Well I certainly wouldn't because I've been looking at utilities for the last 35, 38 years. I know they're low risk and I would not be surprised in the beta was equal to Nord.5 or Nord.4, so when you look at this, you say well how do utility betas adjust? Combola and Kahl, for a long time was—the gold standard they actually looked at US utilities and they said they don't adjust towards 1, they adjust towards their mean, which is what you might expect. If you think the beta for a utility should be Nord.5 and you come up with Nord.2, then you say, well, I don't think it's equivalent to the overall risk in the market, but I think it's low, so I'll adjust it towards what I expect it to be, around Nord.5. More recently Michefielder and Theodossiou, they did the Blume adjustment for utilities in the United States. I'm not going to read the whole quote, anyone can read that quite, absolutely no evidence whatever, no matter what time periods they used, the types of betas they estimated, no statistical evidence of any utility betas adjusting towards 1. This is absolutely bulk standard. There is no empirical evidence whatsoever of utility betas moving towards 1 with a Blume adjustment. It assumes we know absolutely nothing about the utility.

Now, Mr. Coyne says, well, Bloomberg betas use adjustment towards 1. That's not correct. Bloomberg is a data provider. The betas you get from Bloomberg if you estimate using their data depends upon the values you put in, what you want to estimate. If you want to estimate Blume adjusted beta, you can estimate it. If you want to estimate betas, what is called unadjusted betas, the betas that I estimate, you can estimate those as well. And in fact, on their website you can do a quick check, just enter Bloomberg betas and they will tell you

exactly how they do their betas. On their website they report Blume adjusted betas and they report unadjusted betas. Saying that Bloomberg betas are adjusted betas is absolutely incorrect. I could just as well have reported Bloomberg's unadjusted betas and said these are Bloomberg betas. They're not. They're my choice of using the data in Bloomberg to come up with a beta. Value Line, Value Line surveys all the American stocks and they do have a one-age crib sheet which includes adjusted betas because they're looking at all the stocks in the market. They haven't done any research on utility stocks independently of their beta adjustment. They used the Blume adjustment. That is a paid subscription service that primarily looks at US. As we heard from Mr. Coyne yesterday, a lot of the Canadian stocks, they don't have the betas. They're basically the big Canadian stocks that are traded on the NYC because they're of interest to Americans. Is that used by professional investors? Probably not, not quite sure what they used, but the equity

market is now an institutional market, overall 60 percent of the equities are traded by institutions. They would not rely upon a one page crib sheet produced by Value Line. That would be my judgment. They got their money and the resources to do their own analysis. And finally in terms of betas, Bever Kettle and Scholes, 54 years ago, said well suppose we got a company like Newfoundland Power and we want to know what its beta is, well they can't do that because it's got no market data. So they basically came up with what we call instrumental variables, they used for the traded firms they used some accounting variables and said how can we predict the beta. This is their best model. It says that overall the constant is 1, which means, which is obviously the overall market beta, so you start out with 1 and then you say, well let's look at this company, not a utility, a company. If the dividend payout is high, it's a high dividend paying firm, which is what utilities are, you lower the beta by .58 of its dividend payout. High dividend

stocks, lower betas.

(9:45 a.m.)

You look at growth, growth is risky because you're basically valuing all of those cashflows up into the future. If you're adding growth, high growth firms are riskier, you get higher betas and we're hearing about the risk to Newfoundland Power of a low growth, slow growing economy, that is not a risk factor. It is a low risk factor. It indicates low betas because you're not worrying too much about future growth. And finally, earnings variability. We've seen, as I showed yesterday, the relative to the utility holding companies in the United States, Newfoundland Power meets its allowed ROE and they got low variability in its ROE. Low variability, low business risk, low betas. All three of the values that we use to estimate betas for non-traded firms indicate that utilities have much lower betas than average firms. And that's, again, it's standard, so we would expect Newfoundland Power to have, be a low risk company. CAPM, I used 3.8 percent. Mr.

Coyne criticized me for judgment, that is my judgment, 3.8 percent. I don't think that a long Canada bond yield below 3.7, 3.8 percent satisfies the fair market value. 3.8 percent for taxable investor and I'd hope all members of the panel are taxable investors and I would expect them to be in one of the biggest tax brackets in Canada. If you're 50 percent, taxed for simple. 3.8 percent is 1.9 percent after tax. We have 2 percent inflation. Any taxable investor buying bonds below 3.8 percent absolutely guaranteed to lose money over time. That is not consistent with bond yields being determined by taxable investors in a free open, fair, competitive market. So I used 3.8 percent. This Board accepted that way back in, I think it was 2012. The BCUC accepted that in their automatic adjustment model. So that is my judgment. Anybody that tells me that a taxable investor is going to buy bonds at 2 percent, I'm telling them they're losing money and that is absolutely crazy.

Credit risk adjustment, I'll talk about

that, but we started making that adjustment when the automatic ROE formulas gave what we regard as unsatisfactory results in 2009. Utility risk premium, beta .5 to .6, market risk premium, .55 to .6. That's what the data tells us, it's my judgment as well. That gives us the equity cost, the discounted rate that investors use. The only difference between that and the fair allowed return is that we allow for issue costs and expenses. An adjustment to the ROE adds 50 basis points. Why? Because that's what we've use for the last 10 years and it's not been controversial, except in Quebec where they say show me, prove me that they're actually an expense attached to issue costs that we can charge off to investors. And I asked Newfoundland Power and they said, well, they've actually never incurred any costs, so it's a legal question whether or not you can charge ratepayers an extra 50 basis points for issued costs that Newfoundland Power has not incurred. But I always include 50 basis points. That's where I get my fair ROE. Discount rates,

DCF, dividend yield plus growth, this was invented by my late colleague, Professor Myron Gordon, contrary to what Mr. Coyne has said, when I started testifying, I used four models to estimate a fair rate of return, two of which were discounted cashflow, two discounted cashflow, one of which was on a sample of 6 Telcos because they're a rate of return regulation, two for oil and gas and energy utilities, one for risk premium over preferred shares and one for the capital asset pricing model. So 25 percent of my testimony was based upon the capital asset pricing model. That was right where, until the Telcos got deregulated and that was basically in the mid '90s, the early '90s. So we couldn't use those, so half my estimates went out the window. Not because I wanted them to go out the window, but because the data wasn't there anymore. Risk (unintelligible) over preferreds, we used to have more preferred shares in the capital market and we used to have a couple of companies create a preferred share indexes and so I used them and I estimated a risk

premium over for equities over an equivalent taxed instrument, debt securities are not an equivalent taxed instrument. Preferred shares are, so we should be measuring risk premiums for Newfoundland Power over preferred shares, but we don't have the data anymore. The Toronto Stock Exchange, they stopped calculating the preferred share index because it's absolutely true that they're not as liquid as they used to be and there's not as many in the capital market. So three of my four methods went out in the early '90s and we did go to risk premium models, particularly with the ROE adjustment models introduced by the National Energy Board of the BCUC. Right the way up until 2009 and the enormous reduction in long-term Canada bonds, particularly after the US started buying bonds, seriously buying bonds in 2011, and that knocked the risk value— sorry, not the risk value, the time value, the risk free rate, we started getting measures for the risk free rate that gave us bad results. So I would agree with Mr. Coyne on this, that the risk premium model started giving bad results if you mechanically used it in after about 2011. And I started putting in an appendix, an analysis of DCF versus risk premium because they should give exactly the same answers, but at various points in time they've not given the same answers because there's estimation error attached to the future growth in the DCF model and there's estimation errors attached to estimated and market risk premium.

What we do use in DCF, primarily we use analyst growth forecasts. These are not dividend. It's a dividend discount model, not an earnings discount model. And the problem is that earnings are way more volatile than dividends, way more volatile. This is evidence for the TXS going back to 1956. The compound growth rate of dividends and earnings are basically the same. There's a slight difference. Over long periods of time, volatility irons out and they're basically the same. The average growth rate, the average one-year growth rate for earnings, way more volatile because

they tend to go up and down with a business cycle.

So, if you rely upon short-term growth forecasts coming from earnings, those estimates are biased for long-run dividend growth rates and that's just because earnings are more volatile and they're more volatile for individual companies than they are for the overall stock market.

Analyst bias, I won't bore you with this. I don't – these are sell-side analysts. Their business is to sell securities, which is why we call them sell-side analysts. If they were unbiased, we wouldn't have buy-side analysts. We do have buy-side analysts. Practically every pension fund insurance company has analysts, buy-side analysts that evaluate the reports. We know they're biased. I've never seen anything that indicates that analysts produce unbiased estimates. Their estimates may be better than using a simple extrapolation but that doesn't mean to say that they're unbiased. They're clearly biased and this is even in the public

domain. I quote The Economist. I quote RBC. They're biased. And by biased I don't mean they've got an in-built "let's do this. Let's get the forecast up". It's what we can an optimism bias. They're attached to their utilities and they tend to get overfond of the companies that they're looking at.

DCF for US electric utilities, I use the analysts' forecast and came up with a forecast for about just under nine percent. You add in 50 basis points, you got nine and a half percent, if you believe those forecasts. And I will admit Mr. Coyne's correct. They do that in the United States. But you have to ask how big is the biased and that's when we get to looking at the sustainable growth rate.

Growth has to come from somewhere. This is not some manna coming out of the thin air. It comes from firms retaining earnings and investing it in the business and earning a rate of return on those earnings. That's what we call the retention rate, B, times the rate of return they earn.

B times R is the sustainable growth rate. There is another minor term that's not material, which we can talk about. But you can reverse engineer that. Utilities pay out large dividends. About two-thirds of their earnings are paid out in dividends. One-third are reinvested. So, if the growth rate actually is five or six percent, and I'll take six percent because the math's easy, if six percent is the growth rate and B is the retention rate of about a third, then R has to be 18 percent. I think any utility analyst that says over a long period of time, for infinity, utilities are going to earn 18 percent, is smoking something. And that's why we use the sustainable growth rate. It's a measure of testing the bias in the analyst forecast for growth, and I've got sustainable growth rates and they should be the same as reasonable estimates, but analyst growth rates are overestimated.

My DCF estimates, they're more varied. I tend to look nowadays at a risk hierarchy. We've got the money market rate. We got the long Canada rate. We got the preferred rate. We got the overall rate in the capital market and where do we fit a utility in that risk hierarchy? Canadian equity markets, 8.1, 8.75 percent. I should add Mercer's estimate for Newfoundland Power, which is slightly greater than 8.75, but it's not materially different from anyone else's. DCF equity market returns, they're more volatile because they're for the S&P 500 and half their earnings come from outside the United States. Average Canada ROE, we know what typical Canadian firms earn. It's under ten percent. Asset manager long run returns, what are the actual expectations of major investment banks advising their clients seven to nine percent. DCF equity cost US electric utilities, 6.8, 6.9 percent and that's a sustainable growth. You need to add 50 basis points for that to get it up. But that's not any different from any of the other estimates. Well, I think the click is telling me my presentation is over.

MR. O'BRIEN:

Q. I don't think it is, is it?

DR. BOOTH:

A. But it isn't. It's almost over, Mr. O'Brien.

COFFEY, KC:

Q. There it is. It's on the screen.

DR. BOOTH:

A. Okay. Financing. There are some areas of testimony that I'm familiar with, but I don't want to get bogged down by providing estimates simply because they can end up getting lots of RFIs and taking you down a rabbit hole. So, I rely upon the Alberta Utilities Commission for – because they spot check their estimates. They say, "we provide you with these financial parameters. Is it financeable? Can you maintain an A bond rating?" This is their table coming out of the 2023 report and notably, all the way at the bottom there is 45 percent common equity ratio, almost off the table. At the top is 30 percent.

I recommended for years 35 percent is the common equity for a pure T&D utility. The AUC allows 37 percent, which is a little bit greater than my 35 percent. I'm not

recommending that for Newfoundland Power. I know you're not going to accept it. I recommended 40 percent. 45 percent, as I said, is almost off the table. So, can they finance? According to the Alberta Utilities Commission, they can finance. That supports an A bond rating. So, that's not me. That's not my judgment. That's the Alberta Utilities Commission. Now, I'm sure Mr. O'Brien's going to say, "well, this means a nine percent ROE. If we accept Dr. Booth's 7.7 percent, they can't finance" or something like that. That's not correct.

I draw your attention to the tax rate. Alberta's a low tax jurisdiction, 23 percent tax rate. Unfortunately, Newfoundland is a high tax jurisdiction. Newfoundland Power is predicting 30-35 percent tax rate. What matters is the pretax equity cost because equity return is after tax. So, to get the pretax equity cost, which is what we use in the earnings before interest and tax, in earnings before interest and tax, we basically take the allowed return of nine percent and divide by one minus the tax

rate. So, that's nine percent divided by .77 and you get a number, I think it's 11.4 percent. That's the pretax cost in Alberta.

(10:00 a.m.)

I hate to tell you but 8.5 percent in Newfoundland, you have to divide not by .77. You have to divide by .7 or .69. And the pretax cost of equity in this province is about 12.4 percent, a lot higher than in Alberta. So, even at a lower allowed ROE, the financial metrics are better for Newfoundland Power than they are for the typical Alberta utility because we have to consider the equity is an after-tax cost and the ratepayers pay the pretax cost. So, that's what I've got to say about financings.

Final thing is the adjustment formula. I'm a great believer in ROE adjustment formulas. I was involved in the BCUC decision in 1994 that put the BCUC, the BC utilities on an adjustment formula with an adjustment of 100 percent to the change in the long Canada bond yield. I was in the NEB hearings that ended up with the RH-294 formula and I was in the hearing in 2001 when the NEB confirmed its ROE formula and confirmed the use of risk premium models. The NEB still publishes all of the data for its formula because it's still used and I'll say that again, it is still used. It's used in contracts by -- that stipulated the ROE will be determined by the NEB formula. So, at the request of shippers and other parties, the NEB publishes all that information.

So, that first column has the forecast long Canada bond yield. The second column has the NEB formula ROE and the third column has Booth 1. I actually had two ways of adjusting it based upon when the ROE formula was affirmed. I actually used 2001 because that was when it was affirmed to be correct. And then you can look at this and I've brought your attention to 2008-2009.

I was in the TQM hearing at the time that Lehman Brothers was let go. Markets were in freefall. I actually had lunch with the lawyer for TransCanada, as well as my own lawyer. We were shocked at what was

happening in the United States. The US almost destroyed its whole banking system. The number of banks that failed is incredible, and the biggest bank in the world at that time, Citibank, would have failed with cataclysmic implications. So, we were in dire straits and the NEB was having a hearing right in the middle of the worst financial meltdown since 1937 and we had this anomalous result. Classic rush for safety. Bond yields went down. Government bond yields went down. Anything that was perceived as risky was sold, including A rated debt.

So, A rated debt and the credit spread between A rated debt and Canadian bond yields reached very, very high levels, about 180, 190 basis points, and that was even for utility debt. And the utilities legitimately said, "why should our ROE go down when our borrowing costs have gone up?" and that was a perfectly legitimate question. So, the NEB decided we'll go with settlements with shippers and the utilities rather than have more – a new formula. But

after that, everybody retooled their formulas and we retooled the formulas to make sure that 2008-2009 wouldn't happen again, and we added this credit spread adjustment, 50 percent of the change in the default spread from what was before the financial crisis where it was typically one percent. Now, it's never got back to one percent, but we can talk about. But since then, this Board, the Alberta board, the BC Utilities Commission, the Regie, the Ontario – everybody moved to a formula and adjusted by having a credit spread.

Then a second leg happened. The second leg was the US didn't recover from its financial crisis, and I was here in 2009 and 2012. We were waiting on the United States. We recovered. The US was still in desperate straits and it caused the US to have massive central bank intervention in 2011, at the same time as the Euro crisis and the problems with Greece and the PIGS, Portugal and Italy, Spain and Greece. Euro was in desperate straits. Massive central bank intervention and you can see it in the bond

yields. The forecast bond yield in the NEB formula went from 4.55 percent in 2008 down to 4.36, 4.3, it's actually 1723 (phonetic) to – it went down and down and down and down and we just started increasing and then along came Covid and so, we were looking pretty good in 2018 and then 2019 things were beginning to recover and then the Bank of Canada joined the bond buying program.

So, the problem with the Capital asset pricing model, as I said, I do not believe any of the long Canada bond yield since 2012 satisfy the fair return standard. They're not fair market value and I used 3.8 percent consistently through that period. So, when Mr. Coyne says, "well, interest rates have gone up since 2022", hunky dory, yes, great, just means to say we're not as bad as they were for the last 12 years, but they're still not 3.8 percent. They still don't satisfy fair market value.

So, do I recommend that you put Newfoundland Power back on an automatic adjustment mechanism? The Alberta Utility Commission seem to reject all informed judgment. Nobody wanted an automatic ROE mechanism in Alberta and they just put one in. Huge advantages. They worked for 15 years with the NEB formula. My judgment would be that we're getting close to the 3.8 percent trigger. If you look at the adjustment to credit spreads, you've got a current NEB formula for 2024 of 8.18 percent. If you use 3.8 percent, you're up to 8.44 which I think is getting back to where we were before this dramatic shock to the financial system. As I said, we're still in a hangover from Covid. We're actually still in a hangover from the US financial crisis. We have to deal with this.

Do I recommend the Board put in an automatic adjustment formula? To be honest, I'm indifferent. If your decision is to have three-year GRAs, the first two years of that three-year period are done. So, we're talking about putting in an automatic adjustment formula for the third year. I don't see great benefit from that. If you want to reap economic efficiencies in

regulating Newfoundland Power, you have to say we're going to put in a formula and we don't want to hear ROE testimony in three years time or four years time or five years time. It's indefinite, the way the NEB formula was. Now, the NEB formula lasted for 15 years, but TransCanada kept objecting to it. Twice they objected to it and one of them to appeal and they lost. So, even an indefinite period still allows the utility to say the results are unfair.

And I'll remind the Board that in 2011, when interest rates came down, Newfoundland Power came to the Board. The Board came to the Consumer Advocate. The Consumer Advocate came to me and said, "is it reasonable to suspend the ROE formula?" I said yes, because long-term Canada rates didn't satisfy what I regard as fair market value. So, I don't think I'm unreasonable. I agreed with Newfoundland Power to suspend the ROE formula. I don't think the Capital Asset Pricing model has worked without the application of judgment since 2009 and I agree with Mr. Coyne on

that. We are getting close.

The decision on automatic ROE formula depends upon whether the Board makes a decision for regulator efficiency and not have ROE hearings and then rely upon NP to come -- Newfoundland Power to come back and say the results aren't satisfactory. And if results aren't satisfactory, then they'll go to you, come to the Consumer Advocate, possibly come to me, and I don't think we're unreasonable in looking at this. I've suggested that the Board put in a trigger, 3.8 percent. If the long Canada rate forecast in two years time exceeds 3.8 percent, then give NP 75 percent of the increase in the long Canada rate. Don't reduce it if it doesn't get above 3.8 percent.

Am I optimistic in that? I read the transcript with Mr. Kelly eight years ago. I was extremely pessimistic about the forecast for long Canada bond yields despite the investment banks and the forecasters saying they were going to increase. They didn't increase. I said in three to five

years time, I don't think they're going to increase, and I said, specifically said, I'll come back here and say give them 7.5 percent, the same as my current recommendation. So, I was entirely correct in 2016.

Right now, the Bank of Canada has over 300 billion dollars worth of Government of Canada bonds that it intends to sell. It's only sold about a third of its stockpile of Government of Canada bonds. If the Bank of Canada dumps those bonds in the capital market, absolutely no question, the price will go down and the yield will go up. Where the long Canada bond goes is entirely dependent upon the unwinding of the Bank of Canada's stockpile of bonds. Exactly the same as it is in the United States where the Feds got an even bigger stockpile of US treasuries. So, for the last 15 years, the markets have paid attention to every single utterance of the central banks because it dominates everything since the global financial crisis.

