MANITOBA PUBLIC UTILITIES BOARD

Re: MANITOBA HYDRO

2017/18 and 2018/19

GENERAL RATE APPLICATION

PUBLIC HEARING

Before Board Panel:

Robert Gabor	-	Board Chairperson
Marilyn Kapitany	-	Vice-Chairperson
Larry Ring, QC	-	Board Member
Shawn McCutcheon	-	Board Member
Sharon McKay	-	Board Member
Hugh Grant	-	Board Member

HELD AT:

Public Utilities Board

400, 330 Portage Avenue

Winnipeg, Manitoba

December 12, 2017

Pages 1450 to 1636

APPEARANCES

Bob Peters	)Board Counsel
Dayna Steinfeld	)
Patti Ramage	)Manitoba Hydro
Odette Fernandes (np)	)
Helga Van Iderstine (np)	)
Byron Williams	)Consumers Coalition
Katrine Dilay	)
William Gange (np)	)GAC
Peter Miller (np)	)
Antoine Hacault	)MIPUG
George Orle	)MKO
Senwung Luk (np)	) Assembly of
Corey Shefman (np)	) Manitoba Chiefs
Kevin Williams (np)	) Business Council
Douglas Finkbeiner (np)	) of Manitoba
Daryl Ferguson (np)	) City of Winnipeg

LIST OF APPEARANCES (cont'd)

Christian Monnin (np)	)General Service)Small, General)Service Medium)Customer Classes
William Haight (np) William Gardner (np)	)Independent Expert)Witnesses

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LIST OF UNDERTAKINGS

--- Upon commencing at 9:04 a.m.

THE CHAIRPERSON: Good morning, everyone. The good news is the Jets won. The relevant news is that we found out that President Trump drinks twelve (12) diet Cokes a day.

I usually ask Ms. Steinfeld to give an overview of the day, but the overview of the day is that Mr. Williams will be cross-examining for the day.

Dr. Williams...? Oh, Ms. Ramage...?

MS. PATTI RAMAGE: We have some undertakings to file this morning.

THE CHAIRPERSON: That would be great. Thank you.

MS. PATTI RAMAGE: So, Mr. Simonsen, have you distributed them to the panel or do we need to do that?

MR. KURT SIMONSEN: Not yet.

MS. PATTI RAMAGE: Should I just enter them --

MR. KURT SIMONSEN: You can enter them right away and then we'll distribute.

MS. PATTI RAMAGE: Okay, the first undertaking that we filed is noted in the transcript as number 73. It is the 2018 GPRS outlook report that was referred to last week. We obtained the permissions.

MR. KURT SIMONSEN: That will be 71.

MS. PATTI RAMAGE: That's right.

--- EXHIBIT NO. MH-71: 2018 GPRS outlook report.

MS. PATTI RAMAGE: The next, 72 is Manitoba Hydro Undertaking Number 1 from transcript page 784, and that was Manitoba Hydro was to check to determine at the time of the filing of the IFFs whether the board of Manitoba Hydro was provided other scenario runs.

--- EXHIBIT NO. MH-72: Answer to Undertaking No. 1.

MS. PATTI RAMAGE: Next, and that's the next page in the transcript, 785 was whether Manitoba Hydro provided runs that reached a 75/25 debt equity ratio in a ten (10) year period, and that will be Manitoba Hydro Exhibit Number 73.

--- EXHIBIT NO. MH-73: Answer to Undertaking No. 2.

MS. PATTI RAMAGE: The next one that we have filed is from transcript page 507 and that was a description of the performance metrics, and that was an undertaking I believe we gave Mr. Williams and that is 74, Manitoba Hydro Exhibit 74.

--- EXHIBIT NO. MH-74: Answer to emailed question re Manitoba Hydro's Performance targets re Coalition/MHI-114.

MS. PATTI RAMAGE: Then next Manitoba Hydro Exhibit 75 is a request from Board counsel, and that was dealing with annual operating costs of home, heating by electricity and high-efficiency gas and the carbon levy.

--- EXHIBIT NO. MH-75: Answer to emailed question re Cost of Hearing with Carbon Levy

MS. PATTI RAMAGE: The next which will be assigned Manitoba Hydro Exhibit 76 is another question from PUB counsel that was with respect to reconciling DSM costs.

--- EXHIBIT NO. MH-76: Answer to emailed question re DSM Cost Reconciliation.

MS. PATTI RAMAGE: And next are -- is a package of CVs that will -- are -- are our next panel, the cost of service rate design and bill affordability panel which will be appearing I believe it's a week tomorrow when they come up. So, we've got their CVs in.

--- EXHIBIT NO. MH-77: Package of CVs for the Cost of Service Rate Design and Bill Affordability Panel

MS. PATTI RAMAGE: And that concludes the undertakings for now, and filings. You can throw it back to Mr. Williams.

THE CHAIRPERSON: Thank you, Ms. Ramage.

MS. KATRINE DILAY: Thanks, I'll just jump in if that's okay --

THE CHAIRPERSON: Certainly.

MS. KATRINE DILAY: -- to file two (2) on behalf of Consumers Coalition. Both of them have been distributed electronically already. The first one is an errata to Morrison Park Advisors Report of October 31st. And you'll see in there that it is including some sources of information for Appendix D to that report. And we propose that it be Exhibit CC-17-1.

--- EXHIBIT NO. CC-17-1: Errata to Morrison Park Advisors Report of October 31st

MS. KATRINE DILAY: The second one would the Coalition's book of documents 2 and we proposed that be Exhibit CC-32-2. Thank you.

--- EXHIBIT NO. CC-32-2: Coalition's Book of Documents 2.

THE CHAIRPERSON: Thank you, Ms. Dilay. Mr. Williams...?

CONTINUED MANITOBA HYDRO PANEL 2 re REVENUE REQUIREMENT

LIZ CARRIERE, Previously Sworn
LOIS MORRISON, Previously Sworn
DAVID CORMIE, Previously Sworn
SANDY BAUERLEIN, Previously Sworn
JOEL WORTLEY, Previously Sworn
SUSAN STEPHEN, Previously Sworn
CHUCK STEELE, Previously Affirmed
JAMES MCCALLUM, Previously Sworn
HAL TURNER, Previously Affirmed
GERALD NEUFELD, Previously Affirmed
DAVID SWATEK, Previously Sworn
TERRY MILES, Previously Sworn
GREG BARNLUND, Previously Sworn

DR. BYRON WILLIAMS: Yes and good morning, members of the panel. And I'll -- I'll just indicate I'm -- I anticipate taking much of the day, but I'll say this because Mr. Peters is not in the room and I don't want to inflate his ego, but, I did have about a hundred and eighty (180) pages of notes on financial and after reviewing the transcripts reduced them to sixty (60). So, we do thank Board counsel for wading through a lot of issues and taking a bit off of -- quite a bit off of our plate not only on that issue.

THE CHAIRPERSON: I hate to tell you but he is listening to it.

DR. BYRON WILLIAMS: Oh dear.

THE CHAIRPERSON: So I'm sure he will be most appreciative of your comments.

CONTINUED CROSS-EXAMINATION BY DR. BYRON WILLIAMS:

DR. BYRON WILLIAMS: To the -- to the Hydro panel, good morning, and -- and I'll just indicate, many of my questions for the first part of -- at least till coffee break will probably be directed to Mr. McCallum, but certainly if -- if -- if he's not the right person just elbow him and speak up, and there's no disrespect intended. I'm just starting with -- with him -- him to start with, and certainly when Ms. Morrison comes, I'll have some questions for her as well.

Mr. McCallum, Manitoba Hydro is an essential public service, agreed?

MR. JAMES MCCALLUM: Yes.

DR. BYRON WILLIAMS: Manitobans rely upon it to light and to heat their homes, correct?

MR. JAMES MCCALLUM: That's correct.

DR. BYRON WILLIAMS: Many Manitobans rely upon it to power their businesses and farms?

MR. JAMES MCCALLUM: Absolutely.

DR. BYRON WILLIAMS: And when it comes to retail hydroelectric power, Manitoba residential customers have only one (1) option for electricity; agreed?

MR. JAMES MCCALLUM: I agree.

DR. BYRON WILLIAMS: And without asking you to elaborate, you'll agree that Manitoba Hydro is proposing a 7.9 percent rate increase for '18/'19, which would earn the Corporation roughly $127 million in that particular year?

MR. JAMES MCCALLUM: Yes.

DR. BYRON WILLIAMS: And again, without asking you to elaborate, Hydro's vision - all other things being equal - is six (6) successive years of 7.9 percent, followed by a 4.5 percent rate increase, correct?

MR. JAMES MCCALLUM: Inclusive of the rate being applied for today, yes.

DR. BYRON WILLIAMS: And so if Hydro's vision comes true, like a jagged sawtooth Manitoba Hydro's rate increases will rise by roughly 65 percent from 2018/'19 through to 2024/'25, and then drop just about as suddenly?

MR. JAMES MCCALLUM: Can you clarify

the question?

DR. BYRON WILLIAMS: I'm suggesting to you, sir, that the Hydro vision is a very sharp rate increase percentage-wise followed in terms of the percentage annual increase going down sharply again to 2 percent; almost like a jagged shawhedge -- saw hedge.

MR. JAMES MCCALLUM: I agree that our rate profile is a higher path of increases then we have proposed in the path -- past, and which enables a drop-down to inflationary or lower increases once done.

DR. BYRON WILLIAMS: And like a jagged sawtooth, sir, Hydro proposes that this rate increase will bite everyone equally on a percentage basis, from seniors on fixed incomes to small business persons, to large industrial customers; agreed?

MR. JAMES MCCALLUM: Well, I don't necessarily agree with the hyperbole. But I would agree that we have not applied for any differential treatment in this rate application.

DR. BYRON WILLIAMS: Mr. McCallum you'll be shocked to know that that's the first time ever anyone's ever accused me of hyperbole.

MR. JAMES MCCALLUM: I heard a rumour.

DR. BYRON WILLIAMS: And, sir, as you indicated in -- in your opening presentation last Monday, which seems so long ago, it was certainly your view that it was a gamble for Manitoba Hydro to build two (2) very large capital projects based upon what appeared to be over -- overly optimistic estimates of capital costs, export market revenues and domestic load; agreed?

MR. JAMES MCCALLUM: Well, I don't ever recall saying the word "gamble" and I wouldn't mind you finding the transcript note.

DR. BYRON WILLIAMS: You thought it was a high risk activity, sir?

MR. JAMES MCCALLUM: I think that in hindsight much that underpinned an investment decision has turned out to be not what we wished. This happens.

DR. BYRON WILLIAMS: And to a significant degree, you were asking Manitoba ratepayers over the next seven (7) years to pay for Hydro's mistakes; agreed?

MR. JAMES MCCALLUM: I don't think it's remotely fair to characterize it as a mistake, sir.

DR. BYRON WILLIAMS: So with

hindsight, sir, the estimates were unbiased?

MR. JAMES MCCALLUM: I wasn't here to make the estimates, but I -- if you'd like to draw our attention to evidence on the public record of bias, we can look at it.

DR. BYRON WILLIAMS: Sir, looking to the future, over the next seven (7) years captive Manitoba residential customers, including persons in rural Manitobans who heat their homes with electric heat and First Nation persons living on reserve, will, in essence, be asked to pay for rate increases which on a percentage basis are twice as large as what Hydro promised during the Need For and Alternatives proceeding; agreed?

MR. JAMES MCCALLUM: Well, I'll allow some of my colleagues, if they wish, to -- to jump in because they were at the Needs For hearing, but my understanding is that the rate path of 3.95 percent that was discussed at the NFAT was not actually a contractual commitment or promise.