So, I have no objection to you putting

Newfoundland Power back on an automatic adjustment formula. It's a question the Board has to deal with that is the regulatory efficiency worth it for one year in the third of a test year, if it plans to have a GRA for Newfoundland Power in three years time. And that's not a thing that I can answer. All I've done in my Appendix E is lay out the history so it's got the guidance and the understanding as to how we got to this date and why the automatic ROE adjustment models were suspended.

So, I recommend allowed ROE of 7.7 percent. Common equity ratio at 40 percent. The Board can deem that in preferred shares, and we've had this discussion eight years ago. Is it legal to deem – rush the preferred share market. NP used to have preferred shares. This Board set the allowed ROE at 40 to 45 percent and sometimes – some how we've gone to the top of that range. And as I said in my opening remarks, I'd like to see the Board say, "we reiterate our guidance for the fair common equity ratios 40 to 45 percent for

Newfoundland Power".

I can see nothing in Newfoundland Power's history that indicates that it's any riskier than any of the other T&D utilities in Canada. I've heard their reference to the obligation to serve which the Alberta utilities no longer have. There's been no change in their ability to earn their allowed ROE. It wasn't material, not in terms of the business risk of the utilities. And here, I don't know whether you could remove the obligation to serve in Newfoundland. That's a legal question the Board has to deal with.

My preference is a modified NEB formula. I know every board wants to have their own formula, but the NEB formula worked for a long period of time and the latest credit spread adjustment the Alberta Utility Commission used was 1.58 percent. That's now come down to about 1.35 percent.

Automatic ROE formula, I think they're a huge savings. This Board had one before. Almost every board in Canada had one before and there's a reason for that. A lot of

this testimony is repetitive. If you look at Mr. Coyne's testimony, it is repetitive. His business risk analysis is the same. My testimony is repetitive. The only thing different about my testimony is I have to play Whack-a-Mole. Utility witnesses constantly bring up new things and I have to write another appendix to deal with the new risk and the new things that utility witnesses brought up. So, I've written five appendices now. I've got an appendix on integration. I've got an appendix on the after-tax weighted average cost of capital. To be honest, I'm getting tired of doing this. I'm 74. I've been testifying for 38 years. I've heard all of this over and over and over again. And if I'm a little bit testy with Mr. Coyne, it's because I'm a little bit tired of hearing exactly the same things year after year after year.

Before a hearing in Quebec last year, the witness was a Brattle company witness. She based her recommendations on three models, all of which the Regis had explicitly, absolutely explicitly rejected.

And I said, "what on earth is this?" They reject her model and then it doesn't matter. Utility witnesses come back and they do the same thing. And the three models they rejected, one of them was beta adjustments. One of them was a model called ATWACC and the other one was a model call the empirical capital asset pricing model. So, I am afraid I am a little bit testy today and yesterday, and I apologize to the Board for that, but I'm done.

(10:15 p.m.)

CHAIRMAN:

Q. Thank you.

COFFEY, KC:

Q. Thank you very much, Mr. Chair.

CHAIRMAN:

Q. So, move over to Mr. O'Brien.

DR. LAURENCE BOOTH, CROSS-EXAMINATION BY MR. LIAM O'BRIEN

MR. O'BRIEN:

Q. Thank you, Mr. Chair. I'll take you up on your last comment, Dr. Booth, and make an observation that you do appear testy regarding your testimony in the last two

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days. Are you – your suggestion that Mr. Coyne is a liar, you suggested that today.
DR. BOOTH:
A. I think I did suggest it.
MR. O'BRIEN:
Q. You did. You did say that.
DR. BOOTH:
A. And -
MR. O'BRIEN:
Q. And -
DR. BOOTH:
A. Can I take you through his comments for the way –
MR. O'BRIEN:
Q. No.
DR. BOOTH:
A. - on his rebuttal?
MR. O'BRIEN:
Q. I'd like to finish my question.
DR. BOOTH:
A. Okay.
MR. O'BRIEN:
Q. Okay. So, you're suggesting that Mr. Coyne is a liar and your suggestion that utility witnesses essentially should bow down to

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your testimony. You have pay Whack-a-Mole – play Whack-a-Mole with everything they bring up in order to come to your testimony, to your way of thinking. Do you believe that's an objective and impartial way for a witness to testify before a board?
DR. BOOTH:
A. No, I think it's the job of a witness to provide impartial, objective evidence to the Board and lay out all of the information so the Board can reasonably use that data to form an opinion and that the Board can see where the data is before the analyst exercises their judgment. We all exercise judgment, but the question is: what's the starting point? What is the data? And I don't think Mr. Coyne has done that.
MR. O'BRIEN:
Q. Okay. You have?
DR. BOOTH:
A. Absolutely. I presented not just my estimates, I presented all these other estimates from people. I presented more independent estimates of the market risk premium and betas than has Mr. Coyne, a lot

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more.
MR. O'BRIEN:
Q. Well, let's go back, and I want to take you through kind of your history here with the Board, so, with respect to Newfoundland Power GRAs. So, you've given evidence on a number of occasions, I think back to 2009. Is that the first time you would have given evidence?
DR. BOOTH:
A. That sounds correct, 15 years, yeah.
MR. O'BRIEN:
Q. Yeah, okay. So, you had given evidence for the 2010 GRA, the 2013 GRA I believe it was, '15-16 GRA, the 2019 GRA and '22, 2022 GRA, as well as this one?
DR. BOOTH:
A. Correct.
MR. O'BRIEN:
Q. Okay. And apart from the last two, you testified before this Board in each of those cases?
DR. BOOTH:
A. That's correct.
MR. O'BRIEN:

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Q. Okay, all right. So, and I'm not going to take you through these, but as we go through the testimony, I might ask you – I've provided you with some cross-age just concerning your – the executive summaries of your reports. So, there may be some points that I'm going to ask you to, but I think you're probably likely to agree with me with what's in them. But before I get to that, you made a comment yesterday about Mr. Coyne and Concentric and the fair return standard, which I understood to suggest that Concentric was not applying the appropriate fair return standard or even had followed – had cited the appropriate fair return standard in giving testimony. Do you recall that?
DR. BOOTH:
A. I do, and in answer to that, I'd like to draw your attention to Concentric's rebuttal.
MR. O'BRIEN:
Q. Okay. And before we get to -
COFFEY, KC:
Q. If he could – if I could, Mr. Chair. Could

he answer the question?
MR. O'BRIEN:
Q. Well, what I was going to -
COFFEY, KC:
Q. Could he finish answering the question, please?
MR. O'BRIEN:
Q. Yes, he can, and -
CHAIRMAN:
Q. Yeah, just -
COFFEY, KC:
Q. Because you raised it, Mr. O'Brien.
CHAIRMAN:
Q. If you want to clarify your question.
MR. O'BRIEN:
Q. It's a part of the question is what I wanted to say, is that I wanted to show you where it was cited in Concentric's evidence, what the fair return standard was, and I wanted you to confirm whether or not that was accurate. Can we do that?
DR. BOOTH:
A. That's correct.
MR. O'BRIEN:
Q. Okay. So, if we can pull up Concentric

direct, page five, the fair return standard, there's a section there that's outlined, and lines 1 to 10, Concentric goes through the principle surrounding the concept of a fair return standard and cites the Northwest Utilities case, the Supreme Court of Canada case. So, they cite that fair return standard. Is that an accurate depiction of the fair return standard in Canada?
DR. BOOTH:
A. I think he uses – yes, that's just Mr. Justice Lamont's definition.
MR. O'BRIEN:
Q. Yeah, okay.
DR. BOOTH:
A. But go to his rebuttal testimony.
MR. O'BRIEN:
Q. No, and I will, and I do want you to -
COFFEY, KC:
Q. No, if he could.
MR. O'BRIEN:
Q. - have that opportunity to do that. I just want to make sure that's -
COFFEY, KC:
Q. Mr. Chair, Mr. Chair, could I – in answering

the question, the witness wants to go to the rebuttal.
MR. O'BRIEN:
Q. And I -
CHAIRMAN:
Q. That's fair.
MR. O'BRIEN:
Q. Yeah. I just wanted to make sure that that was the accurate standard that was cited.
COFFEY, KC:
Q. Well, he confirmed that, and he -
MR. O'BRIEN:
Q. And he did confirm that. So, you can take me to the rebuttal.
DR. BOOTH:
A. That's absolutely correct, Mr. O'Brien.
MR. O'BRIEN:
Q. Yeah, okay.
DR. BOOTH:
A. That's the legal standard. I've been putting that in my testimony for the last 30 plus years.
MR. O'BRIEN:
Q. And so finish your answer then. That's good.

DR. BOOTH:
A. And I've seen American witnesses that in, but American witnesses are coming from America, and if you read Mr. Coyne's rebuttal testimony, and I don't know whether he did this or Mr. Trogonoski did, and he said this yesterday or perhaps it was the day before, page two. "Further, his ROE recommendations would not provide the company with a return that is comparable to those of other companies with similar business and financial risk."
MR. O'BRIEN:
Q. Okay.
DR. BOOTH:
A. Other companies. That is not the fair return standard.
CHAIRMAN:
Q. Excuse me. Could you just point out which page you're referring to?
DR. BOOTH:
A. Page two.
CHAIRMAN:
Q. Page two?
DR. BOOTH:

A. Of his rebuttal testimony.
COFFEY, KC:
Q. What part of the page?
MS. GLYNN:
Q. Which line?
CHAIRMAN:
Q. Which line number?
DR. BOOTH:
A. Oh, line 21 to 24.
CHAIRMAN:
Q. Okay. Just slow down for a minute, just till she brings it up. That's all. Sorry, thank you.
MR. O'BRIEN:
Q. Okay. So, from the -
DR. BOOTH:
A. Okay, no, I haven't finished.
MR. O'BRIEN:
Q. Oh, I'm sorry. Apologize.
DR. BOOTH:
A. I finished because Mr. – the Chair interrupted me.
CHAIRMAN:
Q. Yeah. Give him a chance to reply.
DR. BOOTH:

A. So, let's read this and this is what he said yesterday. So, it's what you might put as bulletproof sort of stuff in your testimony and there's what you believe. This is what he said in his rebuttal testimony and it's what he said in testimony yesterday. "Further, his ROE recommendation would not provide the company with a return that is comparable to those of other companies with similar business and financial risk." That's a return on the companies. "On that basis, Dr. Booth's ROE recommendation does not satisfy the fair return standard." And I'll be honest, every time – and he said that so many times in the past, that is incorrect. The fair return standard is Mr. Justice Lamont's definition. It's the fair return not on the companies, not on their book value, their investment. It's the return on the securities. And if you want, I'll go through the example I gave you yesterday and scratch out Labrador Island Link and put in company A and company B. It is the required return the investor has. It's not the rate of return on other

companies. That is the fair return standard. And the Alberta Utilities Commission has recognized this. It's a market opportunity cost applied through a book value investments, and that's what I've recommended.
MR. O'BRIEN:
Q. Okay. And I wanted that clarification. So, I just wanted to make sure. In terms of what the fair return standard includes, would you accept the premise that it includes the comparable investment sort of piece?
DR. BOOTH:
A. It includes comparable, return on comparable security.
MR. O'BRIEN:
Q. Right, okay, securities.
DR. BOOTH:
A. It does not include the allowed returns on other companies.
MR. O'BRIEN:
Q. No, but the comparable investment on that, comparable security, would you accept that?
DR. BOOTH:

A. That's right. See, the problem, Mr. O'Brien, is investments is an illusive term. Securities is not.
MR. O'BRIEN:
Q. Okay.
DR. BOOTH:
A. Securities are an investment. The rate of return on book value is an investment. So, in Canada, and I'll be honest when I say I've been looking at this. I looked at the US standards and this part has been part of my testimony for probably 30 years. The Hope standard, the Bluefield standard in the United States does not refer to securities. In Canada, it's explicitly referring to securities and explicitly referring to changes in the money market, which we now understand as the capital market. So, whether that's a substandard (unintelligible) between US and Canada, I don't know. But when Mr. Coyne starts talking about, as he says in his rebuttal – now, he can say he really meant something else; it's badly worded, which I would accept, but it is the legal standard in

Canada that it's a security market issue. It's what investors in the security market want is their discount rate, and that's what I estimate.

MR. O'BRIEN:
Q. Okay. So, it's a comparable security investment or -
DR. BOOTH:
A. It's a comparative investment in securities.
MR. O'BRIEN:
Q. Okay. I'm trying to understand what your position is here so that we have that clear before the Board. Does it also include then the financial integrity standard?
DR. BOOTH:
A. Yes. If you – look, if you give people what they want or what they require, you automatically satisfy the financial integrity standard.
MR. O'BRIEN:
Q. And Mr. Coyne, Concentric says that as well.
DR. BOOTH:
A. I don't know about that. I've always looked at the three requirements as being just different ways of looking at the same thing.

MR. O'BRIEN:
Q. Okay. But he indicated there was three legs of a stool to look at the same thing. I'm trying to figure out do you have an issue with the other two legs of that stool?
DR. BOOTH:
A. No, see -
MR. O'BRIEN:
Q. Financial integrity and the capital attraction standard.
DR. BOOTH:
A. No, the capital attraction, again it's all a – the only time you might get qualifications to that is the equity market, you might give them a fair return in the equity market. You might give them say – the Board looks at this and said, "well, we 100 percent agree with Dr. Booth. We're going to give Newfoundland Power 7.7 percent." That satisfies the fair return standard in terms of Mr. Justice Lamont's definition and then Newfoundland Power says, "well, our bond rating's gone down. We can't attract capital on reasonable terms." That's where the second part and the third part of the

leg comes in because – and we've gone through this at the Alberta Utility Commission. Suppose for whatever reason, a utility has a high embedded cost of debt. Perhaps it's, just take an extreme example, ten percent. Now, this is not the case for Newfoundland Power, but if it's got a very high embedded cost of debt, then if you lower the allowed ROE to a fair return, all of these financial metrics get squeezed and as a result, the utility may have problem accessing capital and this has happened before. In a Consumers Gas hearing, Consumers Gas couldn't satisfy its trust indenture because of the allowed ROE and they wanted an increase in the ROE. And my answer to that has always been, you're trying to solve a bond market problem by changing the equity market, and that's not the correct way of looking at it. If in fact, there is a bond market problem, you don't reward the equity holders with a higher than fair ROE. You take other measures to address the capital attraction without folding everything into the ROE. In

a nutshell, the equity holder shouldn't get a higher ROE simply because a firm has a high embedded cost of debt, even if that causes problems in the financial metrics and possible problems in attracting capital. There are other measures the Board can take to solve capital attraction problems.
MR. O'BRIEN:
Q. So, Dr. Booth, my question was: the capital attraction standard, did you accept that as one of the three legs of that fair return standard? Is that acceptable?
DR. BOOTH:
A. Now the answer to that is yes, the firm has to be able to attract capital.
MR. O'BRIEN:
Q. Okay. And that was my question.
DR. BOOTH:
A. Sorry, I – but I've – it was in a context of the fair return to the equity -
MR. O'BRIEN:
Q. And I'm trying to establish, in terms of the fair return, if there's a three-legged stool here, if you have an issue with the first leg, you've told us that. The other two

legs, you don't have issues with?
DR. BOOTH:
A. That's correct.
MR. O'BRIEN:
Q. The financial integrity or the capital attraction. So, that's fair.
DR. BOOTH:
A. A utility has to be able to attract capital on reasonable terms.
MR. O'BRIEN:
Q. Okay.
DR. BOOTH:
A. Nobody would ever say anything contrary to that.
MR. O'BRIEN:
Q. No, and I'm just confirming that. So, and with those three legs of that stool, that three-legged stool, none of them, none of those legs have any particular priority, do they? It's the fair standard overall.
DR. BOOTH:
A. No, there's – that's true. The – but as I said, there are different mechanism or tools are available. It's not all put on the equity holders and you get out ROE. It's

also to do with common equity ratio and financing.
MR. O'BRIEN:
Q. Okay. I want to take you just to some of your comments just in terms of the economic and capital market conditions, and I'm not – I don't want to spend a lot of time on that point, but I do want to ask you whether you can confirm Mr. Coyne's suggestion or Concentric's suggestion that there's been a fundamental shift in economic and capital markets since 2021. That was what his evidence was. You indicated that 2020, Covid, that's nobody's sort of – nobody's indication, but the evidence was actually since March of 2021. So, would you accept there has been a fundamental shift in the market since March of 2021?
(10:30 a.m.)
DR. BOOTH:
A. Actually, his evidence refers to January 2020 as well. So, not just – I would fully accept that we have recovered from Covid and that the result is that bond yields which had negative real yields incidentally, don't

match anybody's definition of fair market value and hopefully we've got beyond that and we're getting back to more normal conditions. I don't think we're there yet, but I will tell you that there's a phase in finance I tell my students, always beware of anybody on the television, a talking head or anybody that says this time is different. Very rarely is it different. These are regular cycles of things we go through. Covid was different, but that's not a financial thing. But recessions and booms, we've seen them years and years. I've seen – I'm old enough to have gone through five/six recessions. The capital markets have seen a lot more than that.
MR. O'BRIEN:
Q. So, all of these graphs and tables, they're not worth anything to us because everything is going to stay the same?
DR. BOOTH:
A. I would say -
MR. O'BRIEN:
Q. Essentially, over time, everything stays the same.

DR. BOOTH:
A. Well, there's a great deal of truth to that, Mr. O'Brien.
MR. O'BRIEN:
Q. Okay.
DR. BOOTH:
A. And I'll say it again, it's Whack-a-Mole because utilities generally say this time is different, and you just said it's different from January 2020. It's different from March 2021 and I'll 100 percent agree with that.
MR. O'BRIEN:
Q. Okay.
DR. BOOTH:
A. But we're looking forward. Do I expect another Covid? Do I expect another massive bond intervention by the Government of Canada? I don't expect it, and heavens, I hope we don't get it again. I don't think we've got enough resources to be able to support that again.
MR. O'BRIEN:
Q. But this Board has to take a forward-looking approach to ROE. Is that correct?

DR. BOOTH:
A. That's correct. So, they have to think are we going to have a Covid-19 in the next three years.
MR. O'BRIEN:
Q. Right, and we're talking about a short-term look, three-year look. We're not talking about setting an ROE for 15 years down the road. We're talking about a short-term look. So, the fact that markets are increasing is a factor. Would you agree?
DR. BOOTH:
A. That's correct.
MR. O'BRIEN:
Q. Okay.
DR. BOOTH:
A. But it was a factor based upon the settlement agreement that was arrived at in 2021, which I agreed to. It's a – and I -
MR. O'BRIEN:
Q. Well, you call those black boxes.
DR. BOOTH:
A. I know, but that's the problem. You can't have it both ways.
MR. O'BRIEN:

Q. Let's move away from what you already have indicated is a black box. In other words, we're not going to talk about what piece went in here, what piece came out there. That's the settlement piece. So, but in terms of capital markets, capital markets have had a fundamental shift since 2021, and you agreed with me on that.
DR. BOOTH:
A. That's right, but Mr. O'Brien, you can't have it both ways. You can't say, "well, let's look at 2021" and say, "well, the conditions have – interest rates have increased since then. The firm needs a higher rate of return. Dr. Booth agreed to this, blah, blah, blah", when in fact that was a settlement agreement and I didn't use the – when I – I said to – I can't even remember whether it was Mr. Browne or who it was. I said, "look, I've been using 3.8 percent. I'm not going to say let's lower NP's allowed ROE because currently interest rates are in the toilet and we got these incredibly low interest rates." I didn't look at 2021. And I've said repeatedly in

my – I think the litigated hearing in 2016 was the last time that we set Newfoundland Power's allowed ROE at 8.5 percent. I don't think it's legitimate to look at 2021 or 2019 because they were settlement boxes.
MR. O'BRIEN:
Q. Okay.
DR. BOOTH:
A. Black boxes.
MR. O'BRIEN:
Q. You agree with me that long term Canada bond yields are higher than they were in 2016 and 2021? That's a fair -
DR. BOOTH:
A. That's a fair comment.
MR. O'BRIEN:
Q. Which doesn't -
DR. BOOTH:
A. Doesn't affect my recommendation.
MR. O'BRIEN:
Q. Right, doesn't affect the recommendation.
DR. BOOTH:
A. No.
MR. O'BRIEN:
Q. And same thing with A rated utility bonds?