I think it's very clear that Manitoba Hydro spoke of that rate path as being subject to the future and what the future held and exposed to potentially deviations should the underlying assumptions that went into the preferred development plan proved different.

DR. BYRON WILLIAMS: So the pathway of 7.9 percent rate increases, sir, you -- you're suggesting would be within the contemplation of the Hydro plan presented in 2014 during the Need For and Alternatives hearing, sir?

MR. JAMES MCCALLUM: I can't speak to that.

MS. LIZ CARRIERE: I'll partially response to that. I -- I believe we didn't consider the NFAT to be a ratesetting hearing, so I would disagree with that.

DR. BYRON WILLIAMS: Thank you. Mr. McCallum, you would agree that for captive residential customers there was a cost to a 7.9 percent rate -- rate increase whether in a debt not paid, an earlier visit in the month to a food bank, a thermostat turned down or a simple pleasure lost; would that be fair?

MR. JAMES MCCALLUM: Well, I think you're in general speaking to issues of income and in so far as a -- a rate increase affects the availability of income for other purposes then, yes, I suppose I agree.

DR. BYRON WILLIAMS: In effect, there's an opportunity cost for Manitoba consumers when you look at a -- a smooth rate increase of 3.95 percent versus a sharp rate shock of 7.9 percent, sir?

MR. JAMES MCCALLUM: Well, again, I think the rate shock term needs to be used cautiously, Mr. Williams. The opportunity cost also comes with an opportunity benefit which is for the same customers and all Manitobans in the form of avoidance of some of the very real issues that present when you carry on with a financial condition and debt level that Manitoba Hydro is set to.

DR. BYRON WILLIAMS: And, sir, you're acknowledging that there is an opportunity cost; agreed?

MR. JAMES MCCALLUM: I'm acknowledging there's an opportunity cost and -- and -- and something gained from it.

DR. BYRON WILLIAMS: And, sir, in your original application for these 7.9 percent level rate increases, you offered no calculation or estimate of the lost opportunity cost for Manitoba ratepayers in the face of these rate increases; agreed?

MR. JAMES MCCALLUM: Agreed.

DR. BYRON WILLIAMS: And, sir, you indicated that the concept of rate shock needs clarification at a time of inflation being at or bel -

- in the range of 2 percent or below is that Manitoba Hydro's position that 7.9 percent rate increases are not rate shock?

MR. GREG BARNLUND: Good morning, Dr. Williams. If I could shed a little light on that. We would not consider 7.9 percent rate increases to be -- meeting a threshold of rate shock.

Typically utilities and utility boards consider a threshold of 10 percent. In 2004 this utilities board looked at Manitoba Hydro's application for August 1 rates and they considered a definition of rate shock or discussion of rate shock at that particular hearing. And they found that as long as the increases were no more than 8 or 9 percent that they would not be considering those as rate shock.

DR. BYRON WILLIAMS: And Mr. Barnlund or Mr. McCallum, six (6) consecutive years of 7.9 percent, Hydro's conser -- confirming that it does not consider that to be rate shock?

MR. GREG BARNLUND: While it's a difficult increase it's not rate shock because rate shock also infers a sudden surprise on customers and Manitoba Hydro has been very clear in terms of its communication of its financial situation, and indicating that there would be a need for continual rate increases of this order of magnitude.

And so we would not necessarily consider that to be rate shock, no.

DR. BYRON WILLIAMS: Mr. Barnlund, did you read any of the twenty-three hundred (2300) emails sent to the Manitoba Public Utilities Board by Manitoba ratepayers?

MR. GREG BARNLUND: Well, I would say I read a few of them and I -- I definitely understand the positions that are being put forth by -- by the ratepayers that are responding to the PUB's website.

DR. BYRON WILLIAMS: And recognizing, sir, that that is in no way a random sample, did the few that you read suggest to you that those ratepayers were, indeed, shocked and surprised?

MR. GREG BARNLUND: Well, I think that they've expressed it in those terms, but I can't -- I can't really conclude anything further from -- from reading a number of responses that have been put on a website. Sorry.

DR. BYRON WILLIAMS: Thank you. And, Mr. Barnlund, thank you for your assistance as always.

If we could turn to PUB -- Public Utilities Board minimum filing requirement number 14, please, page 2 of 2. And again, I'm not sure if this is appropriate for Ms. Carriere or Mr. McCallum, so I'll just...

To the Hydro panel, this response tracks, I'll suggest to you, Manitoba Hydro's financial history from 1992 to 2016 using a number of metrics, including but not limited to, the debt equity ratio and the interest coverage ratio.

Would that be fair?

MS. LIZ CARRIERE: Yes, I can see that in the first and third column.

DR. BYRON WILLIAMS: And, Ms. Carriere, good morning to you and -- and if we look just on the extreme left-hand side, you'll see that we're starting in 1992 and going all the way up to 2016; agreed?

MS. LIZ CARRIERE: Yes, that's correct.

DR. BYRON WILLIAMS: And going across the top - and I won't cover them all - but you'll see that in column 6 there is total Manitoba Hydro assets; agreed?

MS. LIZ CARRIERE: Yes, I see that.

DR. BYRON WILLIAMS: And towards the middle of the page to the right of the sinking fund, there is total Manitoba Hydro net debt; agreed?

MS. LIZ CARRIERE: Yes.

DR. BYRON WILLIAMS: The next two (2) columns include retained earning and the GPRS bond rating; correct?

MS. LIZ CARRIERE: Yes.

DR. BYRON WILLIAMS: And on the extreme right-hand side of the column is the total Manitoba Hydro net debt as compared to total Manitoba net debt; agreed?

MS. LIZ CARRIERE: Agreed.

DR. BYRON WILLIAMS: And let's start back in 1992 and, Ms. Carriere, were you with Manitoba Hydro back in '92?

MS. LIZ CARRIERE: Yes.

DR. BYRON WILLIAMS: And that was about when Limestone was coming online, subject to check?

MS. LIZ CARRIERE: That's correct.

DR. BYRON WILLIAMS: And in that particular year in terms of the debt equity ratio, which is the second column, you'll see Manitoba Hydro's debt-to-equity ratio at that point in time was 94 percent debt to 6 percent equity.

Would that be fair? Whether it's fair, that was the reality?

MS. LIZ CARRIERE: That's what we're saying here, yes.

DR. BYRON WILLIAMS: And moving along to the retained earnings column, which is roughly two-thirds of the way down, retained earnings were in the range of $183 million, agreed?

MS. LIZ CARRIERE: That's what I see, yes.

DR. BYRON WILLIAMS: And total Manitoba Hydro net debt to total Manitoba net debt was 49.2 percent, correct?

MS. LIZ CARRIERE: That's correct.

DR. BYRON WILLIAMS: In terms of the DBRS bond rating at that point in time, Ms. Carriere, it was an 'A'?

MS. LIZ CARRIERE: Yes, that's right.

(BRIEF PAUSE)

DR. BYRON WILLIAMS: Now, Ms. Carriere, directing your attention to the 2001 year, and to the retained earnings column, again, about two-thirds of -- of the way across the page, just beside DBRS, you'll see that for the first time, Manitoba Hydro's retained earnings crossed the $1 billion threshold?

MS. LIZ CARRIERE: Yes, I see that.

DR. BYRON WILLIAMS: And if we go up just a couple years above that, you'll see in 2004, but sticking with Manitoba Hydro retained earnings, so going across, you'll see that they actually slipped below a billion dollars in those two (2) particular years, correct?

MS. LIZ CARRIERE: Yes.

DR. BYRON WILLIAMS: And that was, of course, in the face of a significant drought which impaired Hydro's ability to export to the United States, but also required it to have very significant imports from the United States, correct?

MS. LIZ CARRIERE: That's correct.

DR. BYRON WILLIAMS: And in the midst of that drought the DBRS bond rating was A(high); agreed?

MS. LIZ CARRIERE: Yes, that's correct.

DR. BYRON WILLIAMS: And when we look at that bond rating, Ms. Carriere, that is a reflection of DBRS's assessment of the Province of Manitoba's bond rating> Is that -- is that correct, or is this -- or is this a Hydro-focused one. And if you're not able to -- go ahead.

MS. LIZ CARRIERE: I --

MS. SUSAN STEPHEN: Good morning. The DBRS rating would be for the Province of Manitoba. And just to clarify, with respect to the maintenance of that credit rating throughout our drought, credit rating agencies do not usually adjust the rating or the outlook based on a temporary situation. Thanks.

DR. BYRON WILLIAMS: And it's fair to say as well that in response to that drought, the Manitoba Public Utilities Board gave Manitoba Hydro a rate increase in the range of 5 percent, subject to check?

MR. JAMES MCCALLUM: I -- I believe that's correct.

DR. BYRON WILLIAMS: Ms. Ramage, do you want to give evidence? I'm just...

(BRIEF PAUSE)

MS. PATTI RAMAGE: It's perhaps best if I come on the mic for this.

DR. BYRON WILLIAMS: I -- I under -- I understand Ms. Ramage's point, I -- I --

MS. PATTI RAMAGE: But I'd like to get

it --

DR. BYRON WILLIAMS: Okay.

MS. PATTI RAMAGE: -- on the record, is that Mr. McCallum was not there in 2004; I was. I don't give evidence, however, I would suggest the order of the PUB speaks for why it gave a 5 percent, and I would not characterize that as being simply because of the drought. There was a lot of things going on.

DR. BYRON WILLIAMS: And -- and I appreciate the question was imprecisely worded, so thank you, Ms. Ramage.

It's fair to say that at -- at these rather more difficult times, when Manitoba Hydro was in -- in drought-like conditions, the Board offered a rate increase of 5 percent, which was actually more than Manitoba Hydro sought, agreed?

MR. JAMES MCCALLUM: Well, I -- I haven't read the order to understand fully the Board's reasonings, although my understanding is that the 5 percent was more than Manitoba Hydro had sought in that rate application.

DR. BYRON WILLIAMS: Okay. Thank you, Mr. McCallum. If we look over at the '05/'06 year, we'll also see to -- on the far right column that the...

(BRIEF PAUSE)

DR. BYRON WILLIAMS: Excuse me. I'll scratch that question. Going back to the debt/equity level on the left-hand side, and again focusing on the 2004 year, you'll see that the debt-to-equity ratio in that particular year was 87/13; agreed?

MR. JAMES MCCALLUM: I see that.

DR. BYRON WILLIAMS: And again, the DBRS bond rating was A(high), correct?

MR. JAMES MCCALLUM: I see that here.

DR. BYRON WILLIAMS: And Mr. McCallum, if you can't remember, I suspect one (1) of your other panel members will be -- will recall.

On in the same timeframe tool for -- that was about the time that Manitoba Hydro was seeking a recommendation from a joint panel of the Clean Environment Commission and the Public Utilities Board to build Wuskwatim, in about that time period, Ms. Carriere, subject to check?

MS. LIZ CARRIERE: Yes, it was around that time.

DR. BYRON WILLIAMS: And you'll be

more confident in agreeing that Wuskwatim came fully online in 2012, correct?

MS. LIZ CARRIERE: That's correct.

DR. BYRON WILLIAMS: Now, if we move up to the 2010 year and focus on the debt/equity ratio, we'll see that in that particular year, it is -- it was 73/27; agreed?

MS. LIZ CARRIERE: Agreed.

DR. BYRON WILLIAMS: And again, with the DBRS bond rating for the Province being A(high)?

MS. LIZ CARRIERE: Yes, A(high).

DR. BYRON WILLIAMS: And if we actually look at the equity level in 2010, we see that it's over $2 billion, correct?

MS. LIZ CARRIERE: Yes, that's correct.

DR. BYRON WILLIAMS: And it was that -- in that '09/2010 period that for the first time ever, Manitoba Hydro's retained earnings reached that threshold correct?

MS. LIZ CARRIERE: Yes. I recall there being very favourable water conditions in that period of time, and probably the highest export prices in the market before and since.

DR. BYRON WILLIAMS: And Manitoba

Hydro was also undertaking a significant construction project at that point in time, being the Wuskwatim Hydroelectric Generating Station, agreed?

(BRIEF PAUSE)

MS. LIZ CARRIERE: Yes, we were undertaking in the construction of Wuskwatim, which is a much smaller plant than -- than Keeyask --

DR. BYRON WILLIAMS: Okay. I'm sorry --

MS. LIZ CARRIERE: -- and the level of assets that were already existing on our balance sheet.

DR. BYRON WILLIAMS: And in Manitoba Hydro's world -- well, you'll agree Wuskwatim came in somewhere in the range of $1.8 billion, subject to check?

MS. LIZ CARRIERE: Yeah. It was around that, including the transmission required for that -- that plant.

DR. BYRON WILLIAMS: Now, since 2010/'11, would it be fair to suggest that Keeyask construction started in about 2012, focusing on roads and camps at that point in time?

MS. LIZ CARRIERE: That's correct. The Keeyask Early Infrastructure Project started around that time to get the camp and infrastructure in place prior to the construction and completion of NFAT.

DR. BYRON WILLIAMS: Yeah, and so that was actually before the NFAT approvals had been received for the --

MS. LIZ CARRIERE: That's correct. We received licensing to -- to proceed with the -- the Keeyask Early Infrastructure Project. The majority of -- or a lot of the contracts under the Keeyask Infrastructure Project were direct negotiated contracts with the First Nations, and that afforded tho -- those -- those companies to mobilize and -- and get a significant start on the -- the camp and infrastructure prior to the construction and receiving the full licence for construction.

DR. BYRON WILLIAMS: And work on the capital-intensive Bipole III project started in around 2013, in that time period?

MS. LIZ CARRIERE: Yes. Subject to check, I would say that's about the same time, yes.

DR. BYRON WILLIAMS: And this might go to the -- Ms. Bauerlein. Around 2014/'15, the Company also switched from CGAAP accounting to IFRS accounting, agreed?

(BRIEF PAUSE)

MS. SANDY BAUERLEIN: Good morning. Yes, Manitoba Hydro transitioned to IFRS, or International Financial Reporting Standards, in April 1st, 2015 with comparable restatement of the prior fiscal year, the 2014/'15 fiscal year.

DR. BYRON WILLIAMS: And Ms. Bauerlein, I've got a reference. I don't think you need to go there. It's -- but it's PUB-MFR-100, if you don't trust the numbers.

But would it be fair to say that one (1) of the consequences of the move to IR -- IRS was an elimination of certain cost components from capitalized overhead under Canadian GAAP, totaling about 62 million annually through to the end of 2012/'13?

MS. SANDY BAUERLEIN: Yes, that is correct. There is a number of the costs that under Canadian generally accepted accounting principles were eligible for capitalization, which, under International Financial Reporting Standards, had to be expensed.

DR. BYRON WILLIAMS: And there were -- subsequent to those 62 million being expensed, Hydro identified an additional 57 million of annual overhead-related charges that it was seeking to have expensed as well?

(BRIEF PAUSE)

MS. SANDY BAUERLEIN: I just want to confirm your -- your numbers, Mr. Williams -- Dr. Williams.

DR. BYRON WILLIAMS: I -- I think you'll probably find it in -- in this response. There's, of course, an issue about $20 million of that, but I'm going to suggest to you it was an additional 57 million that you identified.

(BRIEF PAUSE)

MS. SANDY BAUERLEIN: Subject to check, I believe it was fifty-seven (57), yes.

DR. BYRON WILLIAMS: And so to -- together, it's fair to say that it -- in terms of the -- the impact of Keeyask, Bipole III, and the -- the move to the relatively less favourable IFRS accounting, all three (3) of those factors that contributed to the to the decline of the equity ratio since 2012, agreed?

MS. SANDY BAUERLEIN: I also want to note that if you go back to the MFR, we also discussed where we actually had a favourable impact on our financial results as a result of the removal of negative salvage.

DR. BYRON WILLIAMS: Fair enough. And thank you for that.

MS. SANDY BAUERLEIN: So it did offset some of the impacts of the capitalization of -- of the inability to capitalize those overhead costs.

DR. BYRON WILLIAMS: Okay. Thank you.

MS. LIZ CARRIERE: And just for clarification, the -- I believe we're going from -- if we can bring back the other document, please. When we go from seventy-six (76) to eighty-two (82), between fourteen (14) and fifteen (15), one (1) of the major contributors of that were the accounting for pensions under IFRS, and that was worth -- the overall impact on IFRS, including -- of which the majority of that was the change in accounting for pensions, was worth about four (4) percentage points on its own.

DR. BYRON WILLIAMS: Thank you. Mr. McCallum, leaving aside any Saskatchewan endeavours, Manitoba Hydro has three (3) key major capital projects on the go, being Keeyask, Bipole III, and the Manitoba -- Manitoba-Minnesota Transmission Line?

MR. JAMES MCCALLUM: Yes. I might just -- if we're going to narrow it to three (3), also include the Great Northern Transmission Line as a -- kind of the tieline together with the MMTP.

DR. BYRON WILLIAMS: Thank you for that. And that certainly without asking you to elaborate, those are collectively very expensive to build?

MR. JAMES MCCALLUM: I -- I would -- over $14 billion, I'd concur.

DR. BYRON WILLIAMS: Hydro also expects they will serve Manitobans for many decades to come, agreed?

MR. JAMES MCCALLUM: I agree they're long-lived assets.

DR. BYRON WILLIAMS: Now, Mr. Barn -- or Mr. McCallum, I apologize, for the next little while, I'm going to ask you to assume three (3) things, and I think you'll find them easy to assume, but I want to remind you that our client does not concede these facts.

But I'm going to ask you to concede -- to assume that your forecasts for this proceeding are reasonably reliable; that the corporate's -- Corporation's conduct in terms of capital projects has been prudent and reasonable; and thirdly, I'm going to ask you to assume that the debt-equity is the appropriate target for reassuring the financial markets.

You're okay with making those assumptions, sir? It sounds a lot like your case theory?

MR. JAMES MCCALLUM: I'm not sure I understand the last point, but I suppose for these purposes, I'm okay with the -- using these as assumptions. The -- the comment around the forecasts being reliable, I think we should characterize the forecast as our best effort and our best view.

We have throughout this proceeding -- you'll hear us say over and again that reliability is the very issue for which we need to address our debt condition.

DR. BYRON WILLIAMS: Sir, and -- and I'll accept that, and that was better phrased than my assumption. Your -- I'll ask you to assume that your forecast can be characterized as best estimates, at least for this discussion.

MR. JAMES MCCALLUM: Yes.

DR. BYRON WILLIAMS: And I want to -- now, Mr. McCallum, when you and I were talking last week, you indicated you had read the NFAT decision. You rec -- recall that, sir?

MR. JAMES MCCALLUM: I don't recall making that assertion. I believe Mr. Shepherd was asked and Mr. Shepherd said he had skimmed it.

DR. BYRON WILLIAMS: Have you read the NFAT decision, sir?

MR. JAMES MCCALLUM: Not in great detail, no, sir.

DR. BYRON WILLIAMS: Is there -- so I'm assuming, Ms. Carriere, you're familiar with the NFAT decision?

MS. LIZ CARRIERE: Yes, I read it sometime ago. And my memory is...

DR. BYRON WILLIAMS: And you were also very involved in that process, Ms. Carriere?

MS. LIZ CARRIERE: Yes, I was.

DR. BYRON WILLIAMS: And certainly if -- I'm going to take you through some of the dialogue as expressed in the Board order. And, Mr. McCallum, you should feel free to chip as can your colleagues. And so I'll -- I'll ask the Board and -- and the witnesses to turn to Coalition 32-2, tab 5, which is starting at page 45, which is the NFAT report.

THE CHAIRPERSON: Mr. Williams, can I just ask, are you going back to that -- to the chart, to the MFR14 chart later? Or is that the end of that chart?

DR. BYRON WILLIAMS: I had reached the end, so please --

THE CHAIRPERSON: Okay. Can I -- can I just ask a question?

DR. BYRON WILLIAMS: Always, sir.

THE CHAIRPERSON: Yeah. Can I ask a question? In the earlier testimony we were talking about bond rating, and it -- you know, I haven't read the transcript, but from my memory it seemed that Manitoba Hydro took the position that Standard & Poor's was the bond rating agency that we should be looking at. There was some mention that there are two (2) international bond rating agencies. DBRS is the Canadian bond rating agency. But I note that in this document you used DBRS and not Standard & Poor's.

And I'm just wondering if there's any -- anything we should read into that?

MR. JAMES MCCALLUM: I will let my colleagues who are more informed as to MFR14, and why the inclusion of the DBRS.

But I think just to answer your first question, I -- I -- and again, subject to checking the transcript, I think what -- what I tried to say the other day is that there are three (3), you know, major -- there are three (3) bond rating agencies who rate the Province of Manitoba, and at least in some way consider Manitoba Hydro. And two (2) are international firms and one (1) is -- is DBRS. It's a Canadian institution. And that different people use these reports in different ways.

The DBRS reports are more typically used in the Canadian market, whereas international and Canadian investors and American investors will gravitate towards the more well-known S&P and -- and Moody's materials. Although I don't think Manitoba Hydro would make any assertion as to differences in -- in quality or insight.

MS. LIZ CARRIERE: I'll just add to that. I believe this MFR -- MFRs have typically come from -- from Information Requests that are asked consistently from hearing the hearing. So this is a fairly -- it has been around for quite some time. But

I would suggest that the DBRS bond rating is something new that's been added to that. And that would have been at the request of -- of the PUB.

THE CHAIRPERSON: Okay. Thank you.

CONTINUED BY DR. BYRON WILLIAMS:

DR. BYRON WILLIAMS: And I rarely do this, but just for the benefit of the Hydro panel as well as the Board, in the discussion to come I'm certainly intending to look at some of the -- the trade-offs and the deliberations that the Public Utilities Board articulated in its decision, whether they're financial or economic, as well as some of the risks that they were addressing. So I don't intend there to be any surprises, just so -- if you're wondering where I'm going.

Starting at page 47 of Coalition 32-2. And scroll down, right there, so we can see what is marked on the right-hand side. Ms. Carriere, if you need to look a -- a page before, you'll see that this is section 8.7 being the conclusions of the panel.

You'll accept that subject to check? I see you nodding your head.

MS. LIZ CARRIERE: Yes.

DR. BYRON WILLIAMS: And really, in

this section, you'll agree that the panel is looking at some of the various plans from an economic basis in terms of consideration of their net present value; agreed?

MS. LIZ CARRIERE: Agreed.

DR. BYRON WILLIAMS: And looking at the projects from that perspective, you'll see in the paragraph that is marked on the right-hand side with the pen mark that the -- the Public Utilities Board is discussing three (3) different plans.

One (1) is, I'll suggest to you, is Keeyask and the 750 megawatt transmission interconnection; agreed?

MS. LIZ CARRIERE: Yes, I see that.

DR. BYRON WILLIAMS: The second is the all glass -- All Gas Plan; agreed?

MS. LIZ CARRIERE: Agreed.