DR. BOOTH:
A. Yeah. They're not up as much as – they're about the same, I think, as in 2016. Obviously, it depends where in 2016 you look, whether you look at the time of Mr. Coyne's testimony in 2015 or my testimony in 2016. But I've got a chart with all of this in, so the Board could look at it.
MR. O'BRIEN:
Q. Yeah, and I've seen the chart.
DR. BOOTH:
A. Okay.
MR. O'BRIEN:
Q. And that's what I interpret from it. It may not be as high as the long-term Canada bond, but the market is higher. Let's talk just briefly about cost of capital as in the general sense and the components of it, I'll break it down a little bit later, but basically, I think all of the cost of capital witnesses break it down into the equity thickness and then the ROE. Those are the separate components, but you look at them together. Is that fair?
DR. BOOTH:

A. That's fair enough. The other component is interest, but the fact is in Canada, except for the National Energy Board, you don't take into account the current market cost of debt.
MR. O'BRIEN:
Q. Okay.
DR. BOOTH:
A. The National Energy Board went with ATWACC which is what we would do if it was a private company. We would ask what's the current required return on debt, what's the current tax rate, what's the current required return on equity, which is what ATWACC is. Everybody's – well, not everybody, but the LED, the Regie and the AUC rejected ATWACC, but the NEB decided to go with it. And the reason is, we don't take the current opportunity cost of debt. We treat it as exactly the same as other expenses. We take the deemed – the current interest rate on embedded debt and it's passed off to ratepayers.
MR. O'BRIEN:
Q. And that's not an issue for us before this

hearing -
DR. BOOTH:
A. No, that's –
MR. O'BRIEN:
Q. - in particular. Is that correct?
DR. BOOTH:
A. It's not an issue, but it's – that's the problem when you start looking at where you compare it to other utilities. But the current cost – the embedded cost of debt has come down by about one percent since 2016. So, all those costs that you would expect, the interest coverage ratio, for example, to go up and the financial flexibility of Newfoundland Power to go up. But that's just passed off. So, the only thing is the equity, the profit. I know you object to profit, but I mean, most people say profit or net income. The net income to the shareholder, which is Newfoundland – which is Fortis, which is composed of the allowed ROE times the equity ratio plus the bonus for – because they allow range around the utility cost of capital.
MR. O'BRIEN:

Q. Okay. With respect to cost of capital itself, Mr. Coyne gave some evidence, and I'm wondering if you could confirm this, whether or not you agree. Would you agree that the cost of capital is just that, a cost, and it's something you would expect to be passed on to customers?
DR. BOOTH:
A. Absolutely. It's the cost of the capital that the firm has raised, exactly the same as the rent on the building, as the cost -
MR. O'BRIEN:
Q. No different.
DR. BOOTH:
A. So, if you get into financial trouble, you might go to the building operator and say, "well, look, I'm in serious trouble. Can you lower the rent?" which is in fact what happened during Covid. You might go to the equity holders or the bond holder and say, "can you give me a good deal?" But capital markets are not as flexible as somebody you'd rent a building from because they got way more alternatives. So, it is a cost that has to be passed on.

MR. O'BRIEN:
Q. Okay.
DR. BOOTH:
A. And my understanding is the Supreme Court has confirmed that and nobody's ever questioned that.
MR. O'BRIEN:
Q. This is not a question. So, like to put a point on it, I guess, while we've been in this particular room we've been talking about other costs that are not technically Newfoundland Power's costs, for example, Muskrat Falls Project costs, and that sort of thing, coming through rates. Those are not Newfoundland Power's particular costs. You'd expect those costs to be passed on to customers?
DR. BOOTH:
A. That's correct. I think the way--if you look to utilities is regulations changed over the last 30 years. We've got all sorts of deferral accounts for gas utilities, for example, where purchase variance accounts where the cost is basically passed through.
MR. O'BRIEN:

Q. Right.
DR. BOOTH:
A. We've removed that from utilities. So, their risk is lower than it was 30 years ago.
MR. O'BRIEN:
Q. Right. So, you'd expect the cost to be passed on, and this is not a--the concept here--you talked about the Supreme Court of Canada here, but this is not an issue where Newfoundland Power should be asked to share the pain of a cost that's not their--that's not their cost, not in their control with customers.
DR. BOOTH:
A. I don't –
MR. O'BRIEN:
Q. To put a fine point on it, you wouldn't expect this Board to order an unreasonable or unfair ROE to account for those costs, would you?
DR. BOOTH:
A. That's correct. Now, what the Board could do is put a deferral account and say, well,

we think a fair rate of return is 9 percent, or 8 percent, or whatever, but we're only going to allow you to recover 6 percent in this rate hearing, and just like allowance of funds used during construction, they'll capitalize and be brought forward in the future so that you will not be hurt, but this is part of an attempt to deal with temporary problems.
MR. O'BRIEN:
Q. That's a method, method of passing on the cost, but not reducing the cost?
DR. BOOTH:
A. That's why--look, I agree, 100 percent agree with you. I'm just saying that the boards have got lots of levers that they can use to manage short-term problems.
MR. O'BRIEN:
Q. Okay. And we're not in disagreement on those points. I just want to make sure that this is not a share the pain type of scenario.
DR. BOOTH:
A. No. If Newfoundland Power says well, we

want to do our bit for Newfoundland, and we want to do this, then they can, but I don't think it's something that can be forced on them.
MR. O'BRIEN:
Q. Let me ask you about the capital structure and the common equity thickness, and you've made a recommendation in your report. When you came here before this Board in 2010, I guess, for the 2010 hearing, and you had written a report in 2009, at that time--and if we have to I can refer you to the Executive Summary from your report, but I understood that you had done a risk assessment of Newfoundland Power at that time, and it was your judgment, and I'll say the word judgment because we'll use that a fair bit today, and Ms. Greene used it a fair bit yesterday, but it was your judgment that Newfoundland Power was an average business risk utility, and marginally lower with financial risk. Was that fair?
DR. BOOTH:
A. That's correct.

MR. O'BRIEN:
Q. Okay.
DR. BOOTH:
A. That's with respect to your Canadian comparator group, not with respect to the US.
MR. O'BRIEN:
Q. And that was your assessment at that time, and that involved an element of judgment on your part, is that fair?
DR. BOOTH:
A. I would hope so. I will be honest, Mr. O'Brien. When I first started testifying I was petrified. You might find this difficult to imagine. I was petrified -
MR. O'BRIEN:
Q. I do a bit.
DR. BOOTH:
A. - to give my judgement, and I hid behind my numbers, and a prominent utility witness, and this was in the early '90's, came to me afterwards, and this was on behalf of the utility, said, Professor Booth, you're going to be a good witness, but the Board wants to

hear your judgment. They don't want to hear the numbers. Anyone can come up with the numbers. They want to hear what you think about this, so don't be afraid to express your judgement, and I always remember that because, as I said, you'd be surprised to know that when I started out doing this I was hiding behind the numbers, and then over time I've been here--now I'm tired of the numbers because I've been doing this for 38 years, and when I look at that, Mr. O'Brien, I say heavens above, 38 years, coming to these hearing rooms doing exactly the same thing. Sometimes I wonder, as I said, how much longer I'm going to do this.

MR. O'BRIEN:

Q. So, I guess even though you might have been hiding behind numbers, there couldn't have been any number out there that said Newfoundland Power should have this particular allowed ROE, or sorry, equity thickness. You must have had some element of judgment applied to your opinion at that time.

DR. BOOTH:

A. That's partially correct. A lot of this came out of the '90's into the 2000's. In RH-4, RH-29-4, the National Energy Board had to deal with the risk of oil utility, oil pipelines versus gas pipelines, and it makes a clear statement that we have to look at the business risk of those and analyze the difference between a--and there's significant differences between a gas pipeline and an oil pipeline, and it set 45 percent for the oil pipelines, 40 percent for the gas pipelines, 35 percent for west coast. So, that was what we were doing in the mid '90's, and then along came the Alberta Utilities Commission. They didn't have to deal with pipelines. They had a pipeline, an ECHO pipeline. They had to do with gas utilities and the electric utilities, and gas mainline pipeline NGTL, and electric transmissions. So, they had to deal with all of the risks of all of these other utilities, and I participated in that hearing, and we looked at the business risk

of all of those, and I recommended 30 percent, which was actually the NEB's recommendation for mainline transmission; 35 percent for local gas LDC's, and I think I had 32 percent for electric transmissions, and that was a result of a lot of analysis, and since then risk has not increased except for the gas companies. For the electric companies my perception is the risk has decreased. So, you're absolutely correct. I used to spend a lot of time doing a more qualitative assessment, but at the end of the road there's only two things that we're looking at, short run risk, the ability to earn your allowed ROE; long run risk, the ability to get your capital back, which is the stranded asset risk.

MR. O'BRIEN:

Q. Okay.

(10:45 a.m.)

DR. BOOTH:

A. And that's significant by the way, Mr. O'Brien. It was a big deal in Nova Scotia Power because they've got their coal plants

that have to come out of the rate base by 2030. It was a significant risk for Trans Canada Mainline and the Northern Ontario line when everyone started basically pumping gas through the United States. So, I'm not saying the stranded asset risk is immaterial. It's very important for certain types of utilities. I don't see it as important for Newfoundland Power.

MR. O'BRIEN:

Q. Okay. And I'm going to take you through--just so you understand, I'm going to take you through each time you've been here and how you've assessed that. So, just--and I don't want to cut you off on your responses at any point, but I just want to let you know that I do want to take you through those in terms of your assessment at the time, okay.

So, at the time when you came here first of all for Newfoundland Power for the 2010 rate hearing, you expressed that opinion that we discussed earlier. You would have been aware, I'm going to put to

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you, that the Board had already in the past made a determination that Newfoundland Power was an average risk utility, and that would include business risk, financial risk, and any other risk really at that time. That was the Board's assessment of Newfoundland Power when you first came here. Is that fair?
DR. BOOTH:
A. That's correct.
MR. O'BRIEN:
Q. Okay.
DR. BOOTH:
A. And my perception -
MR. O'BRIEN:
Q. And the Board had exercised regulatory judgment in coming to that, is that fair?
DR. BOOTH:
A. That's correct.
MR. O'BRIEN:
Q. That's not controversial?
DR. BOOTH:
A. No, that's the record.
MR. O'BRIEN:

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Q. That's what the Board does. Okay. And they had made a determination on what an allowed ROE should be for Newfoundland Power, correct, or not ROE, equity thickness?
DR. BOOTH:
A. That's correct.
MR. O'BRIEN:
Q. Okay.
DR. BOOTH:
A. And that included I will remind you preferred shares in addition to the common equity.
MR. O'BRIEN:
Q. That included a 45 percent at that point of--there were preferred shares, yes. So, when you came here in 2009, I want to get a flavour for what your opinion was in terms of what has to happen to modify an allowed equity thickness? And my understanding, and I've read your testimony from the last time, I've read your testimony from more recently the Nova Scotia Power's rate case in 2022--my understanding is that your opinion is that unless business risk change significant

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you don't modify or change the allowed equity thickness. Isn't that your expressed opinion before these Boards?
DR. BOOTH:
A. That's my expressed opinion. I expressed that to the National Energy Board, that the capital markets tend to look at the common equity ratio. It's more definite.
MR. O'BRIEN:
Q. Right.
DR. BOOTH:
A. Whereas the ROE changes all the time, so -
MR. O'BRIEN:
Q. And you've held that -
DR. BOOTH:
A. Hold on, I haven't finished my answer. And I said that opinion before the AUC.
MR. O'BRIEN:
Q. Okay.
DR. BOOTH:
A. And it assumes that the Board got it right. My judgment is the Board set in '96/'97 40 to 45 percent. It's stuck now on 45 percent. I can't see any reason for 45

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percent. It's an outlier compared to other T&D utilities in Canada. So, do I expect the Board to change? Well, I've been saying 40 percent, Mr. O'Brien, since 2009, and I've been saying pretty much the same thing. Basically doing some preferred shares if they want to go lenient. Basically announce 40 to 45 percent so the rating agencies know what's going on.

So, my view hasn't changed, and I think it was in 2016 that the Consumer Advocate got Professor Cleary to provide testimony on the common equity ratio, and I was more or less really focusing on the allowed ROE, but I also repeated my recommendations.
MR. O'BRIEN:
Q. You did.
DR. BOOTH:
A. I don't see any reason Newfoundland Power has 45 percent common equity.
MR. O'BRIEN:
Q. So, there's a couple of points I want to raise with you on that. So, first of all, your opinion on risk hasn't changed all the

way along in terms of Newfoundland Power. You're assessment--your assessment of Newfoundland Power as having an average business risk, and having a less than average financial risk, that hasn't changed over time.

DR. BOOTH:

A. That hasn't changed -

MR. O'BRIEN:

Q. Right.

DR. BOOTH:

A. - but as I indicated, I've never seen a utility in Canada where the regulator doesn't protect the utility, which is to say when I look--the first thing I do in any hearing is say, give me the allowed return versus the actual return going back as long as you got data so we can actually see what the short-term risk is, and Newfoundland Power is absolutely no different from any of the other Canadian utilities.

Some of them don't have quite as many deferral accounts. The gas companies, some of them are exposed to seasonal risk in

terms of the use of gas, but in a material sense the short-term risk is basically the same. It's the long run risk that is a concern, and in this testimony, unlike 2016, the only thing that I see is changing is the long run risk to Newfoundland Power, and in 2016 I highlighted the fact that the company's witnesses in the '90's were saying alternative fuel was risky. Heating oil was a 40 percent discount to using baseboard heaters, and the company was losing customers, and this was a risk.

Now, it didn't affect the ROE or the ability to earn the ROE, but--and I looked at that and said, well, even if electricity prices go up, which I don't think they will for reasons we can talk about to a level of 50 percent to 100 percent we were talking about at that period, there are no alternative fuels left.

Does anyone seriously think people are going to rip out their baseboards and put in an oil pump when the price of carbon is going to go from $80.00 to $160.00 a tonne?

That's contrary to everything that the Government of Canada and the provinces are doing to try and get people off oil. So--or do we expect people in St. John's to start having wood burning fires. I've got a cottage and we actually have a wood burning fire because my heat pump, and I do have my electric heat pump, it's useless in Canadian winters because it gets too damn cold and you have to have a supplementary heat source.

So, I don't think you're going to find a lot of people in St. John's suddenly burning wood fires. Perhaps propane, perhaps we're going to see some propane tanks outside of our houses, but that's fossil fuel.

So, the long run--I don't know what the next whack-a-mole for utility witnesses is going to be.

MR. O'BRIEN:

Q. Well, let me ask you.

DR. BOOTH:

A. Perhaps they're going to say--God, I've

forgotten the--I'm getting old, Mr. O'Brien, my brain sometimes forgets things.

MR. O'BRIEN:

Q. I apologize, I interrupted you.

DR. BOOTH:

A. No, don't apologize on my part. It's for-- in gas companies they use hydrogen. Perhaps they'll say hydrogen is the next big thing, and perhaps they'll say, well, the gas companies are now pumping hydrogen into gas pipelines, and perhaps we do have fossil--we do have fuel competition again; it's going to be hydrogen. Do I think that's going to happen in next three years? No, but perhaps you'll see a utility witness saying that hydrogen is the next big thing, or perhaps a stranded distribution, perhaps the price of solar panels is going to drop dramatically, which hasn't changed much in the last 10 years, but perhaps they're going to become incredibly cheaper, and stranded asset risk is going to increase because everyone is going to have solar panels on their roof. So, there are things out there that utility witnesses can bring up as the next mole in terms of the risk for Newfoundland Power, but I can't see it.

MR. O'BRIEN:

Q. I'm interested in your opinion, not what utility witnesses can come up down the road, but for this particular hearing, and what I want to ask you, and you've raised this, and you've raised this in your testimony earlier--so, when you came here in 2010 you had assessed risk of Newfoundland Power, and you gave an opinion, and I'm going to suggest to you you gave an opinion that there should be a reduction in the capital, or in the equity thickness because you believe the Board had gotten it wrong before. You had said that -

DR. BOOTH:

A. That's correct.

MR. O'BRIEN:

Q. - the Board had gotten it wrong. Okay. You are not basing that opinion on the basis that Newfoundland Power's risk, business risk, had significantly changed, which is

what your opinion is, is that you don't change equity structure unless risk change. Is that a fair assessment?

DR. BOOTH:

A. That's a totally correct assessment, and the only thing that's -

MR. O'BRIEN:

Q. And you did the same thing in 2012 for the 2013. You came in. You didn't feel the Board had assessed risk correctly, so you suggested a reduction, not on the basis of your opinion, that there's a change in risk which is on--it's your opinion. That's when we reduce equity, when there's a change in business risk. It was because the Board had gotten it wrong. You did the same thing in 2016. You did the same thing in 2019, 2022, and you're doing the same thing here, and you referenced yesterday this idea of utility witnesses, the sky is falling, the sky is falling, this Chicken Little kind of scenario. I'm going to suggest to you we're talking about the boy who cried wolf.

DR. BOOTH:

A. Who's crying wolf?

MR. O'BRIEN:

Q. You are.

DR. BOOTH:

A. I'm crying wolf?

MR. O'BRIEN:

Q. You're trying to get the Board to change their decision. They've gotten it wrong all the time. Not on the basis of your own opinion that you don't change it unless risk is changed, because if they did it, they'd do that contrary to what your opinion is. Your opinion is, don't change it unless risk has changed. If you're going to reduce it, the Board has to base this on risk being less, and you're not saying that. You're saying the Board got it wrong. Is that a fair assessment?

DR. BOOTH:

A. I'd say there's proof to that, but I don't think it's a fair assessment.

MR. O'BRIEN:

Q. And why is that?

DR. BOOTH:

A. Because the Board had 40 to 45 percent in the '96/'97 hearing, and I think that was reasonable, and within that range of 40 to 45. I'm not saying 37 percent for Alberta. I'm not saying 35 percent, which I recommended was the TDs across Canada. I'm saying go to the bottom of your 40 to 45 percent range. That was the Board's decision.

Now, what's changed? Well, ask Nova Scotia Power what's changed since 2016. 2016 they had all these gas--sorry, all these coal power plants. They weren't planning to take them out of service. What's changed since then is the Government of Canada and the provinces.

Global warming has become on the political agenda. We got an increase in carbon tax, $80.00 a tonne to $160.00 a tonne. We got provincial governments telling Nova Scotia Power take those coal plants out of service. We've got, as I'm sure you're going to talk about, BCUC, where the gas company, Fortis Energy Inc. in a hearing in 2012, not 2016, or 2023, the Chairman of the company said we are not a transitional fuel, we're here for the long run. But even then in BC they were talking about getting gas out of the system. Quebec was talking about getting gas out.

So, when you look at this has anything changed since 2016? I would say a huge amount has changed since 2016. Not in terms of the short run risk, but in terms of the long run risk. I would say that the stranded asset risk attached to Newfoundland Power is gone from being negligible to less than negligible. How is that significant? I can't think of any alternative to electricity in the—over the future test years in Newfoundland. Whereas in 2016 and earlier we could think about home heating oil, and this is--this is a company that doesn't serve industrial users, it serves--it serves residential and commercial with a little bit of streetlights.