DR. BYRON WILLIAMS: And you will also see reference to the Preferred Development Plan; correct?

MS. LIZ CARRIERE: Yes.

DR. BYRON WILLIAMS: And without getting into all the micro details, the Preferred Plan would have included Conawapa as well as Keeyask; agreed?

MS. LIZ CARRIERE: That's correct.

DR. BYRON WILLIAMS: And what you see here, Ms. Carriere, is the Public Utilities Board concluding that the Keeyask plan breaks even on a economic basis with the All Gas Plan after about fifty (50) years; correct?

MS. LIZ CARRIERE: I see that here, yes.

DR. BYRON WILLIAMS: And concluding as well on an economic basis that they both fare significantly better than the Preferred Plan, which included Conawapa; correct?

MS. LIZ CARRIERE: Yes, that's what this report states.

DR. BYRON WILLIAMS: I'd like to turn, if I could take you to page 50 of Coalition 32-2, and specifically table 20, Ms. Carriere. And I don't expect you to have memorized this table, but I'll suggest to you that this presents another way at looking at the merits and trade-offs of the different plans.

And it focuses on a comparison of cumulative rate increases out to the 2061/'62 year; agreed?

(BRIEF PAUSE)

MS. LIZ CARRIERE: Yes, that's correct.

DR. BYRON WILLIAMS: And just to take a second on this page, you'll see at the top for all gas, right at the very top, the rate increases out to 2015/'16 through to '31/'32, are 3.36 percent projected; agreed?

MS. LIZ CARRIERE: Yes.

DR. BYRON WILLIAMS: Going down to the versions of plan 5, which are the Keeyask, with the interconnection and -- and various iterations of it, they are somewhat higher over that period, being between 3.86 and 3.99 percent; correct?

MS. LIZ CARRIERE: That's correct.

DR. BYRON WILLIAMS: But taking those out in terms of cumulative nominal rate increases out to 2061/'62, you see, then, I'll suggest to you, Ms. Carriere, that the finances switch over with the All Gas Plan performing less well, at 161 percent, as compared to the Keeyask interconnection plans.

Would that be fair?

MS. LIZ CARRIERE: Yes. And my recollection on that was that even though we were looking at a plan that included less costly turbines, you needed more of them over that time period such that the actual investment in assets was at approximately the same over a fifty (50) year period. But that you don't get the same surplus energy out of gas turbines under gas plan. And that would be why it's higher over the longer term.

DR. BYRON WILLIAMS: Ms. Carriere, if we could back one (1) page to page 49 of Coalition 32-2. And in the marked paragraph towards the middle, the second last paragraph on that page, you see the Board, I'll suggest to you, considering the trade-offs between different generations of consumers and ultimately concluding that over the entire fifty (50) year period the hydro-based plans had the lowest rate increase -- increases, but noting that over the medium term plans that included gas had the advantage.

Would that be fair?

MS. LIZ CARRIERE: That would be fair, yes.

DR. BYRON WILLIAMS: And that's an example of those complex considerations of intergenerational equity that were before the Board in -- as part of its deliberations in that proceeding.

(BRIEF PAUSE)

MS. LIZ CARRIERE: Yes, and we're -- we're looking at rate plans over a significantly long period of time here. And they're -- they're meant to be instructive, in that you can see the difference over one (1) another. And as it says it's -- as we've seen in -- in the previous -- I believe it was the other page where we said the -- the Board recognize -- or it's right in this paragraph. The Board recognized that there is a need for significant rate increases for all plans. So, yes, we're looking at plants -- or with hundred year life.

DR. BYRON WILLIAMS: And -- and perhaps we could just go to the next page, being page -- that's perfect again.

And when you speak of significant rate increases, you see rate increases in the -- in the first fifteen (15) years ago, ranging between three-point-three-six (3.36) and four-point-six-three (4.63)

You see that, Ms. Carriere?

MS. LIZ CARRIERE: Yeah.

DR. BYRON WILLIAMS: Okay. Thank you. Now, if we could move along to page 53 of Coalition 32-2, and the section on impacts of rate increases on ratepayers. And, Ms. Carriere, here in section 9.10.2 you see express deliberation by the -- by Manitoba Hydro, emphasizing in -- on line 3 the intergenerational considerations; agreed?

MS. LIZ CARRIERE: Yes. And I see further down, that it says that -- that today's customers enjoy low electricity rates. And I believe both Mr. McCallum and Mr. Shepherd talked to this on the first day.

DR. BYRON WILLIAMS: Thank you. And let's stay on the first paragraph for a second. As characterized by the Board, Hydro's argument was essentially a pay it forward.

Today's generation of ratepayers -- now, it was their turn to pay higher rates so that future generations will reap the benefit of lower electricity rates; agreed?

MS. LIZ CARRIERE: That's true.

DR. BYRON WILLIAMS: And again, in the second paragraph you see some expressed consideration of these intergenerational differences. The Preferred Plan imposing higher rates on today's ratepayers while the next generation presumably benefitting from lower rates. Whereas, the All Gas Plan, today's ratepayers would face rate increases that were less prolonged and severe; agreed?

MS. LIZ CARRIERE: That's correct. But as I said, over the longer term an All Gas Plan would result in higher rates because of the level of investment that we would need.

DR. BYRON WILLIAMS: So from this perspective, as compared to the All Gas Plan, today's ratepayers were in essence taking one (1) for the team to benefit future ratepayers?

MR. JAMES MCCALLUM: Well, I think the Board's words wouldn't quite get there. They might say taking one (1) for the team, the team before having taken one (1) for them.

DR. BYRON WILLIAMS: And again, we see a dialogue on this page of rate increases in the order of 3.95 percent. We -- we're continually in this range between the 3s and the 4s; agreed?

MS. LIZ CARRIERE: Well, I would say those were the rate increases that -- that resulted out of a very method -- mechanical method of determining those -- those rate increases.

I think I -- I stated in the direct evidence that we gave on Wed -- last Wednesday that, for example, in the All Gas Plan a 3.36 rate increase was the -- the rate increase that was necessary from, I can't recall the first year. Let's say 2015/'16 out to 2031/'32 to get you to a 25 percent equity ratio in '21 -- in 2032.

However, in that same run there were significant losses that occurred in the early part of that, partly to -- to recover costs associated with the spending to date on Keeyask and Conawapa, which would have to be recovered from -- from ratepayers. So there were significant financial losses.

So you wouldn't -- it takes an awful lot to recover retained earnings from that. So, in actual fact, we probably wouldn't have in -- in practice. And there was discussion of this on -- in -- on the NFAT record that in practice we would likely have to put rate increases higher than that.

So you have to be careful when you're -- you're looking at absolute rate increases for those plans. They were really intended to look at the differential between them during the NFAT to show -- and -- and it does show that plan 14 resulted in near -- over 1 percent -- one (1) percentage point higher, and that was -- that was what we intended for the Board or the -- the NFAT panel to take away from that analysis.

DR. BYRON WILLIAMS: And, Ms.

Carriere, we'll go soon to my -- my next page, but you're in no way suggesting that -- that Hydro in the course of the NFAT was suggesting 7.9 percent rate increases over the short and medium term?

MS. LIZ CARRIERE: Mr. Williams is correct. Manitoba Hydro's board did not consider those rate increases at that time.

DR. BYRON WILLIAMS: Ms. Carriere, if we can go to page 56 of Coalition 32-2, I'll suggest to you that what you see in table 27 as prepared by who we now know was Daymark but then La Capra, is a look at the actual bill impacts for a non-electric heat customer using 750 kilowatt hours per month; agreed?

MS. LIZ CARRIERE: Yes.

DR. BYRON WILLIAMS: And again, let's just focus on plan 1, All Gas, versus plan 5. You'll see, Ms. Carriere, that right at the top on plan 1, All Gas, out to 2032 rising from around sixty-one dollars ($61) to -- annually to a hundred fifteen dollars and seventy-two cents ($115.72); agreed?

MS. LIZ CARRIERE: Yes.

DR. BYRON WILLIAMS: And going down to plan 5, which is near the bottom, three (3) from the bottom on that page, you'll see a somewhat higher rise for the plan 5 approach going up to one hundred and eighteen dollars and thirty-one cents ($118.31) from that sixty dollar and ninety-six cent ($60.96) base; agreed?

MS. LIZ CARRIERE: That's correct. And what -- what's happening here is we're mathematically applying the rate projections from the -- from the NFAT, so the three-point-three-six (3.36) and -- I believe it was three (3) point -- three-point-eight-six (3.86) to -- oh, to the -- to the sixty-one dollars ($61) for the number of years out to 2032.

DR. BYRON WILLIAMS: And when you say "we," you're not referring to Manitoba Hydro. This was, of course, the independent experts retained by the Board; agreed?

MS. LIZ CARRIERE: That's correct. It's La Capra that made those calculations.

DR. BYRON WILLIAMS: And you'll see at the extreme right-hand of this table, being table 27, again for plan 1 the net present value was about twelve hundred dollars ($1,200) from -- over the forty-eight (48) year period out to 2062? That's not, maybe a forty-nine (49) year period? I'm not that confident with my math.

MS. LIZ CARRIERE: Yeah, it's -- yes.

DR. BYRON WILLIAMS: And the -- the plan 5 in -- which included Keeyask and the interconnection being somewhat lower in terms of net present value; agreed?

MS. LIZ CARRIERE: That's right. Slightly lower than the twelve hundred (1,200).

DR. BYRON WILLIAMS: Ms. Carriere, if we can turn now to page 59 of the decision or the -- the final report of the Public Utilities Board. And if you want to flip to the previous page you'll just see that this is section 10.3, "conclusions." And -- for this -- so these are conclusions of the Board in terms of this particular area; agreed?

MS. LIZ CARRIERE: Agreed.

DR. BYRON WILLIAMS: And, Ms. Carriere, and if you don't recall this that's fine.

But the estimates of Manitoba Hydro in the course of the NFAT were made on a P50 basis, I'll suggest to you, with a -- what was estimated to be a 50 percent likelihood that they would be above, and a 50 percent likelihood they would be below that range? I'm not sure I framed that quite right, but...

MS. LIZ CARRIERE: Yeah. That's correct. There was quite a number of scenarios run for NFAT, which included the base case and an update for the base case in March of 2014 or '15, as well as numerous high capital cost scenarios that were run.

DR. BYRON WILLIAMS: And, Ms. Carriere, on this page, I'll suggest to you and we'll -- we'll walk through it.

But you see the Public Utilities Board grappling with some of the uncertainty of as it tried to peer a number of years out into the future; agreed?

MS. LIZ CARRIERE: Agreed.

DR. BYRON WILLIAMS: And in the first full paragraph of the marked section you see the Board expressly identifying uncertainty associated with forecast electricity export prices; correct?

MS. LIZ CARRIERE: Correct.

DR. BYRON WILLIAMS: In the next paragraph you'll see, Ms. Carriere, the Public Utilities Board identifying a risk that interest rates might go higher?

MS. LIZ CARRIERE: That's right.

DR. BYRON WILLIAMS: And in the third paragraph, Ms. Carriere, you see the Public Utilities Board highlighting several short-term uncertainties associated with the domestic load forecast; agreed?

MS. LIZ CARRIERE: Agreed.

DR. BYRON WILLIAMS: And in the fourth paragraph, Ms. Carriere, you see the Public Utilities Board identifying uncertainties with major generation and transmission projects; agreed?

MS. LIZ CARRIERE: Agreed.

DR. BYRON WILLIAMS: And on the third line there you'll see the Board suggesting that there remains a high degree of uncertainty as to whether the capital cost estimates for Keeyask as well as Conawapa -- in particular Conawapa, might escalate future -- further; agreed?