I don't know about streetlights. I don't know how you're going to fuel them

with gas, or hydrogen, or whatever, but I'm sure an engineer can work that out.

MR. O'BRIEN:
Q. You didn't indicate in your report there's been a significant change in Newfoundland Power's business risk in your evidence for this hearing.
DR. BOOTH:
A. I did say that the low run stranded asset was -
MR. O'BRIEN:
Q. You didn't say a significant business risk. That's not what you said.
DR. BOOTH:
A. I said the stranded asset was gone down.
MR. O'BRIEN:
Q. You said if anything, risk may have gone down -
DR. BOOTH:
A. If anything, that's right.
MR. O'BRIEN:
Q. - but you did not say there's a significant difference, and that's what your opinion has been all along, there has to be a

significant difference. You didn't come out and say that, did you?
DR. BOOTH:
A. I think you're correct there.
MR. O'BRIEN:
Q. Okay.
(11:00 a.m.)
DR. BOOTH:
A. I mean, it's a question--as I said it's gone down from negligible to less than negligible. So, I mean, it's--if anything it's gone down. I don't think the long run stranded asset risk attached to Newfoundland Power is very high.
MR. O'BRIEN:
Q. And I found it interesting you mentioned Nova Scotia Power, and you brought that up a couple of times in terms of some differences in risk. When you gave evidence in terms of--direct evidence now. I don't think you testified at that hearing. I think there was a settlement.
DR. BOOTH:
A. That's correct.

MR. O'BRIEN:
Q. At that hearing you indicated Nova Scotia Power is no more risky than anyone else, and you did not recommend an increased in equity thickness.
DR. BOOTH:
A. I think more accurately, Mr. O'Brien, I said its ability to earn its allowed ROE hasn't changed because it still earns its allowed ROE, and it's got a little bit more variability because of the power cost, and I said what the company is proposing is a billion dollars worth of assets in coal plants which have to be out of service by 2030. The company wanted to put that into a deferral account, and it wanted to recover those costs from rate payers in Halifax beyond 2030. So, effectively they're still paying for those coal plants. And in addition, they'll pay for the cost of replacement energy, and I said--and I didn't object to that, Mr. O'Brien.
MR. O'BRIEN:
Q. Well, there's a settlement to it, yes.

DR. BOOTH:
A. Well, no, I didn't object to it in my testimony. I raised the question to the Board that there's this compact, and I think I said it specifically; I'm not objecting to focusing the rate payers in Halifax, which already has much higher electricity costs than St. John's, to basically pay twice for electricity, because the Board approved those plants for use, and Nova Scotia had every expectation that they'll continue to be used and useful and get a return on that, and that's all in the business risk testimony, and unlike this hearing, I think I'm correct in saying that I started out in the Nova Scotia Power hearing with a long discussion on its business risk because that was the elephant in the room. What do you do with all these coal plants? The Government of Canada and the Province said take them out of rate base. Who bears that stranded asset risk? And on reference to Stores decision, well, the Supreme Court of Canada, they said the ownership of the

assets belongs to the utility. And I said it's a good argument, that the risk of those plants belongs to the utility owners.
MR. O'BRIEN:
Q. Utility, right.
DR. BOOTH:
A. - not--because they're no longer used and useful, but they were put into rate base by the Board, and a regulatory compact in Canada requires, I would say, that you protect the utility. Now, as you probably know, after I put my testimony in the Government of Nova Scotia passed regulations to basically overruled or limited what the Board could do, which this is--this is reminiscent of what happens in the United States sometimes. The government just changes the regulations and forces the Board to do some things. And if you remember in the Nova Scotia Power decision, I was the Board witness, and they say specifically a foundational part of Dr. Booth's testimony was the regulatory compact, and we're not sure what his opinion would have--how it

would have changed given the intervention by the government in Nova Scotia, and he certainly would have changed it. It violates my understanding of what we've been doing in Canada for the last 35 years.
MR. O'BRIEN:
Q. I think we can take our break at this point.
CHAIR:
Q. Take a break right now. Thank you.
(BREAK - 11:03 a.m.)
(RESUME - 11:32 a.m.)
CHAIR:
Q. Welcome back everyone. No preliminary matters?
MS. GLYNN:
Q. No.
CHAIR:
Q. Okay, well back to Mr. O'Brien.
MR. O'BRIEN:
Q. Thank you, Mr. Chair. I'm just going to lead you off on this last piece, Dr. Booth, just on the equity thickness and I'm just wondering whether you would agree with me that when it comes to utilities and credit

rating agencies, the credit rating agencies do look at the stability of equity thickness as a credit strength, would you agree with me on that?
DR. BOOTH:
A. I'd say that the credit rating agency don't like surprises.
MR. O'BRIEN:
Q. Yeah.
DR. BOOTH:
A. Which is why I said in the recommendation if the Board lays down a marker, 40 to 45 percent going back to '96, '97, I'd be happy if the Board does that and then we get some clearance on Muskrat Falls and rate mitigation, then the Board can revisit this and decide, well is its decision of the business risk hasn't changed still valid.
MR. O'BRIEN:
Q. And a significant change by a regulator in the allowed equity thickness, would a credit rating agency see that as a minus?
DR. BOOTH:
A. Depends which way the equity ratio goes. I suspect that the next report on FEI whereas

equity ratio has gone up from 38.5 to 45 percent, they'll be very happy. Everybody's gas has gone up. Gas companies, the equity ratios seem to have gone up. It depends on the ROE and I agree 100 percent with Mr. Coyne that the ROE times the equity ratio gives the amount of net income that the owner is getting out of the utility. So if the Board—and I say this explicitly, don't accept the allowed ROEs from elsewhere, like 9 percent or 9 ¼ from elsewhere and then keep the 45 percent because that's higher than all these other utilities. If you lower it to 40 percent, I might be happy with a higher ROE, but it's the combination of the ROE and the common equity ratio. No question in my judgment Newfoundland Power has got a high common equity ratio. If, in the Board's deliberations it said, well, we should all agree with Percible's (phonetic) judgment but he didn't take into account that we give it a lower, an allowed ROE and if they lower the allowed ROE, I was intrigued by one of the Board's questions about the fact that the ROE gets knocked

onto Newfoundland Hydro and the Labrador Link, perhaps give them more equity and a lower ROE saves ratepayers right the way across the board and not just on Newfoundland Power, but also on, it mitigates some of the rate increases coming through from elsewhere, so the Board has to deal with these questions.

MR. O'BRIEN:

Q. Are you able to point me to anywhere in any Board order where the Board has indicated that the 45 percent equity, allowed equity is as a result of a particular ROE?

DR. BOOTH:

A. No, I can't. I said if, if that's the Board's opinion after it reviews this information, then that's something it should be considering, the combination of the ROE and the common equity ratio. I think Mr. Coyne and I both agree on that.

MR. O'BRIEN:

Q. And would you agree with me that when it comes to assessing risk and risk profile for a utility, you talk about T&D utilities and all kinds of other utilities, they all have

different risks built into their profile. Not every risk profile is exactly the same, you agree with me on that? And I'll give you where I'm coming from on that in that the Board has to exercise judgment in setting an allowed ROE based on a particular set or risk profile for a utility.

DR. BOOTH:

A. That's correct, I mean I'm not quite sure—I want to say in two parts, one the Board has to determine based upon the evidence in front of it. If there's no evidence in front of it, it can't make a decision, so the evidentiary basis is very important. Secondly, it has to look beyond some of the numbers and I think Mr. Coyne—is he still here, but Mr. Coyne mentioned he was doing work for Ontario power generation. Bam, nuclear products. I was involved in the hearing in 2007 when they were refurbishing Pickering and now they're refurbishing Darlington. You look at that and you say, well, they've got nuclear powers, just like Duke. The problem is there's a whole set of regulations, who bears that regulatory risk

and in practice it seems that most of it is passed on to the province and the taxpayers of Ontario. And the Board looks at that and they look at the percentage of Hydro versus nuclear in the rate base for Ontario power generation, so you have to go beyond the statistics and when I started looking at this, they talked about business risk, financial risk and regulation risk and I said, no, that's not right. It's not right in Canada, there isn't regulation risk, it reduces the risk, so when you look at business risk, it's not a question of just looking at the, some of the statistics, you have to go and look at the deferral accounts and the amount of regulatory protection. So the Board knows how it protects Newfoundland Power and where the risk is and I'm sure Board staff know how they basically generate over earning, more so than you or I, they just look at the numbers. They're a lot closer to what goes on and goes into the data.

MR. O'BRIEN:

Q. Okay, before we go on to your proposal and return on equity, I did want to revert to one point we talked earlier, just about capital markets, and A rated bonds and I asked you a question as to whether or not they had significantly increased since 2016, and I believe your answer was that no, they hadn't, am I wrong in that?

DR. BOOTH:
A. My answer was it depends and going into the hearing whether you look at 2015, the time of Mr. Coyne's evidence, 2016 my one (phonetic) because obviously those yields change and I was just looking at the graph –

MR. O'BRIEN:
Q. And it might help if I brought up your evidence, I think, that might help.

DR. BOOTH:
A. Yeah, I think it's actually in the beginning of my testimony.

MR. O'BRIEN:
Q. Yeah, in your testimony, in your direct at page 31 I think there's a chart. A & B, right, so if we look to—where are we here, 15, 16, 2016.

DR. BOOTH:

A. Well actually you can look at it from the executive summary where I've got the time in my testimony.

MR. O'BRIEN:
Q. But even looking at this yield, this yield, I mean, if we look, compare 2016 to where we are now, there's a significant increase in A and BBB bonds, isn't there?

DR. BOOTH:
A. When I look at the—in the executive summary, page 2, I've got long-Canada yield, 2.05, the A spread 1.94, so A bonds were basically just over 4 percent.

MR. O'BRIEN:
Q. There is, I think, a fair increase.

DR. BOOTH:
A. Okay, look, I –

MR. O'BRIEN:
Q. I just want to clarify because your testimony gave me the impression that there wasn't.

DR. BOOTH:
A. Well, I look mainly at the spread rather than the actual level of the yields. But if we look at the graph on page 31, I mean I

can actually go back and look at the data in an undertaking if you feel it's important, but 2016, beginning of 2016 looks to have been, well it's between 3.5 and 4.5 and now it is, which I said was 4.05, now it's, the A spread or the A yield is closer to 4.6 percent.

MR. O'BRIEN:
Q. So the spread may be similar but the yields are high.

DR. BOOTH:
A. That's correct, so the borrowing cost to Newfoundland Power as a private issuer, has probably gone up, but as you probably know, it's been refunding its debt and its embedded interest costs have dropped by 1 percent since 2016.

MR. O'BRIEN:
Q. I think you might be giving me more credit than I deserve when you say "as you probably know".

DR. BOOTH:
A. Well I was very impressed with Mr. Kelly eight years ago, Mr. O'Brien, so you got a high standard to maintain.

MR. O'BRIEN:
Q. Listen, I know my limitations and I do not compare myself to Mr. Kelly.

COFFEY, KC:
Q. At least at that point, Mr. Kelly's career.

MR. O'BRIEN:
Q. That's right. Okay, let's move to your proposal on the return on equity and you gave some evidence here today on that and I think I've read through your chart or your direct, I want to ask you just in terms of generalities in the last few years, would you agree with me that return on equities for utilities, if regulators are sort of allowing higher return on equities in the last few years?

DR. BOOTH:
A. I would say that they've come up from a low of about 8.3 percent, which I think was three, four years ago. So despite my recommendations in not changing the allowed ROE, unless it's 3.8 percent, they actually did lower the allowed ROES because long-Canada bond yields were so low, so in that respect, they accepted my formula they

shouldn't change it unless the yields went below 3.8 percent, but when the abandoned the formula, it went to litigated hearings, they did lower the allowed ROEs and they have come up from those lows.

MR. O'BRIEN:
Q. So they've come up.

DR. BOOTH:
A. Yeah, that's correct. Now I wouldn't have recommended that they come up because I wouldn't have recommended they went down in the first place.

MR. O'BRIEN:
Q. No, and I'll get to that, just in terms of what you recommended, but just as a general comment, general commentary and observation you would agree with me?

DR. BOOTH:
A. I would agree with that.

MR. O'BRIEN:
Q. Okay. So let's have a look at your proposal, so your proposal in terms of ROE is 7.7 on a 40 percent equity.

DR. BOOTH:
A. That's what I think satisfied the fair

return standard and that's what it comes from looking at comparable risk Canadian utilities, I find it very difficult to get above 7.7 percent for the ROE.

MR. O'BRIEN:
Q. Okay, and that's the median between 7.28 and 8.13.

DR. BOOTH:
A. Yeah, that's right, if the Board, I mean and I would also add when I was asked in settlement was 8.5 percent reasonable, I didn't object to it. So there's different –

MR. O'BRIEN:
Q. Yeah, and I'm not going to ask you to comment on that just where, I mean those are settlement discussions really at this point, but your proposal at this stage.

DR. BOOTH:
A. That's right, but there's different definitions of fairness. I mean, I think something in the low 8 is about the top of, actual fair return which is supported, I hate to say, by the Labrador Link and KKR, but as I've said for decades, Boards tend to be conservative, they protect the utility

and they tend to give more than a fair return.

MR. O'BRIEN:
Q. So you've come across, clearly you've come across Concentric and Mr. Coyne over the years in terms of cost of capital hearings and you've come across other experts for utilities, you've made a number of comments to say that utility experts say this, say that, so you're familiar with the players in the game, sort of thing, is that fair?

DR. BOOTH:
A. I'm familiar with a lot of them. I remember when Concentric first came into Alberta, I think it was 2009 and they provided, I'm not quite sure whether they provided full ROE testimony, but that was when the first time I heard of Concentric.

MR. O'BRIEN:
Q. Right, but there's a number of people in the area that are giving testimony on cost of capital across the country and you're familiar with a number of them, I take it?

(11:45 a.m.)

DR. BOOTH:

A. I'm familiar mainly with Concentric and the Brattle Group. After that, it tends to be individual people, rather than a consulting group. I know Sean Cleary, my former PC student, used to appear before the AUC. I met Randy Woolridge who provided testimony before the Nova Scotia Utility Board. I remember Mr. Coyne referred to Professor Vander Weide from Duke University. I've seen his testimony on a number of occasions, so I'm familiar with some of them.

MR. O'BRIEN:
Q. And would you agree with me that your—and this is apropos of your earlier comment that I think regulatory boards tend to give higher than a fair ROE, that was your comment. Would you accept that generally speaking you tend to be on the conservative side when it comes to experts for cost of capital?

DR. BOOTH:
A. I would say I tend to be on the academic side.

MR. O'BRIEN:
Q. And I was just going to ask you about that,

and do you consider that different than the regulatory side?

DR. BOOTH:

A. I would say that's correct. Estimating the cost of capital was something I've done research on, published papers on. It is an academic topic. The bias involved in security analysts, there's thousands of— perhaps not thousands, hundreds of academic research papers on that topic, and then I come into a regulatory setting and a lot of the witnesses don't know the academic literature.

MR. O'BRIEN:

Q. So in that context, I guess back to my questions in terms of your being a conservative expert in terms of estimating ROE, that's not a surprise to you for me to ask you that, that you would normally be along, either among the lowest or the lowest in a hearing for a recommendation of a ROE, is that a fair assessment?

DR. BOOTH:

A. I think that's a reasonable assessment. I noticed in the AUC I wouldn't have been the

lowest. Sean Cleary would have been the lowest, he was in the sixes, and there was another witness that would have been at 7.7 percent who I think was an Intervenor witness as well. It's not at all unusual for Intervenor witnesses to be about 1 percent below where the Board ends up and the utility witnesses, 1, 1.5 percent above where the Board ends up. Now whether they actually just saw off the numbers, I don't know. The OEB did that, by the way, they just took the four witnesses, three by the utilities, one by me and they just averaged them, which I was really annoyed about, but that's how they came up with the entering ROE in the OEB hearing back in 2009.

MR. O'BRIEN:

Q. Could you answer for me whether or not-- being an academic, obviously, I think I know the answer to this, but the fact that your proposed ROE would be 130 basis points below what the average ROE would be for a utility, would that make a difference to you for your opinion?

DR. BOOTH:

A. No. My job is to give the Board—and this is the requirement of any witness, as I'm sure you're aware, is independent of who hires them to be of assistance to the Board and offer an independent view, and I don't think you'll find anybody that's familiar with what I've done in regulatory circles who will say, well Professor Booth is beholden to who pays his bill, that he's independent and entirely consistent with academic literature and academic theory. There's nothing I say here that I wouldn't say in an MBA class and don't say in an MBA class.

MR. O'BRIEN:

Q. And the fact that your 7.7 proposal is 160 basis points below the average for an investor-owned electric utility in Canada, that makes no difference to your opinion?

DR. BOOTH:

A. I do look at them and I look at the ones that I participated in. I look at Maritime Electric, for example, they have a higher ROE than I recommended and I was the Board witness there. And you wonder what goes into some of these decisions, but Maritime

Electric has only got 40 percent common equity, not 45 percent.

MR. O'BRIEN:

Q. And this is kind of where I'm going when you say you wonder what goes into these decisions. Do you consider these decisions when you put together your opinion? Is it made up, does it make up any part of your judgment as to what would be a fair return on equity, given there are other utilities out there with higher returns and other commissions and regulatory boards ordering higher returns, does that make any sort of impact on your assessment of ROE?

DR. BOOTH:

A. Well there's two parts to that, Mr. O'Brien. First of all do I read the decisions I'm involved with? Of course I do. I'm vain, most people are vain. You want to read the decision and they say, "Oh, Professor Booth did a fabulous job, we love his opinion", so and when they say "Well, we rejected his opinion for doing this", I look and I think what in the heck did they do that? So do I read the decisions? Of course I read the

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decisions. Do I pay attention to them? Yes, in the sense that if I look at the reason for why they rejected and I think, oh my God, obviously I did a bad job in looking at that, I've got to do something else. I've got to correct my testimony to make my position clear, because the Boards made decisions based upon the evidence in front of them. If you don't provide them with everything you know, and God, how many pages have I got here? Probably around 200 pages, there's things that I could add to that without any trouble whatsoever, but then you get into the problem, you give them too much information, they can't absorb it, my students can't absorb it so I can't expect three board members, no matter how clever they are, to read 220 pages and distil all of it, it's a tough ask. But do I look at board decisions? Yes. Do I look at allowed ROEs? Yes. Do I look at common equity ratios? Yes, mainly common equity ratios because they're, as I say, they're more standard, they're more permanent which is why I gave the Fortis electric companies as

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a yardstick. Do I pay attention to the allowed ROEs? I look at them, but I'm not going to change my decisions or what I do and I can't change the betas, they're not my betas, they're RBCs betas. I can't change Kroll's market risk premium, it's Kroll's market risk premium. I can change the long-Canada rate, but there's a number of things that I can't change them and reconciling that with some of the allowed ROEs, I read the decisions and sometimes I don't understand how they come up with their numbers, and sometimes they don't exactly spell out where they come out with their numbers.