MS. LIZ CARRIERE: Agreed.

DR. BYRON WILLIAMS: And the perennial concern of Manitoba Hydro, quite legitimately of course, is drought risk.

Ms. Carriere, you'll agree with that?

MS. LIZ CARRIERE: Yes.

DR. BYRON WILLIAMS: And here the Board is flagging concerns as well with the uncertainty associated with drought risk.

MS. LIZ CARRIERE: Yes, that's correct.

DR. BYRON WILLIAMS: If we could turn to the next page. You'll also see, Ms. Carriere, the Board articulating the risk to ratepayers of significant rate increases while it's the Province of Manitoba standing to benefit; agreed?

MS. LIZ CARRIERE: I'm sorry. Where are you looking particularly?

DR. BYRON WILLIAMS: I'm looking at the very last paragraph. And I will apologize --

MS. LIZ CARRIERE: Oh, sorry, I was on the wrong page.

DR. BYRON WILLIAMS: -- for my lack of precision.

MS. LIZ CARRIERE: That's -- yes, that's what it says here.

DR. BYRON WILLIAMS: Ms. Carriere, we can turn to page 200 and -- oh, sorry. Page 62 of -- and towards the bottom of that page.

And I'll suggest to you that here you see the Board just suggesting the province might consider using a portion of the incremental capital tax -- go on to the next page -- and water rental fees -- go on to the next page -- to mitigate rate increases on vulnerable populations. Do you see that?

MS. LIZ CARRIERE: Yes, I see that's the conclusion of the PUB.

DR. BYRON WILLIAMS: And as well, you'll agree, turning to page 65, and focusing on recommendations 12 and 13 -- let's focus on recommendation 13.

You also see a recommendation that Hydro relax it's 75/25 debt equity target to moderate its proposed rate increases; agreed? That was one (1) of the recommendations of the Board?

MS. LIZ CARRIERE: Yes. And I believe we stated earlier that we've allowed our -- our equity ratio to relax to approximately 85/15. And from 2009 through to 2012 maintain the three-point-nine-five (3.95) rate trajectory despite significant decreases in export prices and increases in capital cost and reduction in load.

DR. BYRON WILLIAMS: Ms. Carriere, I'll suggest to as you reflect upon this Board order that -- that clearly the Board was grappling with -- with issues of intergenerational equity.

Would that be fair?

MS. LIZ CARRIERE: I would think that's fair.

DR. BYRON WILLIAMS: And also issues of risk, including an alertness to the downside risk; correct?

MS. LIZ CARRIERE: That's correct.

DR. BYRON WILLIAMS: And you may not

be prepared to go this far with me, and that's fine with me, Ms. Carriere, but also perhaps a sense that ratepayers were disproportionate -- disproportionately bearing that risk as opposed to other players, including government?

MS. LIZ CARRIERE: I -- I wouldn't want to put words in the mouths of -- of the panel, but...

DR. BYRON WILLIAMS: Thank you. Mr. Chair, I'm happy to keep going. I do have a section that I -- that I think is best heard ind of continuous, so I don't know if the Board wants to take a bit early of a break or not.

THE CHAIRPERSON: Well, I guess the question is, how -- how long will your next section take?

DR. BYRON WILLIAMS: If everything went really well thirty (30) minutes. But it could -- it could be longer.

THE CHAIRPERSON: Okay. We'll -- we'll take a -- we'll take a break and reconvene at 10:30.

--- Upon recessing at 10:10 a.m.

--- Upon resuming at 10:33 a.m.

THE CHAIRPERSON: Thank you, Dr. Williams.

CONTINUED BY DR. BYRON WILLIAMS:

DR. BYRON WILLIAMS: I'm going to be directing the Hydro panel to tab 1 of the Coalition Exhibit book 32-2 and the excerpts from Bonbright. And -- and I'll just indicate that I'm -- I'm hoping to have a discussion of -- a very quick discussion on regulatory practices.

Has anyone from the Hydro panel reviewed these three (3) excerpts? Mr. McCallum, did you...

MR. JAMES MCCALLUM: I read them quickly when they came in last night, yes.

DR. BYRON WILLIAMS: And so perhaps we can go to page 5 of the -- the excerpt and focus on the first paragraph.

And Mr. McCallum, again, this is a short excerpt from a very long chapter but you'll see here -- here Mr. Bon -- Dr. -- Bonbright is talking about --

MR. JAMES MCCALLUM: I looked, it is Doctor.

DR. BYRON WILLIAMS: Mr. Doctor. Dr.

Bonbright is examining two (2) alternate regulatory practices for how debt interest and -- and equity return on construction capital can be recovered in rates; agreed?

MR. JAMES MCCALLUM: I too have not read the full chapter, let alone the full book, but I believe that's right.

DR. BYRON WILLIAMS: Okay. And one (1) method, I'll suggest to you, and I'm not suggesting these are the only two (2) but one (1) method capitalizes the carrying charges incurred during the construction period with the -- with the payments from ratepayers, ultimately, beginning when the completed plan goes on stream. And that's known as AFUDC.

You see that, Mr. McCallum?

MR. JAMES MCCALLUM: I see that.

DR. BYRON WILLIAMS: And you'll agree that the other regulatory practice that Dr. Bonbright discusses is to include the construction work in progress or CWIP into the rate base prior to the project going online.

Generally speaking, you'll agree with that, sir?

MR. JAMES MCCALLUM: I see that. I --

just for, you know, clarity, I note that this is being drawn from chapter 12 of the 1988 version of Bonbright's principles. Dr. Bonbright died in 1985. So I don't know that we can know for sure what his views were on this chapter.

DR. BYRON WILLIAMS: It's from Bonbright's text. It's just you're noting that others succeeded him in -- in -- in working on this very learned document.

MR. JAMES MCCALLUM: That's correct.

DR. BYRON WILLIAMS: Fair enough. And I -- I don't think I -- I need to take you to the -- the next two -- two (2) quotes except for to try and summarize them.

Mr. McCallum, you're generally aware that one (1) of the regulatory objectives is that customers should pay for the costs from which they benefit; would that be fair?

MR. JAMES MCCALLUM: I'm aware that's one (1) of the regulatory principles.

DR. BYRON WILLIAMS: And of course, there is a variety and there are sometimes they are in conflict, but that is one (1) of the principles that you're aware of, sir?

MR. JAMES MCCALLUM: That's correct.

DR. BYRON WILLIAMS: And in the context of capital expenditures that is often expressed, is the objective of spreading the costs of the acquisition of capital assets over the period during which customers will enjoy the use of these assets; agreed?

MR. JAMES MCCALLUM: That make sense to me.

DR. BYRON WILLIAMS: And if you need a reference it's -- it's on the next page, Mr. McCallum.

Mr. McCallum, in a -- in a couple moments, I'm going to talk to you about the challenges of putting two (2) or three (3) major capital projects into the revenue requirement that you faced, but before we get there, I -- I want to start with a simpler example and a -- a transformer station.

So I'm wondering if you can -- at -- at a high level, you or Bauerlein can work with me and -- and how we might treat the -- that smaller capital asset for the purposes of regulatory practice.

Are you prepared to do that with me, sir?

MR. JAMES MCCALLUM: I await your question.

DR. BYRON WILLIAMS: So I'm going to

ask you to assume that we have a transformer station that will serve the neighbourhood for maybe fifty (50) -- or excuse me, forty (40) years.

You're prepared to make that assumption with me, sir?

MR. JAMES MCCALLUM: As an assumption, yes.

DR. BYRON WILLIAMS: Okay. And the challenge, I'll suggest, is that -- well, every -- folks will benefit from it for its full life but one has to spend the money on it upfront in a single lump sum.

That's a type of challenge that you're familiar with, sir?

MR. JAMES MCCALLUM: I am.

DR. BYRON WILLIAMS: And I don't want to get into a debate about average service life for ELG but let's just assume average service life, lest I slip my wrists in despair, and assuming an average service life approach, a common regulatory method would be to divide the initial costs by forty (40) and charge that amounts -- that capital amount to customers each year; agreed?

MR. JAMES MCCALLUM: Well, I -- I don't feel I have the knowledge to speak to common regulatory method, but certainly from an accounting perspective, that's I think accurate.

DR. BYRON WILLIAMS: And from an intergenerational perspective that's -- would be considered to be a fair allocation of those costs over time?

MR. JAMES MCCALLUM: Well, fairness is a loaded word at times --

DR. BYRON WILLIAMS: Fair enough, sir.

MR. JAMES MCCALLUM: -- what you end up doing is you have depreciation costs at the historical cost of adding the physical plant or property, that are divided over the life of the asset really agnostic to inflation -- or deflation.

DR. BYRON WILLIAMS: And we're going to come to that point, but I thank you for that, sir.

In essence, though, this practice means that if you financed this asset with debt, your debt principal should be falling by 1/40 each year; agreed?

MR. JAMES MCCALLUM: So long as your revenue is sufficient to enable that.

DR. BYRON WILLIAMS: And again, following along this line of thinking, it doesn't mean that your debt principal should fall a whole bunch in the early years, so that you can be debt free later;

agreed?

MR. JAMES MCCALLUM: I agree with that in isolation.

DR. BYRON WILLIAMS: Yes, and we'll come -- we'll make this a little more complex.

And just focusing on this one (1) single project, if you wanted to pay debt down faster than depreciation, you would have to charge ratepayers more for that asset now than you would later which might raise issues of intergenerational equity. Agreed?

MR. JAMES MCCALLUM: I certainly can agree that if we wanted to pay the debt down faster we need to charge ratepayers more.

DR. BYRON WILLIAMS: And of course, we were focusing on -- on the principal but one would also have to pay interest costs, agreed?

MR. JAMES MCCALLUM: Correct.

DR. BYRON WILLIAMS: And again in the construct that we were just going to of paying down debt sooner, where principal is high in the early years but lower in the later years, interest costs will also be higher in the earlier years compared to the later years; agreed?

MR. JAMES MCCALLUM: Agreed if we

reduce the company to one (1) asset and don't consider any reserve for replacing that asset.

DR. BYRON WILLIAMS: And that's the -- the key factor, sir, and leaving aside the mega assets which we'll come to in just one second.

In -- I'll suggest to you in -- in these type of systems you have a lot of assets, some which will be new, some which will be middle-aged and some which will be old. We heard a discussion about that yesterday in the sustaining capital discussion; agreed?

MR. JAMES MCCALLUM: We have assets of a var -- large variety of vintage.

DR. BYRON WILLIAMS: And again, leaving aside mega projects, the principal outstanding on the assets in a system comprised of some new, some middle-age. and some old should be fairly stable over time, I'll suggest to you, and hence the interest cost should be as well.

MR. JAMES MCCALLUM: No, I don't think you can make that conclusion. The debt will be driven by the costs of acquiring assets to replace those that fail. And so as we've seen, our debt has been increasing by virtue of the need to replace and replenish and sustain the system.

DR. BYRON WILLIAMS: Sir, some might argue that the traditional revenue requirement formula works pretty well when a utility system has a lot of little assets which are brought into and out of service over time so that no particular assets stands out very much.

Is that a type of argument you would subscribe to?

MR. JAMES MCCALLUM: Could you please repeat the question and perhaps I too had made that argument.

DR. BYRON WILLIAMS: I just said some, but it wasn't very well asked, sir, so let's -- let's move on.

So we've taken kind of that transformer and then we've gone to a system with a bunch of little assets coming in and out. In that kind of thought experiment or wor -- or exercise, mega projects like Bipole III and Keeyask, sir, I'll suggest to you represent an outlier situation.

MR. JAMES MCCALLUM: They are obviously significant. They're in total 14 odd billion dollars versus a net plant in service today, subject to check, of 12 billion.

DR. BYRON WILLIAMS: And no matter how

well or how not will the -- the system worked on smaller assets, that kind of infusion of major capital projects poses, without asking you to elaborate I'll ask you to agree, some significant challenges for Manitoba Hydro?

MR. JAMES MCCALLUM: Yes, I think that we've tried to make clear inclusive of our presentation at the policy panel, our direct evidence.

DR. BYRON WILLIAMS: And certainly, Mr. McCallum, our clients and -- and -- and I were listening to you.

Now -- now, I'm going to try and campus with you, sir, three (3) potential options that might be considered in bringing major capital assets online.

Okay, Mr. McCallum?

MR. JAMES MCCALLUM: Okay.

DR. BYRON WILLIAMS: Option 1, I'll ask you to assume is to do nothing with rates until the new asset is complete and in-service.

Okay, sir, you'll -- that will be one (1) option we'll campus?

MR. JAMES MCCALLUM: Understood.

DR. BYRON WILLIAMS: And, sir, applying solely the concept of used and useful, current ratepayers do not, by definition, benefit from that asset that is not yet built, so it could be argued based on cost causality that that's appropriate.

MR. JAMES MCCALLUM: I think subscribing to that one (1) principle alone could be described as appropriate. I think now might be the time to just note the principle that you've passed over in coming here, or maybe not gotten to yet, to, of course, give the benefit of the doubt.

But the -- as I read Mr. Bonbright's -- Dr. -- pardon me, Dr. Bonbright's work, I note that Chapter 2 of the original text is labelled Public Interest as the goal of ratemaking.

DR. BYRON WILLIAMS: And I was actually going to go to a different issue. Like in -- in this scenario, sir, one (1) of the challenges might be a big project dumped onto the rate base might -- might pose some challenges for the capital markets; agreed?

MR. JAMES MCCALLUM: Maybe you can give an example or a clarification of the type of challenge for the capital markets?

You're saying that -- that investors or credit rating agencies would be uncomfortable with the proposition that there will be no funding through rates of these projects, you know, increasing a -- a cash flow deficiency that -- that particularly in a company without any access to equity would need to entirely debt fund; is that...?

DR. BYRON WILLIAMS: That -- that was where I was going, although you did it much more eloquently, sir.

MR. JAMES MCCALLUM: Well, thank you.

DR. BYRON WILLIAMS: Another challenge with a problem like this bill -- putting a big asset all at one time into the rate base would be that customers could suffer a rate shock because the cost of capital and the depre -- and the depreciation are hitting the rate base; agreed?

MR. JAMES MCCALLUM: Yeah, I think, you know, and -- and I don't need to draw it up -- pull it up. I feel, you know, take it as -- as granted.

But we -- we covered this in our direct evidence last Monday on the policy panel that absent rate increases by the time we get to where Keeyask is fully in-service, and Bipole is clearly already fully in-service by then, in the absence of rate increases beyond the 3.36 percent awarded on an interim basis under Order 80/17, in 2024 we will have a $700 million shortfall just to break even, and that, you know, on today's roughly $1.5 billion domestic revenue base would represent in the order of, call it, 45 percent rate increase.

So, you know, one (1) path I suppose would be to -- to wait and do that and the other path, you know, would be to -- to look at efforts to smooth that in.

DR. BYRON WILLIAMS: And we'll come to smoothing, sir, in a second, but in terms of this option, rates would be -- have to be very high to begin with because the cost of capital applies to the full initial value of the asset.

That's just what -- what you just said, agreed?

MR. JAMES MCCALLUM: I'm not -- not sure I said that. Maybe can you rephrase your question, or...

MR. JAMES MCCALLUM: I -- I think you actually anticipated in my question with your answer before, so we'll -- we'll move on.

Another option, sir, would be to raise your rates following the capital works in progress model so that current ratepayers contri -- contribute to the construction project while it is going on;

agreed?

MR. JAMES MCCALLUM: That is another option, and one (1) that has been seen in other environments.

DR. BYRON WILLIAMS: And of course, that might pose some challenges to the -- the concept of intergenerational equity to the extent that some -- current ratepayers who get no benefit from the service would be paying for it before the asset came into service; agreed?

MR. JAMES MCCALLUM: I think I agree with that. I think that any regulator who went -- wanted to go down that path is in considerable good stead looking to -- to other principles inclusive of the public interest.

DR. BYRON WILLIAMS: But to the extent that the asset is large enough, sir, it's possible that even following the capital works in progress model still might lead to very significant rate increases on -- on ratepayers; agreed?

MR. JAMES MCCALLUM: I -- I think that's yes, particularly to personalize the example to Manitoba Hydro, we are talking about really effectively two (2) projects more than doubling the fixed assets of the Corporation, in a very short period of time.

DR. BYRON WILLIAMS: So the risk remains, sir, that even following that model there would still be rate shock in -- in those orig -- early years.

MR. JAMES MCCALLUM: I think you've heard us want to be cautious around the term "rate shock," but it certainly is -- and -- and our application bears clear that as certain planning assumptions move against you, your need to increase rates to compensate accordingly follows.

DR. BYRON WILLIAMS: Just one (1) second, sir.

(BRIEF PAUSE)

DR. BYRON WILLIAMS: And sir, regardless of whether one follows the AFUDC approach for the capital works in progress approach, a third option to supplement those approaches would be smoothing to manage rate so that shock is minimized; agreed?

MR. JAMES MCCALLUM: Well, I suppose as a -- as a third sort of catchall basket of options, you can design any trajectory of rate profile, you know, you favour, although you have to consider it in the context of the risks you're taking by doing so and the eventual costs of following that plan versus, you know, others.

DR. BYRON WILLIAMS: And if one chooses that smoothing model, sir -- sir, to spread out the overall cost of the asset over time, you'll agree that it's important that -- that one makes sure that the capital markets understand what -- what -- what is being proposed, and that both the company and the regulator have credible stories to tell the capital markets about how that necessary rev -- revenue is going to be collected; agreed?

MR. JAMES MCCALLUM: Well, I think, and I think I've given this testimony already that the primary goal should be to manage the debt of the Corporation to a level that keeps the risk of the Corporation to its ratepayers in the form of higher and more volatile rates to -- to an appropriate level. Now, "appropriate" is obviously a word that means a lot to a lot -- a different thing to a lot of people.

The collateral benefit of doing that, it -- it is vitally important to maintain the confidence of investors and whether you -- let's call it the capital markets, in general, which includes all participants inclusive of -- of rating agencies and they -- they really are, you know, in a -- in a sense synonymous. Investors -- you know, conf -- confidence is a funny thing. It -- it's an intangible, but they, in my experience anyway, investors very much want to feel like you are managing a problem and that they have confidence that you -- you are managing a problem and that you are going to continue to manage the problem aggressively as your circumstances change and -- and different prescription is required.

DR. BYRON WILLIAMS: And when the markets, sir, look to regulated industries, they will be looking to the actions both of the -- of the industry and of its regulator; agreed?

MR. JAMES MCCALLUM: I agree with that, yes.

DR. BYRON WILLIAMS: Mr. McCallum, we -- we spoke broadly of three (3) options: The smoothing option, the CWIP option and the AFUDC option. I apologize, Mr. Chair, for using acronyms.

And Mr. McCallum, you'll agree as well whether it's in the Public Utilities Board Order or the Boston Consulting Group report, there was also a discussion of mitigative actions under different options such as the relaxation of government charges;

agreed?

MR. JAMES MCCALLUM: I -- I can't speak knowledgeably to references in -- in -- in any Board Orders, but as to BCG -- I -- I think you'll need to bring up a -- a reference or a, yeah, or evidence for me to...

DR. BYRON WILLIAMS: Okay. And Ms. Carriere, you and I just discussed about an hour ago the recommendations of the Public Utilities Board for the government to -- suggesting that the government consider incremental revenues related to water rental and debt charges; agreed?

MS. LIZ CARRIERE: Yes, that was a conclusion of the NFAT panel.

DR. BYRON WILLIAMS: And Mr. McCallum, I thank you just for the general statement about Boston Consulting as well.

MR. JAMES MCCALLUM: Okay.

DR. BYRON WILLIAMS: Mr. McCallum, I am going to direct your attention to tab 3 of Coalition 32-2 being an excerpt from the NFAT transcript dated March 19th, 2014. And it's a lengthy excerpt so I'm going to ask Kristen to start at the bottom of page 2805, right at the bottom and just -- and then we'll give Mr. McCallum a couple seconds to look at that and then we'll move on to the next -- the next page.

And before we start, Mr. McCallum, you recall certainly from the -- the -- your characterization of the NFAT hearing. I suggested to you that there was a Hydro promise and you -- you fairly pointed back that it was not an ironbound contract -- I'm kind of putting words in your mouth but that's what I understood your answer.

But here you see the Chairperson of the Public Utilities Board worrying about a mistake on the capital costs. And perhaps you can go to the next page.

And specifically, you see the Chairperson of the Board trying to establish, looking at lines 4 through 11, I'll suggest to you, Mr. McCallum, if something goes wrong, and the impact of that goes right to the rate -- ratepayers at the front end, you'll see that the Chairperson, the Board is concerned that ratepayers get it right at -- at the chin at the front end, and wanting to be convinced otherwise.

Do you see that, Mr. McCallum?

MR. JAMES MCCALLUM: I see those words generally, yes.

DR. BYRON WILLIAMS: Okay. Well, move down to the -- the response of Mr. Rainkie, and you see on lines 14 to 25 on this page, and we'll certainly go on to the next page, sir, Mr. Rainkie suggesting starting at line 21 that there were sufficient benefits from a station over a hundred year lifetime that we could smooth -- we could smooth that over time, I'll suggest to you he's -- he indicated, so that customers at the front end would not pay the freight.

Do you see that reference, sir?

MR. JAMES MCCALLUM: Yes, I do.

(BRIEF PAUSE)

DR. BYRON WILLIAMS: And again, sir, in this quote, in the dialogue between the Chairperson and -- and Manitoba Hydro, that the adverse events, I'll suggest to you, would be allowed into the costs of servity -- service rate-setting method over time? Do you see that, sir, lines 1 to 3?

MR. JAMES MCCALLUM: Yes, I do.

DR. BYRON WILLIAMS: And then finally to -- and if you need more time with this, but to direct your attention back to lines 15 to 24, sir, on the same page.

MR. JAMES MCCALLUM: This is back on--

DR. BYRON WILLIAMS: No, we're still on page 28 --

MR. JAMES MCCALLUM: -- 2,806? We're on 2,807?

DR. BYRON WILLIAMS: -- 27, yes, sir.

MR. JAMES MCCALLUM: Yeah.

DR. BYRON WILLIAMS: And just scroll so that we see the -- the last full paragraph, here. Again, you'll -- you'll see Mr. Rainkie suggesting that there's flexibility to cover that off without needing to go directly to customers and tapping their pocketbook.

And from his perspective, I'll suggest you that it's a -- it's a fundamental thing, and it's understanding the financial profile of the hydroelectric generating station? Do you see that, sir?

MR. JAMES MCCALLUM: I see that written.

DR. BYRON WILLIAMS: Mr. McCallum, I know you weren't part of the NFAT process, but I'll ask you to agree that this concept of smoothing was central to the approach that Manitoba Hydro took in --

in that proceeding, and if Ms. -- if you can't answer it, you can -- I'll put it to Ms. Carriere.