MR. O'BRIEN:
Q. So rather than try to compare them, you don't use those as a comparator in any way, shape or form for your opinion, you read them and I presume you look at them to see how they came to the decision, but does that affect your ultimate opinion?
DR. BOOTH:
A. No.
MR. O'BRIEN:

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Q. And when I say the decisions, I'm talking about the other ROEs out there.
DR. BOOTH:
A. No, it doesn't, I look at, for example, this Board used an explicit capital asset pricing model back in 2009.
MR. O'BRIEN:
Q. Sure.
DR. BOOTH:
A. Did I look at that? Of course I looked at it. I looked at their market risk premium, I looked at their long-Canada rate, I looked at their beta, I looked at their—and I thought, well, that's reasonable, how did they get that? And so, am I going to change my market risk premium to please the Board? No, I'm not, that's not my duty. My duty is to give an unbiased opinion on what I know, as a professor of finance, and what the academic literature that's done research on these topics informs that judgment.
MR. O'BRIEN:
Q. You mentioned earlier and I believe you prefaced this by, I'm sure Mr. O'Brien is going to ask me this, but in the event the

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Board did reduce the ROE here for Newfoundland Power to 7.7 on a 40 percent equity thickness, do you think that that would have an effect on credit rating agencies' assessment of Newfoundland Power?
DR. BOOTH:
A. Absolutely. As I mentioned, any sort of a shock affects the rating agencies, they don't like—they like prediction and one of the things, I mean I think it's Moody's explicitly says 50 percent of their weighting, its ability to earn the allowed ROE and regulatory protection. Credit metrics are important, but the most important thing is that the bond holders get their money back and what they want to know is how the regulator behaves on that and as you know, I'm sure, Mr. O'Brien, that after, God I'm forgetting the—anyway, after a big pipeline in the United States went bankrupt—how in earth is it that I can't remember their name.
MR. O'BRIEN:
Q. Nortel.
DR. BOOTH:

A. No, no, the US pipeline.
MR. O'BRIEN:
Q. Enron.
DR. BOOTH:
A. Enron, after Enron went bankrupt, the bond holders lost a lot of money and Standard and Poor's was really annoyed with the FERC because they didn't make chances to protect the bond holders in Enron. Their primary concern is getting the money back to the bond holders. They are not equity investors, they are rating the ability of the utility to repay the bonds. And they'll look at that and they'll say, oh, less equity, less ROE, less net income, absolutely certainty, earnings before interest and tax and the coverage ratio would go down from what it was previously. Now offsetting that, it's a horrible thing to say but taxes have gone up in Newfoundland and it's not the actual ROE, it's the pre-tax ROE that matters. Now that doesn't help Fortis, they're just going to say we're going to get less money, but the rate that goes into determining the coverage

ratio is not my 7.7 percent, it's 7.7 percent divided by .695, 1 minutes the tax rate, and that is still better or very similar to, say, an Alberta utility getting 9 percent on 40 percent common equity ratio because their tax rates in Alberta are so low. So as far as the utility—sorry, the bond holders are concerned, we don't care about the taxes, we get paid before the government because it's a prior charge.
MR. O'BRIEN:
Q. It's your position bond holders would not be affected by this type of a regulatory shock, I would suggest, of 7.7 and 40 percent?
DR. BOOTH:
A. I think this would be a surprise to the credit rating agencies and I'll freely admit that. I can't change what I regard as fair based upon the fact that there may be some reduction in Newfoundland Power's bond rating. At the moment, they've got just about the most general bond rating in amongst any Canadian utility, matched only by FEI and they're basically Mood's A, to middle of the A range; whereas most Canadian

utilities are low, A minus. So they've got a better than normal bond rating, so and that's mainly because of the 45 percent common equity ratio, it's not because of the ROE.
MR. O'BRIEN:
Q. Well let me follow up on that comment, "I can't change what's fair", okay, and we've got, you've indicated that your recommendation is to 7.7, but as I read through your report and I've done it a number of times, obviously, I came to a point where I thought it seems to me you are recommending that actually the 8.5 is fair.
DR. BOOTH:
A. I do think the 8.5 is fair. I've agreed to it in settlements, Mr. O'Brien.
MR. O'BRIEN:
Q. No, and I'm not asking you that because I think that's kind of a discussion with the Consumer Advocate, but your report says that, so if we can bring up Dr. Booth's report, page 117, lines 7 to 15. You say there, "In my view a fair ROE is 7.7 on 40 percent equity ratio or a profit for Fortis

investment in Newfoundland Power of 3.08 percent for every dollar. This is lower than that allowed other utilities within Fortis, but in my judgment regulators tend to err on the side of caution in both 2018"— and you go through a scenario here where you describe the 2018 and 2021 settlements. Then you say, "Consequently I regard an 8.5 percent ROE as fair and reasonable. This is particularly true since the 8.5 percent is very similar to what emerges from adjusted NEB ROE formula in my appendix E." Now I've listened to testimony earlier where you've gone through, you've broken down your ROE from your 7.28 to your 8.13 range, you get your 7.7 in the middle, but you also talked about floatation and 50 basis points, almost to the extent that you would drop 50 basis points off of the 7.28 and 50 basis points off of the 8.13, so we're even well down below the 7.7 and now you're saying 8.5 is far. How do you sort of explain that to the Board and square that, is it 8.5 that's fair?
(12:00 p.m.)

DR. BOOTH:
A. First of all, the 50 basis points is in my recommendation, I regard that as part of the issuing costs for a utility, but I flagged the Board's attention, I don't know what the legal requirement is to allow a cost that's not been incurred, and as I said, the Regie, they flagged that as well. So we sort of, I'd say there seemed to be a consensus amongst witnesses not to argue over the floatation costs in the sense that Mr. Coyne uses 50 basis points. Before that, Ms. McShane and I used to argue about floatation costs. At one point she used a market book ratio of 1.15 to adjust her recommendations, but now we've sort of settled on 50 basis points. I don't bring in any testimony for that, but I'm just flagging the fact that for the first time I've heard a utility say we never incurred any floatation costs, so legally I don't know whether you can actually charge off to ratepayers a cost that the utility hasn't incurred, so I'm just flagging that for the Board's attention, but my recommendation is 7.7

percent. How do I flag that with the fact that 8.5 percent, I would say that you do look at other recommendations, allowed ROES, it doesn't change my view. My view is still 7.7 percent. Do I think the NEB formulas give a reasonable rate of return? That was a formula that was satisfactory for a long period of time and if we use my minimum rate of 3.8 percent, it's giving a rate very similar to what the Board is allowing. So I've accepted the NEB formula, I was part of the hearing in '94, I've accepted that as giving fair and reasonable allowed ROEs, so am I going to argue a rate of 8.44 for the NEB formula versus 8.5? No. That is one definition of fair and reasonable which is the formula that was standard in Canada for 15 years.
MR. O'BRIEN:
Q. So that formula is not used here.
DR. BOOTH:
A. No, we've got our own formula and before we answer that, I have said repeatedly for two decades why on earth do we have all these cost of capital hearings? We should have

one cost of capital hearing in Canada and then basically determine the generic ROE and then in the GRA for each utility determine the common equity ratio for specific factors relative to that utility. That's, because there's so much repetitive evidence on this, but you can't do that because of provincial regulation and not federal regulation and it brings up all sorts of legal problems.
MR. O'BRIEN:
Q. It's not really an argument to have, I mean it's, at this point, if you can't do it, you can't do it.
DR. BOOTH:
A. You can't do it, yeah, it's provincial regulation and we get enough provincial versus federal as it is.
MR. O'BRIEN:
Q. But getting back to the 8.5, I'm going to suggest to you and you can agree with me, disagree with me, there's one of two things going on here, either A, you're using comparable ROEs out there as part of your analysis, or B, you think your 7.7 is too low, which is it?

DR. BOOTH:
A. Neither of those.
MR. O'BRIEN:
Q. Okay.
DR. BOOTH:
A. My fair return is 7.7 percent, but I've supported the NEB formula for 30 years, and if you adjust for the same thing that everybody is using an adjustment for credit spreads to correct the weakness of the formula in 2009, you get something very similar to the Board's 8.5 percent. And I've got a question, I think it was from the Board, do I think 8.5 percent is fair on 40 percent or on 45 percent? I regard 8.5 percent on 40 percent as being fair. If the Board—and then I got a question from the Board saying well perhaps we increase the common equity ratio, reduce the ROE, I regard that as being fair. As long as you look at the common equity ratio and the allowed ROE because they sort of, they go hand in hand.
MR. O'BRIEN:
Q. Because that's not clear from your comment

there, that is 8.5 with a 40 percent.
DR. BOOTH:
A. Yeah, well that makes sense, 8.5 on 40 is fair.
MR. O'BRIEN:
Q. But is that what your evidence is that 8.5 on 40 is fair
MR. BOOTH:
A. 8.5 percent on 40, I've said repeatedly that I don't think 45 percent is appropriate for Newfoundland Power, that it's excessive compared to Maritime Electric, Fortis Ontario, Fortis, BC Energy, the old West Kootenay Power. So does that clarify it, Mr. O'Brien?
MR. O'BRIEN:
Q. I'm not certain it does, but that's fine, Dr. Booth.
DR. BOOTH:
A. I must admit, I'm giving the Board some options, I'm not dogmatic on this, Mr. O'Brien, I know that they've rejected my 40 percent common equity ratio repeatedly for the last, ever since 2009, and I think, as I have said in my opening statement, that I'd

at least like the Board to say we go back to 40 to 45 percent as being reasonable, as they've decided in the past, and I don't know what goes on in their deliberations, but whenever they set the ROE, I hope they take into account the common equity ratio and I hope they spell it out in their decision.
MR. O'BRIEN:
Q. I'm going to jump to another area, Dr. Booth, and you've raised this a couple of times and it's been raised by Mr. Coffey with Concentric, and that's the excessive earnings band, I think, or account that was discussed, so it's the excessive earnings on the rate of return on rate base. In your evidence and I'm going to ask that we pull up the direct evidence on page, I think it's page 1, pdf 3, there's a number of key points that you outline here. Actually, it's two pages in, I think, next one, yeah, it's page 3 of the report. Yeah, here it is, if we scroll up a bit, Item No. 5 there and this talks about the commentary you were giving yesterday as well about the actual

ROE and the effective ROE of Newfoundland Power being not 8.5 but actually closer to 8.9. Now, this is line 7 to 9, "My recommendation is that the Board set what it regards as a fair and reasonable ROE and any excess earned above that amount be shared 50/50 with ratepayers." Were you asked to go –
DR. BOOTH:
A. And go on to the next sentence.
MR. O'BRIEN:
Q. "Otherwise, it is difficult to understand what the Board considers to be a fair and reasonable allowed ROE." Were you asked to assess the issue of a shared, of the sharing of excess earnings as part of your –
DR. BOOTH:
A. No, I wasn't and that's not what this is about.
MR. O'BRIEN:
Q. No, I understand what this is about, I'm just asking, but it says a recommendation here, so it actually says "my recommendation here is a 50/50 earning sharing".
DR. BOOTH:

A. That's correct.
MR. O'BRIEN:
Q. That's correct, right, that's your recommendation there. And you indicate, I think, and if we could pull up MPCA No. 2, you were asked whether or not that was—I mean, is this a recommendation on your part and I think based on what I believe you're going to indicate is that you didn't give evidence on sharing mechanisms, this has to do with the earned ROE, is that fair?
DR. BOOTH:
A. That's absolutely correct. It's a question of what does the Board really think is a fair and reasonable allowed ROE.
MR. O'BRIEN:
Q. Okay.
DR. BOOTH:
A. If it's 8.5 percent and they consistently make 40 basis points more, it's not 8.5 percent, it's 8.9 percent, and I would like— and this comes, I mean Mr. Coyne picked up on this, we come back down to comparisons. If you consistently allow the utility to earn 40 basis points more, then what you're

really saying is the allowed ROE, the fair allowed ROE is 8.9 percent and I would like the Board to spell out, in its decision, as what it regards as a fair allowed ROE.

MR. O'BRIEN:
Q. Okay.

DR. BOOTH:
A. In my perception it is not 8.5 percent.

MR. O'BRIEN:
Q. So in this answer to an RFI here, there's a question here, A, "Is Dr. Booth recommending that the Board place a hard cap on Newfoundland Power's authorized ROE, such that any earnings above the authorized ROE should be shared evenly with customers", and your answer—and is this your answer, do you adopt this as your answer?

DR. BOOTH:
A. Look, nobody interferes with neither my evidence or my IRIs, except to tell typos.

MR. O'BRIEN:
Q. Right, okay, so the answer is no, Dr. Booth had not presented evidence on earnings sharing mechanisms and that's what I want to ask you about, on earnings sharing

mechanisms, so if we could go back, I want to get a flavour for what sort of analysis you did on earnings sharing mechanisms for this report.

DR. BOOTH:
A. Well I'll give you a clear answer on that, nothing.

MR. O'BRIEN:
Q. Nothing, okay.

DR. BOOTH:
A. My concern is not with the earnings sharing mechanism, my concern is with the fair and reasonable ROE and what the Board regards as a fair and reasonable ROE.

MR. O'BRIEN:
Q. That's my understanding. So why did you recommend a 50/50 sharing of earnings?

DR. BOOTH:
A. Well if the Board generally believes that there's uncertainty and you're basically giving them the opportunity to earn their fair ROE, then standard economic theory is that's a rational forecast, there's equal probability of being above or below, in which case, share it.

MR. O'BRIEN:
Q. So you haven't done any assessment, any jurisdictional review on earnings sharing mechanisms, is that fair?

DR. BOOTH:
A. That's absolutely fair. As I said there, I mean, this is not really—I'm not presenting earning sharing mechanism and you can strike that 50/50 if you like. I just want to know what the fair and reasonable ROE is.

MR. O'BRIEN:
Q. And that's my point, Doctor, you just said you can strike that 50/50, it's in your report as a recommendation. It's not observation, this was a recommendation on a 50/50 earnings sharing mechanism and I'm going to suggest to you you weren't asked to look at it, you didn't do any jurisdictional review to assess the appropriateness of a 50/50 earning sharing mechanism, that's fair, correct?

DR. BOOTH:
A. That's correct.

MR. O'BRIEN:
Q. All right, yet you put it in your report as

a recommendation to this Board.

DR. BOOTH:
A. That's correct, but as I said, there's the otherwise after that, that qualifies that statement.

MR. O'BRIEN:
Q. So that qualification can't be based on a review of earning mechanisms because you didn't do that.

DR. BOOTH:
A. Well, that's correct, but I mean, if in fact it's a fair ROE and you got equal probability of over or under earning, they should be shared – I would judge that a rational forecast should result in both over and under earning, in which case you might as well share those. But you're absolutely correct, I have not done any research on earning sharing mechanism, and as I said, otherwise, and this is where it comes in, it's a question of what is the fair and reasonable ROE. If a company consistently over earns, as Newfoundland Power does, you got to ask what does the Board really think is the fair and reasonable ROE when in fact,

it doesn't make it's fair and reasonable ROE, it earns in excess of that.

MR. O'BRIEN:

Q. So, this Board has already made a determination on an excess earnings account. There's one in existence.

DR. BOOTH:

A. Yeah, I know.

MR. O'BRIEN:

Q. Right. You under – obviously, you know that. But you haven't done any research and you've made a recommendation here. You haven't presented any evidence. Do you agree with me that as an expert before this Board, you should be presenting evidence in a fair, impartial, unbiased manner? Agree with me?

DR. BOOTH:

A. That is impartial and fair.

MR. O'BRIEN:

Q. But you haven't done any research on this. You haven't presented any evidence and now you're making a recommendation.

DR. BOOTH:

A. I'm making a recommendation of what the

Board thinks is a fair and reasonable ROE, and I would tell you, Mr. O'Brien, I was contacted by a litigation expert in Quebec. They got a class action suit against Hydro Quebec. Why have they got a class action suit in Hydro Quebec? It's because they consistently over earn their allowed ROE and the claim – yeah, but they're certified, but the claim is that Hydro Quebec basically manipulates its forecast to consistently over earn. I've told them I want nothing to do with it, but they wanted to hire me as an expert witness. But it does raise the base – and this was only – this was after I filed my testimony. But it raises a fundamental point which I'm addressing here is what is a fair and reasonable ROE. You're right, I put in 50/50. Perhaps I shouldn't have done that. But you got to read the otherwise. Otherwise what is the fair and reasonable ROE if NP consistently over earns?

MR. O'BRIEN:

Q. Dr. Booth, I'm going to be honest to you, I was going to come back to this at the end of my questioning, this particular RFI

response, and you've just presented some of the commentary I was going to put to you.

(12:15 p.m.)

DR. BOOTH:

A. So, we agree with each other?

MR. O'BRIEN:

Q. In this RFI response, and this is your RFI response, is it not?

DR. BOOTH:

A. Yeah.

MR. O'BRIEN:

Q. You have mentioned what you just mentioned about being contacted by a lawyer and Hydro Quebec – "being certified for a class action against Hydro Quebec for knowingly and recklessly presenting evidence on its costs and expenses resulting in consistent over earning over an eight-year period. Dr. Booth wonders whether a similar suit would be certified in Newfoundland and Labrador given Newfoundland Power's 25-year history of over earning." Do you have any evidence to suggest Newfoundland Power knowingly and recklessly presents its costs and expenses to this Board?

DR. BOOTH:

A. No.

MR. O'BRIEN:

Q. Not a shred, do you?

DR. BOOTH:

A. No, but all I do know is it consistently over earned and I just say I'm wondering. I'm not saying that I know.

MR. O'BRIEN:

Q. Dr. Booth, this is not a passing comment. This is not a benign comment here. Knowingly and recklessly, the implication is Newfoundland Power is doing the same.

DR. BOOTH:

A. That is not the implication. The implication is that Newfoundland Power is consistently over earning its allowed ROE.

MR. O'BRIEN:

Q. You could have easily said that without mentioning knowingly and recklessly presenting evidence of cost in that manner. You could have easily said they consistently earn their ROE and left it at that, but you chose not to.

DR. BOOTH:

A. No, they consistently over earn -
MR. O'BRIEN:
Q. Yeah, but you chose -
DR. BOOTH:
A. - their allowed ROE.
MR. O'BRIEN:
Q. You could have left it at that, but you chose not to.
DR. BOOTH:
A. No.
MR. O'BRIEN:
Q. You suggested they could be certified on the same basis that Hydro Quebec was certified, and you have absolutely no shred of evidence to say Newfoundland Power is engaging in that kind of conduct. Is that fair?
DR. BOOTH:
A. I have not looked into the mechanism by which Newfoundland Power has consistently over earned its allowed ROE.
MR. O'BRIEN:
Q. So, they could be doing that? Is that what you're saying?
DR. BOOTH:
A. I don't know. I'm wondering. I don't know. I'm wondering, Mr. O'Brien. I'm not saying they're doing it. I'm just saying I'm wondering how is it that year after year Newfoundland Power over earns its allowed ROE, and I'm – and I mean, the Board allows the 40 basis points around the utility cost of capital. So, and I have to go back to Hydro Quebec and work out what they allow, but I'm just pointing out that this question of over earning has resulted in a class action suit in Quebec, and that's based upon eight years.

MR. O'BRIEN:
Q. So, that must be happening here?
DR. BOOTH:
A. Here, we're concerned with 30.
MR. O'BRIEN:
Q. Is that – it must be happening here?
DR. BOOTH:
A. Well, I don't know. If there's any lawyers in the room, they might look at this and say, "well, if they can get certified in Quebec -
MR. O'BRIEN:
Q. This is your response, Doctor, and you're intending to be an impartial witness before this tribunal. Is that fair?