MS. LIZ CARRIERE: Absolutely. The -- at the NFAT, we were talking about even annual rate increases to achieve an equity ratio over a period of time. I would suggest that 7.9 percent rate increases are still smoothing the effects of -- of large capital projects over time, as we're not seeing the 45 percent rate increases that Mr. McCallum's talking about.

Furthermore, while we have 7.9 percent over a period of six (6) years, and then 5.4 and 2 percent, similar to what we discussed at -- at the rate hear -- or at the -- at NFAT, that's based on assumptions that are known today. These assumptions could be better. They could be worse, and we were -- will have to adjust accordingly.

If it turns out that the -- the actual outcomes are better, we see export prices rising in the future from the levels we're currently seeing. Continued wat -- water flows, continued low interest rates. Maybe at that time, we can ease off of the seven point nines (7.9s) and four point five-four (4.54), but only time will tell.

I mean, we know there is uncertainty in the in -- in our forecasts, and the proposal of 7.9

percent gets us on a path towards improving that. The seven point nines (7.9s) in the future are not a guarantee.

DR. BYRON WILLIAMS: Ms. Carriere, you've reviewed with me, whether it's the economic or financial scenarios contemplated during the NFAT, agreed?

MS. LIZ CARRIERE: That's agreed.

DR. BYRON WILLIAMS: And that nowhere in the wildest imaginings of the NFAT, I'll suggest to you, were six (6) years of 7.9 percent presented or portrayed as smooth, agreed?

MS. LIZ CARRIERE: I think I said previously that we had not considered rates of those -- of seven point nine (7.9). We had also not considered that export prices would go down as much as they have, nor while we were looking at -- while we were at NFAT, even though Manitoba load was decreasing at that time, we didn't anticipate that it would absolutely flatten out as we're looking at for the next load forecast.

DR. BYRON WILLIAMS: Ms. Carriere, you're not suggesting that the concerns about export revenues and Manitoba load were not expressed by Intervenors or by independent experts?

MS. LIZ CARRIERE: They were expressed at that time, but I don't think anyone was -- was prepared or expected the level of decrease that we -- we have seen since NFAT.

DR. BYRON WILLIAMS: I'm moving to another area, but Mr. McCallum, I -- I saw your -- I didn't know if there was something you wanted to add. I'm -- hesitate to offer this, but --

MR. JAMES MCCALLUM: Well, I -- I think that --

DR. BYRON WILLIAMS: -- something that you felt you needed to say, go ahead, sir.

MR. JAMES MCCALLUM: Yeah. Maybe it's just a -- an observation, as -- as a bit of a newcomer around here, and hopefully welcomed back.

You know, as I read the purpose of NFAT, it was to compare large variety of development plans, and this idea of smooth annual rate increases over time was really a -- a simplifying assumption to allow for the ready comparison of the rate impacts of different plans. I'm -- I'm not sure I would conclude that it -- that NFAT, you know, reviewed the merits and drawbacks of a different shaping of rate increases.

I also think that we need to be alive.

It's my colleague, Mr. Barnlund's favourite word, but we need to be responsive to circumstances when they change. And -- and before the coffee break, you know, Dr. Williams was taking us through the -- the NFAT report, where we were talking about the panel's discomfort, or -- or at least awareness of all of the uncertainty facing Manitoba Hydro and its development plan, inclusive of -- of deviation on forecast electricity prices for -- on the export market, deviations on capital costs for Keeyask and Conawapa, which is clearly to the side now, deviations in the load forecast, which is vitally important.

So the suggestion which I think is being made is that kind of what worked at NFAT, even with all the caveat that -- that we really -- we really weren't talking about a -- a rate strategy and the benefit of -- of more aggressive action on the debt, but we definitely were not talking about this level of debt against this level of anemic growth or non-growth. So the suggestion that -- that, you know, the rate path of NFAT is even all that relevant is confusing to me.

DR. BYRON WILLIAMS: Before we leave this, Mr. McCallum, you're aware that Conawapa was part of the preferred plan of Manitoba Hydro in the

NFAT, sir?

(BRIEF PAUSE)

MR. JAMES MCCALLUM: And again, I -- I wasn't obviously at NFAT, and -- which I'm relieved about, and -- and haven't fought my way through all of the material and transcript.

But my understanding, anyway, is that the -- at the outset of NFAT, Conawapa was in our -- our Preferred Development Plan, but over the course of the proceedings, we made clear that it -- you know, we -- we thought it needed more work before it became a part of the formal approval we were seeking.

DR. BYRON WILLIAMS: And you'll agree that the magnitude of debt associated with Conawapa dwarfed that of Keeyask, sir?

MR. JAMES MCCALLUM: I would -- "dwarfed" to me means multiples.

DR. BYRON WILLIAMS: It was way bigger?

MR. JAMES MCCALLUM: Conawapa was 50 percent larger than Keeyask.

DR. BYRON WILLIAMS: Fair enough. Thank you.

MR. JAMES MCCALLUM: And -- and further into the future. Incidentally, it appears our -- our debt is heading to a level that is consistent with where it would have gotten to under Conawapa, but...

DR. BYRON WILLIAMS: If we can turn to PUB-MFR-44.

(BRIEF PAUSE)

DR. BYRON WILLIAMS: And I'm assuming this is Ms. Carriere, but if -- if I've insulted someone else in the Hydro panel, this -- this document captures payments to the provinces and munici -- municipalities by Manitoba Hydro during certain time periods, agreed?

MS. LIZ CARRIERE: That's correct, from 2012 to the end of the twenty (20) year forecast.

DR. BYRON WILLIAMS: And let's focus on the fiscal year ended 2019, if we can, Ms. Carriere.

Manitoba Hydro is expecting gross -- moving towards the middle of that table -- gross electric operating revenues in the range of $2.2 billion that year, gross electricity operating revenues, agreed?

MS. LIZ CARRIERE: I can see that, yes.

DR. BYRON WILLIAMS: And of that, if we move two (2) columns to the right, it is expected that payments to government will be in the range of $406 million, comprised of water rental fees, provincial guarantee fees, capital taxes, and payroll taxes, agreed?

MS. LIZ CARRIERE: Yes, that's correct.

DR. BYRON WILLIAMS: As a payment of gross revenue, 18 percent, estimated by Manitoba Hydro -- calculated by Manitoba Hydro?

MS. LIZ CARRIERE: That's correct.

DR. BYRON WILLIAMS: And certainly that's consistent with the promise to government from the NFAT that government would do fairly well, agreed?

MR. JAMES MCCALLUM: I don't know that I'd agree with that. These are the payments that we were -- that are put upon us, we're, you know, obligated to make.

DR. BYRON WILLIAMS: Mr. McCallum, I'll suggest you that both you and I have the great pleasure of not being accountants.

Would that be fair? You'll accept my non-CPA status, subject to check?

MR. JAMES MCCALLUM: I -- subject to check, I can certainly confirm I am not a member of a professional accounting body.

DR. BYRON WILLIAMS: And while we honour that profession, lest we insult far too many people in this room, that is not our particular gift? That would be fair?

MR. JAMES MCCALLUM: I will honour all accountants and lawyers in the room.

DR. BYRON WILLIAMS: You go too far, sir.

MR. JAMES MCCALLUM: Perhaps.

DR. BYRON WILLIAMS: But without asking you to elaborate, sir, you have some considerable familiarity with the capital markets, agreed?

MR. JAMES MCCALLUM: Yes, I think -- I -- I think I do have some experience.

DR. BYRON WILLIAMS: And when we look ultimately at the interest way -- rate at which the Province of Manitoba, and through it, Manitoba Hydro borrow, ultimately it is capital market participants who set those rates, agreed?

MR. JAMES MCCALLUM: The capital market participants effectively set the rate at which the Province of Manitoba borrows, yes.

DR. BYRON WILLIAMS: And, sir, capital markets are sophisticated, agreed?

MR. JAMES MCCALLUM: There -- there are probably exceptions that prove the rule, but yes, there's a lot of very experienced people working in them, yes.

DR. BYRON WILLIAMS: And there are large institutional investors in the markets who are very sophisticated, sir?

MR. JAMES MCCALLUM: Absolutely.

DR. BYRON WILLIAMS: And those sophisticated investors can distinguish between accrual accounting and cash accounting, sir? They have hosts of consultants, sir --

MR. JAMES MCCALLUM: They have --

DR. BYRON WILLIAMS: -- advising them?

MR. JAMES MCCALLUM: -- lots of analysts, accountants, consultants, I would say that if they turn their minds to it, they would be able to differentiate between the two (2), yes.

DR. BYRON WILLIAMS: I wonder, sir, Mr. McCallum, if we can turn to Public Utilities Board minimum filing requirement, slide 78, which is authored by Dominion Bond Rating Service, a rating update dated July 4th, 2017? And whether this is Ms. Stephen or Ms. -- Mr. McCallum, either is -- is fine.

And certainly, I don't wish to repeat the conversation that Mr. Peters had with the Hydro team from last Thursday, but on July 4th, 2017, DBRS -- just right there's fine, Kristen, thank you -- confirmed the issuer rating and long-term and short-term debt rating for the Province of Manitoba, agreed?

MS. SUSAN STEPHEN: Agreed.

DR. BYRON WILLIAMS: And concluded that all trends are stable, correct?

MS. SUSAN STEPHEN: Agreed.

DR. BYRON WILLIAMS: And if we turn to page 2 of this document, under the headline 'rating considerations', Ms. Stephen, you'll see that DBRS articulates both some challenges as well as some strengths, correct?

MS. SUSAN STEPHEN: Correct.

DR. BYRON WILLIAMS: And towards the bottom of that page, Ms. Stephen, you'll see one (1) of the strengths flagged by DBRS is Manitoba's low-cost hydroelectric based generating capacity; agreed?

MS. SUSAN STEPHEN: Agreed.

DR. BYRON WILLIAMS: And towards the middle of that paragraph DBRS flags Manitoba's distinct competitive advantage when competing for new business investment in some industries; correct?

MS. SUSAN STEPHEN: Correct.

DR. BYRON WILLIAMS: In the last sentence, obviously, it observes that significant rate increases might diminish this advantage though Manitoba will still have competitive rates; agreed?

MS. SUSAN STEPHEN: Correct.

MR. JAMES MCCALLUM: So, Dr. Williams, I guess -- and again, I'm -- I'm new to this process, but we can confirm things written on pages, but I think the point we wouldn't want to miss here is that Manitoba's low-cost hydroelectric power is, in fact, an asset of the province, and is precisely what we're seeking to protect with the course of action we are advocating here.

DR. BYRON WILLIAMS: And, sir, on August of 2017, interim rates were issued by this Board at 3.36 percent; agreed?

MR. JAMES MCCALLUM: I agree.

DR. BYRON WILLIAMS: And there was no run to the barricades in terms of the spread between Canadian long bonds and Manitoba bonds, sir?

MS. SUSAN STEPHEN: No.

DR. BYRON WILLIAMS: And it is conceivable that there are different mechanisms by which both Manitoba's economy, its competitive advantage, and its ratepayers would be protected; agreed?

MR. JAMES MCCALLUM: Well, if I understand your question correctly, which I may not, but my -- my answer would be the competitiveness of the Manitoba economy, or the affordability of Manitoba to all Manitobans, is a function of much, much more than electricity rates.

DR. BYRON WILLIAMS: And, sir, you're seeing no evidence here of some contagion imperiling the Province of Manitoba related to Manitoba Hydro?

MR. JAMES MCCALLUM: Can you clarify by what -- what you mean by "here"? Is it referencing the DBRS report --

DR. BYRON WILLIAMS: I'm reverencing--

MR. JAMES MCCALLUM: -- or this clause?