DR. BOOTH:
A. That's correct.
MR. O'BRIEN:
Q. I'm going to suggest to you that's an inappropriate comment. Without any evidence or any shred of evidence, that's an inappropriate comment.
DR. BOOTH:
A. Well, you might – look, that might be your judgment. I'm just – I'm not saying that they've done anything. I'm just wondering if in fact Quebec, they're certifying a class action based upon eight years, what would happen when they look at Newfoundland Power over 30 years.
MR. O'BRIEN:
Q. So, you're going to stick to your guns on that?
DR. BOOTH:
A. Well, no, I'm just saying it's a fact that Newfoundland Power has over earned consistently for 30 years, and generally, that's about 30 basis points. I'd like the Board to state what it thinks is the fair and reasonable ROE, whether it's 8.5 plus 30 or 8.5 plus 40, but the fact is Newfoundland Power has consistently over earned. And as I've said repeatedly, that's not just Newfoundland Power. That's right the way across Canada, and I don't know what's going on in Quebec. I was contacted by the lawyer and I said no, I'm not going to do that. But the fact is there is a lawsuit in Quebec about over earning. The lawyers have been certified as knowingly and recklessly. I haven't said it's knowingly and recklessly. I'm just -

MR. O'BRIEN:
Q. You wondered it.
DR. BOOTH:
A. Well, that's why it's in brackets, but it's not what I've said. That's what the lawsuit says, and it's been certified in Quebec.
MR. O'BRIEN:
Q. Doctor, I'm going to take you through some further testimony on the models that you use and that sort of thing, and you've testified already here in your direct that you use a

fair bit of judgment in certain areas. You rely on data, but you also impose your own judgment in -

DR. BOOTH:
A. I would hope so.
MR. O'BRIEN:
Q. Right, you agree with me on that?
DR. BOOTH:
A. Yeah, absolutely.
MR. O'BRIEN:
Q. All right. So, how is it that in imposing that judgment, and I'm going to use a phrase from your own report. You talk about the use of US utility data as looking through a dirty window, I think is what you use, because it gives biased results, biased high results, and I'm going to use that phrase of dirty window and I want to understand whether or not – how is it you, when exercising your judgment, make sure you do so without looking through your own dirty window to see if there's no bias on your behalf when you're exercising that judgment? What do you do?
DR. BOOTH:

A. I think you misunderstand the dirty window.
MR. O'BRIEN:
Q. Well, I'm using it in a different way.
DR. BOOTH:
A. Exactly.
MR. O'BRIEN:
Q. But it's bias.
DR. BOOTH:
A. Very much in a different way.
MR. O'BRIEN:
Q. It's a bias issue that you raise in here, the US bias – US results are biased high. That's the way you describe it. So, I'm asking how you get rid of your own bias, if you have any, any inherent biases?
DR. BOOTH:
A. I don't think I have any inherent bias. I'm saying exactly the same thing for the last 35 years and it's based upon standard economic and financial theory and basically looking at the data. So, I don't – look, I would say that the AUC, some of the witnesses were much lower than I recommend. So, I don't think what I'm recommending is biased low, and we can talk about KKR buying

its share and there's absolutely no question that its fair rate of return is less than 8.5 percent, in which case – and I can't see how it's higher than my recommendation. So, I don't think my recommendation is biased. I don't think I have a dirty window. And by the way, Mr. O'Brien, the phrase "dirty window", I've been using it for the last 35 years in Canada, increasingly so because we need to look at the operating company. We can't see the operating company. It is a dirty window, trying to extract from the holding company what's going on in the operating company. And I've talked about regulators about this issue for a long time. We lost Maritime Electric. We could have looked at Maritime Electric and we could look at their stock price, their beta and we could look at everything and there was no dirty window. Now, to look at Maritime Electric, we have to go through Fortis and we have to pick samples. It's a dirty window that we're trying to look through to find out what's going out with a regulated utility and all we've got is these utility

holding companies. Now, that's not a bias. It's a fact is we have got a dirty window and I don't think that US electric holding companies are a good proxy for Newfoundland Power, as I made that clear.
MR. O'BRIEN:
Q. You've made that clear.
DR. BOOTH:
A. Yeah, they're holding companies. They're not operating companies. They're riskier than operating companies is well accepted. They've got generation. They've got industrial – they've got so many things that make them non-comparable, as this Board has accepted. Looking through that dirty window is incredibly difficult. We have to make adjustments. I would love us to have more pure operating companies trading. The only one we've got is Hydro One and a beta for Hydro One is .3 to .38, which is way lower, and that's a pure T&D utility, and it's traded and we've got the betas. We've got the information for Hydro One. I would like nothing better to go back to 20 years and have Consumers Gas traded, to have Union Gas

traded, to have Maritime Electric traded, to have Maritime T&T still around. We can't do that. They don't exist anymore. We're looking at through dirty windows to try and get what's going on for these utilities. That means we have to exercise judgment because there is no data, except for Hydro One, on a Canadian operating T&D utility, and unless this Board decides we're just going to use Hydro One, which is not in Newfoundland, it's in Ontario, that's all we've got. Everything else involves looking through a dirty window.

MR. O'BRIEN:
Q. Doctor, in terms of the earned ROE, Newfoundland Power having earned it for the last number of decades, is that part of the fair return standard? Is that one of the legs of the fair return standard; for the regulator to look back and decide "well, you've earned your ROE, so we're not going to raise it"? Is that the approach that has to happen here? Is that what you're suggesting?
DR. BOOTH:

A. I'm not suggesting that at all.
MR. O'BRIEN:
Q. Okay.
DR. BOOTH:
A. The fair return standard basically – look, you got to remember where all of this comes from. It comes from the fact that utilities are regulated monopolists and without regulation, they'd charge unfair prices. So, the key is the prices. There's nothing in regulation to say, "well, give them a deferral account for their pension benefits. Give them a deferral account for all these other things." That's not in the fair return standard. That's the way we implement the fair return standard. But what we – but technically, there should be losses and gains. All we need to do is regulate their prices and then like a regular company, if there's a shock, they get losses and they lose money. And if it's a positive shock, they make money. There's nothing in regulation that says that we should basically regulate them so carefully that they exactly earn their allowed ROE.

But the fact that they earn their allowed ROE should be used by the Board to assess how good a job they're doing in transferring the risk from the utility to the ratepayers, which is what all these deferral accounts do. And that's part of the regulatory protection and the regulatory compact in Canada.
MR. O'BRIEN:
Q. So, it's not the fact that they've earned it that should set what the ROE is?
DR. BOOTH:
A. No, I think it should take into account the fact that we – look, as I said, when I first testified I used to see the company witnesses coming in talking about business risk, financial risk, regulatory risk. Thers is no regulatory risk. It's regulatory protection in Canada.
MR. O'BRIEN:
Q. And you agree with me that determination of what an ROE is, this is a forward-looking determination? It's not looking back at the last 25 years to say you've earned your ROE, so we're going to knock you down one.

DR. BOOTH:
A. No, I don't recommend that.
MR. O'BRIEN:
Q. No.
DR. BOOTH:
A. I say that the Board should look at the past experience and take that into account in assessing its business risk, as in fact Moody's recommends.
MR. O'BRIEN:
Q. And let me move just to your models that you've used with respect to the ROE and how you – and you've taken the Board through a fair bit in your direct on that and I've listened to your description of how you use models. I want to ask you in general whether you agree with me when it comes to the use of models, in order to establish a fair – what a fair ROE might be. You've mentioned over time you've gone back and forth with some models. You had some DCF models you used earlier in your career and you've changed somewhat. But would you agree with me there's no single widely accepted best financial model to use to set

an ROE?

DR. BOOTH:
A. No.

MR. O'BRIEN:
Q. And that's – I mean, I don't think that's controversial, right.

DR. BOOTH:
A. The financial theory says that the DCF, Gordon model, whatever you want to call it, and the risk premium should give the same answer.

MR. O'BRIEN:
Q. Yeah, and so -

DR. BOOTH:
A. And then you -

MR. O'BRIEN:
Q. Oh, sorry.

DR. BOOTH:
A. Then, as the survey said, you talk to people what are their expectations and then you use common sense in terms of a risk ranking. That's exactly the same. It's a data question in terms of which ones are better. Mr. Coyne takes exception to the fact that I said the DCF model fell out of favour in the

'90s. Well, the fact is it did, and it – we used risk premium models right the way up until 2009 when we had this massive bond buying. So, the usefulness of these models depends upon the underlying data that's available and if the data become corrupt in some way, then the usefulness of that model goes away. And I'm not – I would not continue slavishly using a model where the underlying data, such as the long Canada rate, is no longer fair market value and is corrupt.

MR. O'BRIEN:
Q. I'll get to that point because I think you do make some adjustments to continue to use that model. Is that fair?

DR. BOOTH:
A. That's correct.

MR. O'BRIEN:
Q. Yeah. So, you do use the model?

DR. BOOTH:
A. I use the model because there is a -

MR. O'BRIEN:
Q. Yeah, but it's a contingent model, I think is what you called it.

DR. BOOTH:
A. I used to call it a contingent, cap asset pricing model by making it contingent upon credit spreads -

MR. O'BRIEN:
Q. Right.

DR. BOOTH:
A. - because there's consensus across Canada that when the credit spreads widen, you're in a default and the equity costs goes up, and I've never been a big fan of that because it evens out over the business cycle, but I've accepted that and it's in my recommendations and within – and it's in almost every formula. So, that is there and I have to make adjustments to use the long – the risk-free rate. I cannot use a -

MR. O'BRIEN:
Q. You can -

DR. BOOTH:
A. - rate that's not fair market value.

MR. O'BRIEN:
Q. Would you agree that cost of capital models are imperfect tools? I mean, each one of them has its own limitations. That's not

controversial, is it?

DR. BOOTH:
A. No, I'd say the models are credibly valid, but the data is imperfect in the practical applications of them.

(12:30 p.m.)

MR. O'BRIEN:
Q. But there's limitations for the purpose we're using them for?

DR. BOOTH:
A. I would say that's – I'd say that we've used a CAPM for the last 20 years without too many problems.

MR. O'BRIEN:
Q. Well, if there's no limitations to it, you've just mentioned there's a limitation, the long-term Canada bond.

DR. BOOTH:
A. That's right.

MR. O'BRIEN:
Q. So, there's a limitation to that.

DR. BOOTH:
A. Well, that's true. There's always data problems in putting that in and so, I'll agree with you on that, Mr. O'Brien, and the

DCF fell out of fashion when inflation dropped and all of a sudden growth rates became a lot more difficult to focus.
MR. O'BRIEN:
Q. Yes, and I'm not – I'm not arguing economic theory with you and whether the models themselves are supposed to bring out a certain result, but the fact of the matter is there are limitations with each one of them, depending on certain factors, data, that sort of thing? You'd agree with me?
DR. BOOTH:
A. I would agree with that.
MR. O'BRIEN:
Q. Yeah, okay.
DR. BOOTH:
A. And that's in my testimony.
MR. O'BRIEN:
Q. And depending on the approach used, I mean, this whole cost of capital assessment, as Ms. Greene has indicated, there can be more of an art to it than a science.
DR. BOOTH:
A. Non-finance people say that. So, I mean -
MR. O'BRIEN:

Q. I'm a non-finance person.
DR. BOOTH:
A. Yeah. Well, I know, you're a lawyer. I hate lawyers.
MR. O'BRIEN:
Q. I'm sure you hate me more today than yesterday.
DR. BOOTH:
A. And I say that because I was taught a long time ago to read paragraphs and I know there's a lot of lawyers in the room and a lawyer explained to me, we don't read paragraphs, we read words, and how you interpret that word – look, and I've been in tax cases where it hinges on the interpretation of the word. I read the paragraph and I say, "my God, it's obvious" and then the lawyer says, "no, it's that word". So, lawyers are not like other people. I'll say professors of finance are not – professors of finance are not like other people.
MR. O'BRIEN:
Q. There's one on the Board.
DR. BOOTH:

A. It's because we're all trained to think in a certain way, and it's our professional training that takes us down a silo, as it were. So, I don't – and I don't think that's that revolutionary, but I mean, finance academics, estimating the cost of capital is not the most difficult problem in finance.
MR. O'BRIEN:
Q. No.
DR. BOOTH:
A. And I said that before the CRTC when they were saying how difficult it was. I said it's not difficult. This is something we give our undergraduates. But it becomes difficult when you're in a litigated hearing and you end up with nuances in terms of the data and the estimation processes.
MR. O'BRIEN:
Q. And that's where judgment comes in?
DR. BOOTH:
A. That's where judgment comes in, but honestly, what I do, I don't think there's a lot of judgment in it, and my estimates – the judgment is really on the long Canada

rate.
MR. O'BRIEN:
Q. Well -
DR. BOOTH:
A. And the market risk premium and betas, I use public market betas and public market data to backup my judgment in those areas and I do not deviate from consensus in those areas. The long Canada rate, I do deviate because – and I've deviated consistently because I think I understand a little bit more about the global capital markets and the intervention of the central banks and sometimes I listen to some of the witnesses, particularly the United States witnesses. They generally, in the US, they don't have a big section on financial market conditions and the economy. They come in and they – and in fact, I was told – not told, but said "why do you have all of this economic stuff in here? We just want to know what your estimates are." And that was before the Canadian Association of Petroleum Producers when I first put my testimony. I said, "we need it in Canada. It's a legal requirement

to look at conditions in the money market." So, you can't – and the ROE comes out of those conditions in the money market. But my understanding is a lot of people don't do that. And yet, to use the CAPM, you have to have the appropriate risk-free rate.

MR. O'BRIEN:
Q. So, Doctor, I guess my question was more of a general question that there are areas where you have to exercise judgment in giving a cost of capital opinion, in interpreting, in what data to put in there, and that sort of thing, and this is where, I think, myself and Ms. Greene had put kind of questions to the cost of capital experts that it may be more of an art than a science, and that's what I'm wondering. Do you agree with that?
DR. BOOTH:
A. No.
MR. O'BRIEN:
Q. In that context. You don't?
DR. BOOTH:
A. No, not in terms of the market risk premium, not in terms of betas.

MR. O'BRIEN:
Q. Okay.
DR. BOOTH:
A. Not at the current point in time. If you went back to 2000, we were getting negative betas and I'd say yes. But at the current point in time, I don't see there's significant difference between me and most of the independent people that provide betas. The area where there's more judgment is in the long Canada rate. Do we use the actual rate in the capital market and ignore the fact that the Bank of Canada is holding 300 billion dollars worth of Government of Canada debt.
MR. O'BRIEN:
Q. So, Doctor, when you indicated earlier you've reviewed the testimony from 2016, and in 2016, Mr. Kelly asked you a number of questions concerning judgment where you had indicated, for example, the market risk premium, there's an element of judgment that you exercise there. The beta estimates, there's an element of judgment that you exercise there. Are you saying you don't

exercise judgment today? Is that what you're saying?
DR. BOOTH:
A. Mr. O'Brien, I would never say I don't exercise judgment.
MR. O'BRIEN:
Q. Okay. Well, that's what I'm trying to get at.
DR. BOOTH:
A. It's the job, my job to advise the Board.
MR. O'BRIEN:
Q. That's what I thought.
DR. BOOTH:
A. And that's judgment.
MR. O'BRIEN:
Q. I didn't think we'd be at odds on this point.
DR. BOOTH:
A. I exercise judgment, but the biggest area of judgment at the moment, particularly in the risk premium, is in the long Canada rate.
MR. O'BRIEN:
Q. Okay.
DR. BOOTH:
A. Not in the betas and not in the market risk

premium.
MR. O'BRIEN:
Q. Okay. Well, let's talk about that, the long Canada rate. So, that biggest area of judgment. So, we're talking – and you walked us through here today the components of that CAPM model with risk-free rate. That's the long-term Canada bond. And then you got your risk premium. So, you got your market risk and then you got your beta. So, I mean, those are your components to that model. Is that fair?
DR. BOOTH:
A. Yeah, yeah.
MR. O'BRIEN:
Q. Okay. So, in your risk-free rate, you used a long-term Canada bond. You've used a 3.8 kind of holding figure, trigger value I think is what you called it, right?
DR. BOOTH:
A. Yeah, I've used it as trigger.
MR. O'BRIEN:
Q. Yeah, I think that's fair. You called it a trigger value. And that's an area where you've exercised judgment with that model.

Is that correct?
DR. BOOTH:
A. That's correct.
MR. O'BRIEN:
Q. All right. And is that an area where other cost of capital experts have used the same judgment?
DR. BOOTH:
A. You mean the same judgment, the same value?
MR. O'BRIEN:
Q. Yeah. I'm just trying to get a sense where this comes from.
DR. BOOTH:
A. Kroll used – I mean, look, Kroll – people pay Kroll for their cost of capital navigator series. They have exactly – look, same problem we all face, which is that the long Canada bond and the US treasury yield are not fair market value. They're affected by the massive holdings by the central banks. Kroll uses 3.5 percent as their trigger and that's 3.5 percent in the United States and that's over the 20-year rather than we use the 30-year in Canada. So, there's a few basis points there. So, and

they are certainly an authority in terms of the market risk premium. Other than that, I don't see a lot of people using the current spot rate for the long Canada rate. Mr. Coyne, I'd have to check what he's doing at the moment, but he used to use a normalized long Canada rate, and he used to go out and look at the rate -
MR. O'BRIEN:
Q. Over a three-year period.
DR. BOOTH:
A. Yeah. He would – because he had the same problem. Look, the problems he and I face are exactly the same, which is the base of the risk premium, time value of money is distorted and it's less distorted now than it was say three years ago. Three years ago, in 2021 when we had a negative real return on a long Canada bond yield, that was absolute nonsense. I mean, nobody trades off the risk of equities versus a negative return on long Canada bond. It's incompatible with basic financial models, and all of these models are based upon economy theory where individuals are assumed

to be maximizing their utility and trading off risk versus return. And that's not happening in the government bond market because it's not individuals trading of risk and return. It's the government intervening for specific reasons. So, I don't think Mr. Coyne and I disagree about the fundamental problem. We disagree about how that's incorporated into our models and how we adjust for it.
MR. O'BRIEN:
Q. And so, why don't you use four, instead of three?
DR. BOOTH:
A. I have used four.
MR. O'BRIEN:
Q. When have you used four?
DR. BOOTH:
A. I can't remember. I went back and looked at my testimony. The bulk of the time I've used 3.8, but I did use four percent in a hearing, and I can't remember which one it is.
MR. O'BRIEN:
Q. Recently?

DR. BOOTH:
A. No, this is going back right at the beginning, when we first had the problem for the long Canada bond in 2011-2012. But I've used 3.8 percent as a minimum rate. I don't think, if we didn't have the government – well, if we didn't have the Government of Canada, we wouldn't have Government of Canada bonds, but if we didn't have the central bank intervening in the bond market, I suspect the yield on the long Canada bond would be higher than the 3.2 percent which it is at the moment. It's how much higher I've got – in my Appendix B, I've got a model that predicts the real return on the long Canada bond and the factors that determine that return. Like everything else, it's supply and demand. It's – one of my students asked me what determines this. I say it's supply and demand. Everything is supply and demand. It's a question of what goes into those supply and demand curves and the long Canada bond, I've got the deficit. When the governments run deficits, they're flooding the market with bonds and it ends

up that the prices go down and the yields go up. So, it's not an accident that our yields drop below those of the United States. When the Conservative government moved the – well, actually the Liberal government balanced the budget, we moved into surplus. This is why long Canada bonds went down and as a result, the – we had high rates on long Canada bonds. Now, we've got a government that's increasing the supply of long Canada bonds again and if the Federal government persists in 50-billion-dollar deficits, that's 50 billion dollars of Government bonds that are added to the Canada bond market and if the government – and if central bank then basically sells 300 billion dollars, you wonder where are interest rates going to go. So, 3.8 percent is my minimum bound. I would expect, depending upon the actions of the government and the central bank, to see those yields go up significantly above 3.8 percent.
MR. O'BRIEN:
Q. So, Doctor, the 3.8 percent, your minimum bound, that's a figure you exercise your

judgment and chose that particular figure. That's fair?
DR. BOOTH:
A. That's fair.
MR. O'BRIEN:
Q. Okay. And -
DR. BOOTH:
A. And it's been accepted by this Board and the BCUC and other boards.
MR. O'BRIEN:
Q. And you've used different – you've used four before in another board. I think you used this trigger value. I'm going to suggest you used something – a different approach back early on in 2011-2012, when this first initially became an issue for you, and in the 2013 hearing here, you cited the bond, the two – I think it was 2.81, 2.9, something in that range, and you added 130 basis points or operation twist I think is what you called it. So, you used a different approach at that time.
DR. BOOTH:
A. No, that's – no, that's exactly the same.
MR. O'BRIEN:

Q. You didn't use 3.8.
DR. BOOTH:
A. No, that's exactly the same. What happened, it was in – we had preferred yields and we had the time series of preferred yields put out by the Toronto Stock Exchange. So, we had good data or preferred shares. We don't no longer have that. And I looked at – preferred share, it's a question of what is a made-in-Canada rate. What is it that people trade off to buy equities? And you – at that time, the US was flooding the market with bonds and they were being bought by the central bank and we were being whip sored. I mean, we're not perfectly integrated with the United States. The United States is the elephant in the room in all this, in the sense that we get buffeted by what's going on in the United States. So, that's obvious. And it impacted the bond market because the bond market is integrated globally. So, when the ECB and the Bank of England and the US Central Bank started buying bonds, absolutely no question, it impacted on Canada, and in fact, at one

point, the Bank of Canada pointed out the Government bond market was 60 percent owned by foreigners because the money – the demand was coming into Canada. The preferred share market wasn't buffeted by foreign capital coming into Canada. Preferred share market is an almost entirely Canadian market because – I don't know whether you're a private investor, but we get the dividend tax credit for buying dividend paying stocks, and the Americans don't. The Brits don't. The Europeans don't. It's a Canadian market. So, I was trying to look at how to gauge this buffeting that was going on in the bond market and I said, ah-ah, we have the preferred share market that's not being buffeted and I tracked the spread between preferred shares and the A bond yield because preferred shares are generally regarded as not quite junk bond, but they're lower rated debt in terms of their risk, and the spread had increased and I used that, as you mentioned, to come up with an estimate of the 3.8 percent. And I've stuck with that mainly because I can't look at the preferred shares anymore because we don't have the data.

MR. O'BRIEN:

Q. Okay.

DR. BOOTH:

A. So, there's things that we can do if we got the data and if we don't have the data, we can't do it.

MR. O'BRIEN:

Q. So, otherwise, you stick with your own personal sort of figure, your personal assessment. You feel that's a reasonable assessment and that's what you're stuck with, the 3. -

DR. BOOTH:

A. Well, it's personal assessment. I mean, the data wasn't a personal assessment. The data is the data. So, the spread between the preferred share yield and the A bond yield, it increased because foreign investors didn't buy preferred shares, they bought the Canadian bond market. So, that's not personal judgment. That is what it is.

MR. O'BRIEN:

Q. Well, the trigger value, using it as a

trigger value when the risk-free rate is not 3.8, that's a personal judgment.

DR. BOOTH:

A. It comes from applying the statistics and the data on the spread between the preferred share and the A bond yield and how that changed as a result of this flood of capital coming into Canada and adding that to the existing Canada bond yield to say well, but for this distortion caused by foreign capital coming into Canada in the bond market, the best I can come up with is adding this spread and you get 3.8 percent, and that is an imprecise estimate. I will give -

MR. O'BRIEN:

Q. I think that's my point, Doctor.

DR. BOOTH:

A. It's the best estimate I could come up with and nobody else has even tried to do an estimate like that. They've just – they just washed their hands of trying to actually solve the problem of how distorted is the yield on the Canada bond market.

MR. O'BRIEN:

Q. Well, let's move to the market risk premium, and you mentioned a fair number of things there in your slides this morning. Your market risk premium range is 5.5 to 6. Is that right?

DR. BOOTH:

A. That's correct.

MR. O'BRIEN:

Q. Yeah. And -

DR. BOOTH:

A. The actual range from the historic estimates is 4.87 to 6.4 or whatever.

MR. O'BRIEN:

Q. Right. And then I believe Concentric's is 6.4 range. So, there's a difference between what you, as experts, have used for that market risk premium, and that affects the outcome of the model.

DR. BOOTH:

A. I mean, they're basically using what looks to me like the US experience historic market risk premium.

MR. O'BRIEN:

Q. So, the last time you were before the Board, you had a 5 to 6 range. So, what has

changed to bring you up to 5.5?

DR. BOOTH:

A. Well, some of it's the data.

MR. O'BRIEN:

Q. And where does that come from?

DR. BOOTH:

A. Well, it comes from we got another year of data.

MR. O'BRIEN:

Q. Yeah.

DR. BOOTH:

A. In 2016, we had 1956 to 2015. Now we got 1956 – sorry, 1926 to 2013. So, some of it's data. Not a big amount is data. Some of it is the result of looking at what Kroll is doing. Some of it is due to the fact that the Fernandez survey seemed to come out at 5.5 to 6 percent, and Damodaran, and when people did it, they did a little survey in some magazine, I forget which it is, who do you look for for market risk premium. They said Damodaran, Fernandez and Kroll. So, I'm using the three sources that were cited as independent estimates of the market risk premium.

MR. O'BRIEN:
Q. When you were here before the Board last in 2016, Mr. Kelly did ask you do you exercise any judgment in coming to your figure, as to what the appropriate figure would be, and you indicated to him that you do. I'm wondering sort of can you tell the Board what element of personal judgment do you apply to that data to come up with your figure?
DR. BOOTH:
A. I think in 2016, there wasn't this survey that indicated the three sources of independent advice on the market risk premium. I certainly didn't use Damodaran, his independent estimates. I certainly did use Fernandez, which has changed. I can't remember whether I used Kroll. I'd have to go back and see if I used Kroll. But you asked me what do I do when I read a decision, and obviously I look – as I said, I'm vain. I think everyone's vain. You like to see whether they like what you did, and what they didn't like, you say, "well, I know I'm right. I'm going to have to find –

try and rectify that perception that I didn't do a good job", and I've now got the Kroll work. I've got the Damodaran work and does that inform my judgment? Yes, it does. Do I just look at my estimates and say, "well, these are my estimates, historic estimates, I'm going to live and die by them"? No, I don't. You have to look at expectations. That's one of the things that the survey of cost of capital looks at and I've tried to do everything in that survey which is indicated as important things in estimating the cost of capital.
MR. O'BRIEN:
Q. I got the impression from either a response to an RFI or somewhere in your evidence that the survey results from this Fernandez survey had sort of made an impression on you to increase your estimate to the 5.5 versus the 5 bottom. Is that fair?
DR. BOOTH:
A. I think that's fair.
MR. O'BRIEN:
Q. Yeah.
DR. BOOTH:

A. I think the first time Fernandez came out, it was – I was – gave testimony before the Regie in Montreal and I actually said, "here's my market risk premium. Here's an adjustment for other professional advice" and I think I said I can't ignore the fact that 1,000 – whatever the number was of people came in and said the market risk premium. Other professionals think it's this. So, that's probably a more current forward-looking estimate of what the market risk premium is, rather than just looking straight at the historic data.
MR. O'BRIEN:
Q. Is it fair to say that ultimately in the grand scheme of things in your report that that change in the Fernandez report probably had a fair impact on you jumping from 7.5 to 7.7?
DR. BOOTH:
A. I think the 20 basis points has gone up because of my increase in the market risk premium.
MR. O'BRIEN:
Q. Yeah.

DR. BOOTH:
A. And you're absolutely correct. When the survey, the 41 survey respondents said six percent in Canada. I used to use a range of five to six percent. When Kroll said 5.5, when the survey respondents in the US said 5.7, when Damodaran said 5.5, I thought well, five seems to be a little bit low, compared to what I was doing before. So, I did bump it up to 5.5 to 6 percent.
MR. O'BRIEN:
Q. And if it wasn't for that change, we'd be back – you'd be recommending 7.5 likely?
DR. BOOTH:
A. I think the betas, the betas that I used this time are slightly higher than in -
MR. O'BRIEN:
Q. I'll get to that.
DR. BOOTH:
A. - in 2016. So -
MR. O'BRIEN:
Q. Okay. It's a combination of the two?
DR. BOOTH:
A. It's a combination of the two, basically as 20 basis points.

MR. O'BRIEN:
Q. That Fernandez survey, has there been any concern raised about that survey itself over time that you've been using it, any issues with its validity that you're aware of?
DR. BOOTH:
A. I think there's always a concern with the validity of surveys. One of the concerns is who actually fills out the survey.
MR. O'BRIEN:
Q. Exactly.
DR. BOOTH:
A. We do surveys for chief executive officers, for example, on financial things. We send them a survey. They say, "I'm not going to answer this. I'm going to give it to that hire with the MBA from Wharton" and then the MBA from Wharton says, "well, what did they tell me to do in my finance classes? Ah-ah, capital asset pricing model". So, the big problem in – I mean, surveys are important, but I mean, I wouldn't totally hang my hat on them because there is a certain – there's a response bias attached to surveys.
MR. O'BRIEN:

Q. So, how do you account for that in your own personal assessment of what the market risk premium would be if there's a response bias there?
DR. BOOTH:
A. Well, I think it's five to six percent. The response in the United States, 5.7, Canada, six percent, Damodaran, 5.47 percent, Kroll, 5.5. When you get this overwhelming number of values, did I look at Fernandez and say, "well, I'm going to hang my head on – or my hat on that?" No, I honestly don't know what – how much I filtered that information to come up with 5.5 to 6. It's more impressionistic that that was basically what was coming back in the data from external experts. Tell me what I could have done is say, well, I'm – Booth isn't going to do anything, and I used to do everything myself, all my own estimates. Now, there's a lot of people out there that do this and it's public information. So, Fernandez survey is out there. Damodaran is out there. Kroll is out there. I'm looking at this saying, "why do I bother to produce my

own estimates of the market risk premium? I could just use these public market. Why do I bother coming up with my own beta estimates? I can just use public beta estimates" and I would dramatically reduce a lot of my testimony. But I feel, as an expert, I have to validate the external work, and that's a job that I do. So, how much do I weigh these things? I honestly don't know. There's no formulaic 30 percent Fernandez, 20 percent Damodaran to come up with that. It's what I think is reasonable given the values that come out.
MR. O'BRIEN:
Q. Okay, all right. So, let's talk about that then. You were here last time and you had – in 2016, and you had a range of five to six. Why has your range – you've upped your range now or you've changed your range to five and a half to six. Why has it narrowed? Why haven't you gone five and a half to six and a half?
DR. BOOTH:
A. I haven't seen any reputable people producing an estimate above six percent.

MR. O'BRIEN:
Q. No reputable people?
DR. BOOTH:
A. No.
MR. O'BRIEN:
Q. None?
DR. BOOTH:
A. And I say the three main sources are Damodaran, Kroll and Fernandez. 41 respondents put the median for Canada at six percent, which is the top of the range. I haven't seen any support of anything beyond six percent.
MR. O'BRIEN:
Q. Any relevance to the US data?
DR. BOOTH:
A. The US data is lower. They're now coming with a US market risk premium in the survey of 5.7 percent and Damodaran's estimate of 5.4 percent is US data, and Kroll's estimate is US data at 5.5, now reduced to five percent.
MR. O'BRIEN:
Q. So, are these figures all narrowing all across the board, like the data?

DR. BOOTH:
A. I'm surprised at how narrow they are. And I used to use three percent, Mr. O'Brien. That was back in the '90s when long Canada bond yields were up at 14 percent and the spread for the equity market was a lot narrower than it is today. My estimates have gone up for the market risk premium as long Canada bond yields – expected normal long Canada bond yields come down.
MR. O'BRIEN:
Q. Let's talk about your betas.
DR. BOOTH:
A. Yeah.
MR. O'BRIEN:
Q. Your beta estimates. So, that's the coefficient that represents the relative risk of the utility or whatever you're measuring. Is that fair?
DR. BOOTH:
A. It's the relative risk and risk relative -
MR. O'BRIEN:
Q. To the market.
DR. BOOTH:
A. - to a diversified portfolio of equities.

MR. O'BRIEN:
Q. Yeah, okay. And I gather from a review of your previous evidence before the Board in 2016, you had betas in the range or a beta range of .45 to .55. Is that correct?
DR. BOOTH:
A. That's correct.
MR. O'BRIEN:
Q. All right. Was that reflective of market data at that time?
DR. BOOTH:
A. No, that was mainly the estimate of the long-run tendency of betas in the Canadian market. As I explained in my direct, the question is if you see an observation, do you adjust it, and you have – we call this Bayesian adjustment. It's due to a British clergyman called Reverend Thomas Bayes hundreds of years ago. Basically you look at something and you assess "is that reasonable?" and you update your estimate, which we all do this. We look at things and it changes our knowledge and we update what we do. So, when we look at betas, we all adjust betas. How much we adjust them, it

depends upon the betas that we observe, and I think back in 2016, I was adjusting them towards the Grand Mean -
MR. O'BRIEN:
Q. Grand Mean, I believe, yeah.
DR. BOOTH:
A. The betas, which was the evidence of beta adjustment processes in the United States.
MR. O'BRIEN:
Q. And was that something that came out of research that you were involved in?
DR. BOOTH:
A. No, that came – well, before the National Energy Board in 2001, my late colleague, Dr. Berkowitz and I, and it was mainly Mike, that was something that he was interested in, we looked at the number of Canadian pure, reasonably pure regulated utilities and we did a Blume adjustment at that time, and the adjustment was, surprise, surprise, to the Grand Mean, consistent with the work in the United States on beta adjustment, and we presented that before the NEB and it wasn't controversial. If you see a utility and it's always had a beta of .5 and then

you look at your estimates and it's dropped to .1, you say, "what on earth's happened here? That looks to be something special. I need to adjust that" and that's all that the beta adjustment does. So, it's not a question of do we adjust betas. It's a question of do we adjust them towards the average risk of the stock in the market, which is what the Blume adjustment does to all stocks in the market, and if I didn't know anything about what's going on in the stock market, Blume is right, that if you just tell me that beta is .2, and you don't tell me the stock, like a game, they hide the game, they hide the utility behind a wall and they say, "it's a beta of .2".
(1:00 p.m.)
I'd say "well, I think the appropriate beta would be .33 plus 66 – two-thirds of that .2" and then if they said, "ah, by the way, it's a tech company" and I say, "well, that's ridiculous". You don't adjust it to one. Tech stocks are riskier than one. I would change my beta adjustment. And if you told me, "Ah-ah, it's a bank". I'd say,

"well, banks have got betas around about one." I would adjust it with the Blume adjustment. And if you told me it was a utility, I'd say, "well, utility are low risk. The .2 may be low, but it's not excessively low", I'd adjust it upwards to .5. So that is where Blume is right and Blume is wrong. He's right for the overall stock market. He's not right for anybody that knows anything about the beta and the information about that company, and we know a lot about utilities.

MR. O'BRIEN:
Q. I'll get to Blume. I'm just wondering about your betas first.
DR. BOOTH:
A. Well, 2001, my colleague, Mike Berkowitz looked at a beta adjustment for Canadian utilities. Can't do that anymore. They don't exist.
MR. O'BRIEN:
Q. No.
DR. BOOTH:
A. So, I looked at the betas for the electric utility holding companies that I had and I

did a Blume assessment on those electric utility holding companies as beta, and I discovered that the intersect was .45 and the coefficient on the actual beta was .05, barely significant, and as I say, the best I could say is .45 to .5 looks to be reasonable for the beta adjustment for the grand mean.
MR. O'BRIEN:
Q. And did you assess that against any other empirical data out there or was that just your best assessment at that time, your personal assessment?
DR. BOOTH:
A. That was my empirical assessment and I started doing this, I think – I think when did I – last year. It's relatively recently because, as I think I've said, I've been dragged or forced into looking at US utilities to counter or to assess the reasonableness of other American witnesses who are looking at the same companies. And there's no beta adjustment for the US electric utilities. The Blume model just doesn't hold for them. And did I assess it

relative to other people? Yes. The only other refereed publication looking at US regulated utilities was in the electricity journal by two people. I've forgotten the first – and the second name was Theodossiou. They could find no beta adjustment for US electric utilities either.
MR. O'BRIEN:
Q. I sent you a – or I've given counsel a cross-aid and this was a BCUC decision from 2016, and I'm going to ask you just about how the commission had assessed your betas, and maybe we can put that in as an information item? I've got two copies there.
GREENE, KC:
Q. A decision -
MR. O'BRIEN:
Q. That was the 2016 – it's a 2016 one.
MS. PHILPOTT:
Q. So, the 2016 decision between Fortis Energy Inc., the application for its common equity component and return on equity, is Information Item number 26.
COFFEY, KC:

Q. I'm sorry, number –
MR. O'BRIEN:
Q. 26.
MS. PHILPOTT:
Q. 26.
COFFEY, KC:
Q. 26? Thank you.
MR. O'BRIEN:
Q. Dr. Booth, did you give testimony in this particular matter?
DR. BOOTH:
A. I think so, yes.
MR. O'BRIEN:
Q. Okay. And I'm going to ask if we can scroll to page 71.
MS. PHILPOTT:
Q. Sorry, my apologies, it should actually be Information Item number 25.
MR. O'BRIEN:
Q. 25, sorry. Thanks.
MS. PHILPOTT:
Q. Got ahead of myself.
MR. O'BRIEN:
Q. And if we scroll down, and this is the

Commission's determination with respect to betas. I think right down near the bottom of the page there's a comment there, and you'd indicated already that you look at Commission decisions and consider them and how they've ruled in your evidence that was given, and even make adjustments going forward. The Commission says it does not accept it should rely solely on Dr. Booth's judgment without stronger empirical corroborating evidence to support his beta judgments. Accordingly, the Panel finds it can place only limited weight on Dr. Booth's beta estimates. Did you have cause to review this particular decision after it came out?

DR. BOOTH:
A. Yes, and I now look at beta adjustments specifically to address this.

MR. O'BRIEN:
Q. Okay.

DR. BOOTH:
A. There was no beta adjustment in the 2016. I relied upon the work that I referenced,

which was the only empirical work that was there. Since then there's the Thomadakis paper that looks at beta adjustment for US utilities, and since then I've resurrected the work I did in--my colleague and I did in 2001 before the NEB, and I've looked to the beta adjustment for electric utilities in the United States. So, as I said, I look at it and I say, wow, I obviously didn't do a good job there. I'm going to have to do some work on beta adjustment techniques, and I did that.

MR. O'BRIEN:
Q. And in that particular hearing was your assessment similar, .45 to .55? Would that have been your assessment?

DR. BOOTH:
A. Probably, because the estimate of the grand mean was about .52, so that would probably be--would have been my estimate.

MR. O'BRIEN:
Q. Yes, and I recall that coming out of the last hearing. .52 I think is what your evidence said, so that would make sense.

So, since that point in time, and in this particular hearing we've got a different beta assessment--you've got .5 to .6 in this one.

DR. BOOTH:
A. That's correct.

MR. O'BRIEN:
Q. And how much of that is based on your estimates, and how much is based on market data? How much is based on an interpretation of the two?

DR. BOOTH:
A. I'd say the--well, I don't--I'd have to go back to what I did in the BCUC, but I don't think I used only public market betas that I do now. I'm almost certain I didn't. That's something that I've tried to emphasize. And also to be fair in response to other witnesses, I estimate my betas, but I now have RBC betas, and I have all these other betas, so that the judgment component is--I mean, when I say judgment I mean the betas are the betas, are what they are. They're empirical estimates. I use the same

software to develop those betas as Bloomberg or anybody else. So, that's what the data shows. I have come up from Nord .45 to Nord .55, to Nord .5 to Nord .6. So, there has been an increase in my beta estimates. They're still not adjusted because I can't find any evidence whatsoever for a beta adjustment towards 1, but I still do think we should adjust beta estimates based upon judgment.

MR. O'BRIEN:
Q. Your estimates are significantly below the raw data presented by Mr. Coyne and Concentric.

DR. BOOTH:
A. That I don't understand because what Mr. Coyne is saying is not just that Booth uses judgment, which I don't, but his estimates are too low. The Royal Bank of Canada's estimates are too low. CFRA's estimates are too low. The Globe and Mail's estimates are too low, and Yahoo, S&P's estimates are too low. So, it's like everybody else is too low, but leave my betas.

Mr. Coyne hasn't provided, as far as I can see, apart from the beta, the adjusted betas, any corroborating evidence for his betas. I do note that he tends to use weekly betas, and I present evidence--and again, the only published research on this area that there's a time horizon over which you estimate the betas reduces, so instead of monthly they use weekly. then the estimates for thinly traded stocks go down, and for thickly traded stocks go up, and the reason for that is straightforward. Thinly traded stocks don't trade, and if they don't trade, the prices stay exactly the same. So, the estimate of their volatility goes down so they look less risky, where thickly traded stocks, they trade all the time, and you got all this information about what's going on.

So, since they have to add up to 1, it means the thickly traded stocks, the beta estimates, are over-estimated. So, that is empirical evidence. I don't use weekly betas because everybody in academia has

access to the same data tapes, and for the last 30 or 40 years we've used the Center for Research and Security Prices which has monthly beta on stock prices and returns.

Mr. Coyne uses Bloomberg, but these series weren't available 10, 20, years ago. A lot of the data that's available now simply wasn't available when I started testifying, and he uses weekly beta, weekly beta. I mean, this has been an issue before the Alberta Utilities Commission. Why is Mr. Coyne's beta estimates so high. One is because their adjustments are regarded as inappropriate. The other is because he uses weekly betas and not monthly betas. And if you use six monthly betas, i.e. betas that are estimated over six monthly periods, they've been even lower because the frequency with which you estimate the beta has an impact on the value that you get out of them, and it's not an accident, and most of the utility witnesses have gone to weekly betas, and almost all academics continue to use monthly data.

MR. O'BRIEN:
Q. Okay. So, back to--my question really is more along the lines of--I'm trying to get a sense of what you've done since 2016 to change your approach here, and have you looked at more data? Have you exercised more judgment to suggest that, okay, I need to increase my data estimates? Just sort of how do you get from the .45 to the .5?
DR. BOOTH:
A. I've been criticized.
MR. O'BRIEN:
Q. It's not a big jump.
DR. BOOTH:
A. Yeah, I know. It's a tiny jump.
MR. O'BRIEN:
Q. A tiny jump.
DR. BOOTH:
A. In fact -
MR. O'BRIEN:
Q. Yes, tiny jump.
DR. BOOTH:
A. Mr. Coyne usually criticizes me. He's been at 7.5 for the last 10 years, and now I'm

being criticized by going up 20 basis points. But I have increased--I've decreased the reliance on my own estimates, and increased reliance on public market data. Why? Because when I started out doing this there was no public data on betas. There were no estimates on the market risk premium, you had to do it yourself, and I did it myself, and I continue to do it myself, but I've added a lot, a large amount of external estimates, and low and behold, if we all do the same thing on the same day that we should end up with the same results, and by and large, the external data gives exactly the same results.
MR. O'BRIEN:
Q. So, the Bloomberg data that Mr. Coyne uses has raw data up close to .8 sort of range and higher in some cases for Canadian, US, and North America? That's the raw data?
DR. BOOTH:
A. As of what time period and what estimation -
MR. O'BRIEN:

Q. In the last five years.
DR. BOOTH:
A. I cannot understand that because it's--well, I can understand it in the sense that the Bloomberg data -
MR. O'BRIEN:
Q. (Unintelligible)?
DR. BOOTH:
A. It just looks at price changes. They don't look at dividends, and when you include dividends, as you do, for the overall rate of return, that tends to moderate the beta estimates; whereas Bloomberg I know uses price changes. It says so on their webpage. But I can't understand, if that is correct, and I haven't looked at Bloomberg, and I don't have a Bloomberg, I do not understand why those estimates are so different from public market beta estimates. And as I said, you can check Bloomberg betas on the internet and you can find out how they do—estimate their betas, and they report both Bloom adjusted betas, and they report unadjusted raw betas. I cannot understand

how their estimates disagree from all the other public market -
MR. O'BRIEN:
Q. Now, Mr. Coyne has shown adjusted and unadjusted, so raw and adjusted, in his report, in Concentric's report.
DR. BOOTH:
A. Okay. Well, the public market -
MR. O'BRIEN:
Q. They're shown.
DR. BOOTH:
A. The unadjusted -
MR. O'BRIEN:
Q. And he adjusted--and there's a narrow range between the two I'm going to suggest to you now, more so than there was before.
DR. BOOTH:
A. Well, look, that's true. If there's a narrow range, by definition they have to be a lot closer. I mean because otherwise the difference in the--the point of adjusting them is because there's a big difference, so the range should get--I mean, look if the beta was equal to 1, the adjusted beta is

also 1, because you're adjusting towards 1. So, the higher the beta by definition the range is going to get smaller.
MR. O'BRIEN:
Q. But even the raw data is closer to 1.
(1:15 p.m.)
DR. BOOTH:
A. Yeah, I don't understand that to be absolutely honest because it's not--it's not consistent with the data in the Centre for Research and Security Prices. It's not consistent with the data in the Toronto Stock Exchange database. It's not consistent with all of the betas produced by independent authorities. So, it has to be that they use weekly betas, estimated the data, and you use the short time period, and probably the short time period is you're saying that whatever happens in that short time period is going to happen in the future. So, it would have to be covering the period of the last 36--the last three years if you're using three year weekly betas, and then you must then be assuming

that whatever happened in the last three years, or from--I think somewhere uses January 2020, is going to repeat in the future, which means--which means that you're COVID and the rising interest rate period over the last 18 months is going to happen again in the future.
MR. O'BRIEN:
Q. So, that's your assumption?
DR. BOOTH:
A. No, I'd say that is--that is not my assumption, that's what it is.
MR. O'BRIEN:
Q. You just said you haven't looked at it.
DR. BOOTH:
A. No, no. Look, if you estimate the data--all you do when you estimate is you look at the data and you estimate a beta. If you estimate that beta over the last three years, and you say that is the latest beta, I'm going to use that going forward, you are saying that the experience over the last three years is going to be repeated in the future. That is your estimate. And if Mr.

Coyne had done that in 2021, and we got negative betas, he would have said that's the current beta, I'm going to use that beta. I would have said that's nonsense. You have to look at the time period over which the betas are estimated.

It's like somebody saying well, today is a hot day in Newfoundland. Suppose you estimated the weather, the temperature, over the last three days in Newfoundland and said, well, 24 degrees, 25 degrees. I'm going to assume it's going to be 24, 25, degrees for the rest of the summer. That's the data. That is what you're doing. You're estimating--you're looking at the data and saying I'm assuming that's going to continue in the future, and that's not my estimate, that's what the data says.

Well, by using a short time period you are making an assumption, and I wouldn't say the temperature in Newfoundland and St. John's is going to be 24 degrees for the rest of the summer. I'm told it's ridiculously high at the moment. You

basically say, well, I'm going to ignore that, I'm going to adjust my forecast for the last three days, and that's where we get to betas. It's actually no different from looking at anything else. It's a question of whether you think the sample data that you estimate something on is reasonable for the forecast test period. And if you think the last five years of COVID, and the massive government borrowing, and the rise in interest rates, is going to be repeated in the future, I think I'd retire because I don't like that scenario, and I don't think for one minute that's going to be repeated.

MR. O'BRIEN:
Q. We talked earlier about how everything was up and down, and up and down, and you seem to think everything was all on the line. So, why isn't--aren't these things going to happen?
DR. BOOTH:
A. Well, if Mr. Coyne thinks we're going to get COVID I think I don't want to stay in my house but -

MR. O'BRIEN:
Q. (Unintelligible).
DR. BOOTH:
A. - I'm not doing anything for two years thank you.
MR. O'BRIEN:
Q. I'm saying Bloom and Value think--Bloomberg and Value think this. That's what their betas are.
DR. BOOTH:
A. No, no, they don't -
MR. O'BRIEN:
Q. The raw data is closer to 1 than it is to .52, your grand mean.
DR. BOOTH:
A. They are producing an estimate.
MR. O'BRIEN:
Q. Yes.
DR. BOOTH:
A. And I can't understand the estimate, except for the fact it must be a short-term estimate based upon the last few years data, because otherwise it's substantial deviation from everything else that's out there in the

market, and as I said, we don't want the latest beta, we want an estimate of what is the risk of this utility relative to the stock market going forward.
MR. O'BRIEN:
Q. So, the betas presented by Concentric are similar to those adjusted betas presented in the BCUC case in 2023, is that correct? You've reviewed that case.
DR. BOOTH:
A. No, I haven't reviewed that case. I wasn't involved with that case.
MR. O'BRIEN:
Q. Okay. And it was given to you, I think, as--well, it might have been given to all counsel. I'm not certain you would have seen it, but I can suggest to you that they were accepted adjusted beta, the Bloom and--Bloom and Value adjusted betas were accepted by the BCUC. Do you have any reason to disagree with me on that?
DR. BOOTH:
A. No. I can take you to Mr. Coyne's rebuttal evidence if I can find it. Where is it?

Because he has a direct quote in the BCUC which I thought was--it was quite relevant. Well, it's here somewhere, Mr. O'Brien. I'll find it sooner or later, but it's a direct quote from the BC Utilities Commission, and I'll remind you that the only witnesses presenting evidence before the BCUC were American witnesses, and why they would do that I have no idea, but--and American witnesses brought in what they do in the United States, where I'd absolutely agree with Mr. Coyne that used adjusted betas.

MR. O'BRIEN:
Q. So, do you consider the BCUC -

DR. BOOTH:
A. Hold on now. I will find the exactly quote.

MR. O'BRIEN:
Q. I thought you did agree with that.

DR. BOOTH:
A. No, no, no. Look, I agree he said that, but when I read the quote it was like, oh my, God, what else could we do. The only evidence before us is these betas. Nobody

disagreed with him, so we're forced to accept them. And as I said, it's a question of the evidentiary basis put before the Commission.

CHAIR:
Q. Excuse me. Mr. O'Brien, while the witness is trying to find the information, do you want to just talk about like how much time you'll require and we can figure out somewhat of a plan?

MR. O'BRIEN:
Q. Sure. I'm guessing I might be 45 minutes tomorrow.

GREENE, KC:
Q. Page 30, Dr. Booth. You can read it while they're -

DR. BOOTH:
A. Actually, that's exactly what I was looking for, yes.

MR. O'BRIEN:
Q. Maybe 30 to 45 minutes I would think.

GREENE, KC:
Q. And I will have some questions for Dr. Booth as well, but not too many.

SIMMONS, KC:
Q. And, Mr. Chair, at present I don't have any questions for Dr. Booth.

CHAIR:
Q. Do you want to talk about--do you want to proceed for a little while longer, or do you want to hold off until tomorrow?

MR. O'BRIEN:
Q. And I hate to say this, but my daughter's cap and gown is at 2:30, so her graduation is this afternoon, so I'm not certain I can go much longer than the 1:30.

CHAIR:
Q. Sounds -

GREENE, KC:
Q. And in any event, if Mr. O'Brien is going to be up to 45 minutes and I'm--we'll be over an hour anyway.

MR. O'BRIEN:
Q. Yes.

CHAIR:
Q. Okay. Thank you. Thank you, Dr. Booth.

MR. O'BRIEN:
Q. Did you find the quote?

DR. BOOTH:
A. Yes, I did.

MR. O'BRIEN:
Q. Okay.

DR. BOOTH:
A. And it's on page 30, and this is from the decision. "The Panel notes Mr. Coyne's explanation that Dr. Blume, founder, is estimates are applicable to all betas," and I'm going to read this quickly because it's on the record. "Ranges of below .5 to a high of 1.5, and in Mr. Coyne's view there is no reason to expect the regulated utilities would be an exception to this rule." No reason in Mr. Coyne's--he didn't provide any evidence whatsoever that utilities satisfied that. He just said that low risk companies were in the sample that Bloom used, and I don't have a problem with that.

"Given the views of the two experts in this proceeding, both of them American, both of them using--and since none of the parties object to Mr. Coyne's use of Bloom adjusted

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beta, the Panel accepts the expert's recommendation to use Bloom adjusted betas." The Panel has no choice.

MR. O'BRIEN:
Q. You're saying that a competent tribunal of competent jurisdiction, like the BCUC, has no choice? Is that your suggestion?

DR. BOOTH:
A. No. I would say that my experience has been that the panel, every panel, makes a decision based upon the evidentiary basis put before them, and the evidentiary basis put before the BCUC was from two witnesses, both of whom apparently used adjusted betas.

MR. O'BRIEN:
Q. Do you know whether the BCUC had actually rejected using adjusted betas previously?

DR. BOOTH:
A. I think it looks at all the data from--the BCUC looked at all the betas in the past and then forms its assessment. So -

MR. O'BRIEN:
Q. I think they rejected those adjusted betas in the past, and actually had made a change

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in approach in this case.

DR. BOOTH:
A. I think it said something--well, we go back to the 2016 case, but I think it said that Dr. Booth's adjustments to the grand mean of the betas--and it wasn't my adjustment. This is the--this is quoted in the academic journals, they didn't accept. Now, why they reject an evidentiary basis specific to utilities, while evidentiary basis that's not specific to utilities, I'll leave in the minds of the BCUC, it's their decision.

MR. O'BRIEN:
Q. They would exercise regulatory judgment and make a decision on the basis of what's before them.

DR. BOOTH:
A. That's right, but they can't change financial theory I'm afraid, Mr. O'Brien, or they can't change -

MR. O'BRIEN:
Q. I'm not suggesting -

DR. BOOTH:
A. They can't financial data, and I have now

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substantially increased my coverage of adjusted betas. This was never an issue in Canada because we never accepted adjusted betas until American witnesses came in. And now I'm providing evidence that there's no evidence whatsoever the electric utility beta adjust towards 1, none, absolutely none. And I've never, ever, seen, even a utility witness, put in evidence to show that utility betas adjust towards 1. They just say, oh, no, Bloom--this is a Bloom adjustment, and the Bloom adjustment was not anything to do with utilities.

MR. O'BRIEN:
Q. Just a last couple of questions on the CAPM model. So, your results from that model, you come up with a 7.05 to 7.9 range, I think, and a midpoint of 7.45. Does that sound right to you?

DR. BOOTH:
A. What was--when?

MR. O'BRIEN:
Q. Your CAPM model comes up with that range, a mid range of 7.45, and then you add the

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spread to it, a credit spread of .23. So, you come up with -

DR. BOOTH:
A. Yeah, okay.

MR. O'BRIEN:
Q. Do you know what I'm saying?

DR. BOOTH:
A. If you -

MR. O'BRIEN:
Q. I'm just doing the math there, but I think that's what -

DR. BOOTH:
A. But if we flash up what I actually do, then it might help the Board.

MR. O'BRIEN:
Q. I'm not certain. I don't have a note here as to where that is. I guess my question is actually more along that credit spread, the point .23 basis point credit spread that you add to your mean. Can you explain just where that spread comes from, that .23, how you come up with that figure?

DR. BOOTH:
A. It's 50 percent of the adjustment of the

spread between utility A bonds and the Government of Canada bond rate. So, that's the--right. So, that spread before the financial crisis was typically 100 basis points. And when we first looked at this, Ms. McShane, the witness for Newfoundland Power, in a hearing in Gazifere used an adjustment of 100 basis points for the credit spread before the financial crisis and then looked at the current credit spread to reflect--to make the capital more sensitive to capital market conditions. And just about everybody, as far as I'm aware, has agreed that since 2009 that the fair ROE, if you make a 50 percent adjustment, .5, times the change in the credit spread from 1 percent, and that's what we were using back in 2011, that would make the capital market, the CAPM, a little bit more sensitive to capital market conditions.

So, in the height of the financial crisis, that spread--I forget how big it was, but it was huge, but supposed it was 200 basis points, because the markets were

in freefall and people were just selling A rated bonds. So, if the spread was 2 percent, normally it's 1 percent, then we got an indicator of actual current conditions in the capital market, and the recommendation was to say the .5 adjustment of that change in the credit spread. So, if your credit spread is adjusted by 1 percent you add 50 basis points, .5 times 1 percent. And that was sort of commonly accepted across the board.

I can't remember whether this Board accepted or used that credit, but certainly the Regis did, the Ontario Energy Board did, the Alberta Utilities Commission did, the BCUC Commission did, just to make the CAPM a little bit more sensitive to market conditions, and to remove the impact that we had in 2008/2009, remember this flight to quality and ROE tied to long-term Canada bond went down, whereas at the same time the borrowing cost for the utility went up, which people regarded as—and I would regard it as anomalous. It was temporary. It

didn't last very long, but we included that spread adjustment, and the first people to use it I think was the Ontario Energy Board, and it increased the ROE if they had it in 2009 to remove the problem of this A bond cost going up, ROE going down, and since then--I mean, the OEB still uses it. Everybody as far as I'm aware uses it.

MR. O'BRIEN:
Q. Is that something that came out of the NEB formula, that 50 percent?

DR. BOOTH:
A. No, before--the NEB formula was working until 2008, the financial crisis, and it was dumped--they used the ATWACC, A-T-W-A-C-C, and then they dropped it, and now the NEB, for all pipe clients, there are settlements because you're dealing with a smaller number of shippers and the pipelines, and they negotiated an agreement.

MR. O'BRIEN:
Q. And is there any personal sort of judgment as to what percentage to use there, or is that something everybody uses?

DR. BOOTH:
A. I answered evidence that the Bank of Canada estimated the credit spread as being worthy of a 37 percent adjustment, and that's the only evidence I've seen for that adjustment, and because when you look at an A bond yield it's risky. It's risky for the Government of Canada. You got default risk. But it's also less liquid than the Government of Canada bond yield.

So, when we look at the A bond yield we have to extract the liquidity impact and the default impact, and those are the two components, the main components, to get into the credit spread. And when you look at those two, liquidity doesn't affect the equity market. In times of financial crisis, liquidity in the bond market goes down, but liquidity in the equity market goes up. There's a huge increase in volumes. People trade shares.

So, the problem the Bank of Canada researchers had that looked at this was trying to extract the liquidity component from the default component in the credit spread, and their analysis showed it should be a .37 adjustment.

The first time this came up I said well, the only evidence we got on the record is research by the Bank of Canada. It should be a 37 percent adjustment to the change in the credit spread, but we all sort--37 percent is a funny number. We actually--everyone agreed with 50 percent, mainly because the Ontario Energy Board, I think, used 50 percent.

So, the 50 percent is a judgment call. It's not my judgment call. I wasn't particularly favourable to a credit spread adjustment because it should even out over the business cycle, but I have no problem with using a credit spread adjustment because it does make the ROE a little bit more sensitive to capital market conditions, and I discussed that in Appendix E in detail.

MR. O'BRIEN:
Q. I think –

CHAIR:
Q. Do you want to conclude now for today?
MR. O'BRIEN:
Q. We can conclude for today, Mr. Chair.
CHAIR:
Q. See you in the morning, everybody.
Upon conclusion at 1:33 p.m.

CERTIFICATE

I, Judy Moss, hereby certify that the foregoing is a true and correct transcript of hearing in the matter of Newfoundland Power Inc. 2025-2026 General Rate Application heard on June 20th, 2024 before the Newfoundland and Labrador Board of Commissioners of Public Utilities, 120 Torbay Road, St. John's, Newfoundland and Labrador and was transcribed by me to the best of my ability by means of a sound apparatus.

Dated at St. John's, Newfoundland and Labrador this 20th day of June, 2024

Judy Moss

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