DR. BYRON WILLIAMS: -- DBRS flagging Manitoba's abundant low-cost electricity as a strength, sir.

MR. JAMES MCCALLUM: I'm -- I'm afraid

I don't understand your question.

DR. BYRON WILLIAMS: That's fine. I'd like to move on to Manitoba Hydro 71 response to Undertaking Number 3, which is DBRS's update on provincial governments, its 2018 Canadian Provincial Government Outlook.

(BRIEF PAUSE)

DR. BYRON WILLIAMS: Ms. Stephen, you've had an opportunity to review this document?

MS. SUSAN STEPHEN: Yes, I have.

DR. BYRON WILLIAMS: And certainly you went through the specific comments about Manitoba Hydro.

You'll recall in your conversation with Mr. Peters on -- on last Thursday?

MS. SUSAN STEPHEN: Indeed.

DR. BYRON WILLIAMS: And I just wish to direct you to a couple of comments made with regard to the Province of Manitoba in this report, Ms. Stephens -- Stephen, excuse me, without the S. And it's common ground that the province guarantees the debt of Manitoba Hydro?

MS. SUSAN STEPHEN: That's correct.

DR. BYRON WILLIAMS: So perhaps we can go to page 3 of this report, the executive summary.

And, Ms. Stephen, you'll see under the second bullet and then the third dash a recognition by DBRS that Manitoba, as well as New Brunswick, are exceeding expectations in their multi-year deficit reduction plans; agreed?

MS. SUSAN STEPHEN: Yes. Yes, I see that.

DR. BYRON WILLIAMS: And at page 93, Ms. Stephen, and towards the bottom on the left-hand side. Keep scrolling down, please. You'll see the outlook by DBRS suggesting that Manitoba's debt burden might be expected to stabilize at around 45 percent of GDP?

MS. SUSAN STEPHEN: Yes, I see that.

DR. BYRON WILLIAMS: And as well, Ms. Stephens (sic) at page 12 of this document towards the middle of the page. You'll see DBRS just above the bolded -- so the -- the last paragraph above the bolding.

You'll see DBRS identifying a number of provinces, of which Manitoba is numbered, to -- appearing to have some flexibility within the existing ratings to withstand modest deterioration in operating results and debt growth, similar to what happened during past recessions; agreed?

MS. SUSAN STEPHEN: I do see that, and that is with respect to the -- to the province, just to note. Providing that the Hydro remains self-supporting, we will not have an impact.

But I would like to note, and I do believe I put this on the record the other day, that Manitoba has the largest amount of self-supporting debt to GDP than any other province. And should we be considered not self-supporting by Moody's or by DBRS, the Province of Manitoba would have the largest debt to GDP ratio of any province.

DR. BYRON WILLIAMS: And again, I don't want to belabour this, but you certainly did discuss with Mr. Peters the expectation of DBRS that Crown corporations, including Manitoba Hydro, would recover their costs from the el -- from the electricity rate base?

MS. SUSAN STEPHEN: Yes.

DR. BYRON WILLIAMS: I'm not sure who on the Hydro panel I should be asking about the cost of a five (5) year drought. Mr. McCallum, or Ms. -- Ms. Carriere, my apologies. Ms. Carriere, I -- I have a reference, or you can check this subject -- take this subject to check, but the reference, if you wish, is Coalition 2-41(a) and (b). Oh, 2nd Round Information Requests, not 1st Round. My apologies, Kristen.

But, Ms. Carriere, in the course of developing its drought -- drought estimates for MH15 -- let me try this again. In IFF16, Manitoba Hydro has estimated the cost of a five (5) year drought starting in '18/'19, at $1.3 billion; agreed?

MS. LIZ CARRIERE: That's correct.

DR. BYRON WILLIAMS: And if we were to look at the estimate from one (1) year previously, it would have been estimated to be half a billion dollars more; agreed?

MS. LIZ CARRIERE: That's correct.

DR. BYRON WILLIAMS: And the reduction in the estimate of the cost of a five (5) year drought is driven to a significant degree by lower electricity export prices; correct?

MS. LIZ CARRIERE: Yes, you're correct.

DR. BYRON WILLIAMS: As well as lower interest rates as compared to MH15 to a smaller degree, about a hundred mill?

MS. LIZ CARRIERE: Yes.

DR. BYRON WILLIAMS: And so, while lower electricity prices are definitely not a good news story for Manitoba Hydro, in terms of the financial consequences of a drought they're less today than they were in MH50?

MS. LIZ CARRIERE: That's correct.

DR. BYRON WILLIAMS: Mr. McCallum, I don't know if it goes to you for to others on the panel, but -- and again, you may not -- I'm not that memorable.

You may not recall our conversation last -- last week, but I asked you if you had any knowledge in terms of Bonneville Power and the -- the evidence that was included in the -- Mr. Colaiacovo's evidence on behalf of Morrison Park.

Do you recall that conversation, sir?

MR. JAMES MCCALLUM: I do.

DR. BYRON WILLIAMS: And Manitoba Hydro did respond to Mr. -- or to Morrison Park's evidence on behalf of MIPUG and the Coalition, and made reference to his comments regarding Bonneville Power.

You'll -- you'll recall that? It's in the rebuttal evidence of Manitoba Hydro. Subject to check, sir?

MR. JAMES MCCALLUM: So we -- we made a comment about Bonneville Power. That's right.

DR. BYRON WILLIAMS: And, sir, I want to take you to -- and do you -- and do you have a copy of the -- I want to take you to the Moody's Investors Service credit opinion of Bonneville Power, which is Exhibit CC-17, Appendix E, page 126. Apparently Kristen is quicker than I do.

Sir, do you have a paper copy of that, or would you like one?

MR. JAMES MCCALLUM: I do somewhere, but why don't you carry on?

DR. BYRON WILLIAMS: Okay. And directing you --

MS. PATTI RAMAGE: Mr. Williams, maybe you could help me out in terms of this document. I recall it in our Friday's list, but has -- has it been placed on the record?

DR. BYRON WILLIAMS: It's -- it's actually -- thank you for the -- the inquiry, Ms. Ramage. It's actually within the evidence of Mr. Colaiacovo. It's -- it -- the document is actually appended, as my -- Ms. Dilay reminds me.

CONTINUED BY DR. BYRON WILLIAMS:

DR. BYRON WILLIAMS: Just to -- to try to give a bit of a snapshot of Bonneville Power, Mr. McCallum, and if you need a reference, towards the bottom of page 4.

You'll agree with me that Bonneville Power is not investor-owned, but it's a public power utility, sir?

MR. JAMES MCCALLUM: Yes. Bonneville Power is an entity of the United States Department of Energy. Therefore, the United States federal government.

DR. BYRON WILLIAMS: But unlike many traditional public power utilities, its rates are actually subject to regulation by the -- by FERC, the Federal Energy Regulator; agreed, sir?

MR. JAMES MCCALLUM: That's my understanding, yes.

DR. BYRON WILLIAMS: And turning to page 5 under regional hydrology -- page -- yeah, two (2) more pages over. Right there. Thank you.

I'll suggest to you that Bonneville Power generates much of its power through the Columbia River, sir?

MR. JAMES MCCALLUM: I mean, I'll accept that. That's my understanding is they're principally a hydro.

DR. BYRON WILLIAMS: And its -- its biggest volatility drivers, I'll suggest to you, sir, are regional hydrology and wholesale price risk.

You'll accept that subject to check, sir?

MR. JAMES MCCALLUM: Well, I'll certainly accept that that's the point of view of --

DR. BYRON WILLIAMS: Of Moody's.

MR. JAMES MCCALLUM: -- Moody's.

DR. BYRON WILLIAMS: Yes. And fair enough. And, sir, directing your attention to page 6, towards the government -- towards the bottom.

I'll suggest you that unlike Manitoba Hydro, Bonneville Power does not have a government debt guarantee from the United States government, but it does have substantial financial support in terms of debt from the government.

MR. JAMES MCCALLUM: Well, I think they do even a little better than that, Dr. Williams, in that they borrow from the U.S. Treasury at what appears to be the United States Treasury rates.

DR. BYRON WILLIAMS: And, sir, if you go up on this page, under debt structure, you'll see that Bonneville Power has debt both from the federal government totaling $7.2 billion, sir, agreed? As expressed by Moody's?

MR. JAMES MCCALLUM: That's correct. And that's reasonably consistent with their financial statement disclosure.

DR. BYRON WILLIAMS: As well as debt from non-federal sources totaling 8.5 billion?

MR. JAMES MCCALLUM: Correct. So just under 50 percent of their debt is from the federal government --

DR. BYRON WILLIAMS: And it also has to --

MR. JAMES MCCALLUM: -- which is themselves.

DR. BYRON WILLIAMS: -- has to go to the private market is well, sir, for its -- for a significant amount of debt?

MR. JAMES MCCALLUM: For roughly half the debt in their capital structure, correct.

DR. BYRON WILLIAMS: And, sir, you'll also see that -- that the -- in terms of priority the federal debt is subordinate to the non-federal bet -- debt for Bonneville Power?

MR. JAMES MCCALLUM: That's right. That's my understanding. And that in addition, by law, they cannot pay debt service to the federal government unless they are keeping whole on their obligations to -- to the more senior debt owed to -- call it the non-federal debt.

DR. BYRON WILLIAMS: And that no doubt, sir, is a source of some assurance to the financial markets?

MR. JAMES MCCALLUM: I would say it's a source of gigantic reassurance to the financial markets. It effectively means that their debt doesn't effectively mean, it legally means their debt holds priority, and priority in payment.

DR. BYRON WILLIAMS: Sir, if we go to key indicators at page 3 of this document -- well, just Exhibit 2, Moody -- Moody's estimates the debt ratio Bonneville Power in excess of 90 percent, sir?

MR. JAMES MCCALLUM: It does. But to be honest, I tried to calculate that, and I wasn't able to reconcile their numbers. Perhaps -- perhaps you're able.

DR. BYRON WILLIAMS: We might have to call on Morrison Park to do that, sir.

MR. JAMES MCCALLUM: Fair enough. I also couldn't find -- and I -- I mentioned this in my initial opening day presentation that there is what feels like a million ratios and -- and one (1) of the other challenging realities is that folks sometimes define their ratios different than others. So I -- I don't necessary -- I wasn't able to tell, and perhaps you can illuminate exactly what this debt ratio is measuring or meant to measure.

DR. BYRON WILLIAMS: Well, I'd ask you to help me with that, Mr. McCallum. But we'll -- we'll perhaps leave this for another time.

MR. JAMES MCCALLUM: Well, okay.

DR. BYRON WILLIAMS: The -- the last thing I wanted to --

MR. JAMES MCCALLUM: But is your -- I mean, I think -- we're here now. Was the argument -- or -- or the point that Bonneville Power has a very high degree of debt in its capital structure?

DR. BYRON WILLIAMS: Well, sir, you'll recall from my the Boston Consulting Group, when they looked at the peer review, they estimated the debt ratio of Bonneville Power is eighty-two (82) to eighteen (18), from page 28 of attachment 1.

You recall that, sir?

MR. JAMES MCCALLUM: I -- you know, subject to check, I'll accept that.

DR. BYRON WILLIAMS: I wasn't sure why

there was the difference between the two (2) -- the two (2) figures and I'm not sure -- we can agree, sir, that they have a significant level of debt to equity?

MR. JAMES MCCALLUM: We can agree they have a significant amount of debt to equity, yes. Certainly less significant than Manitoba Hydro's, but significant.

DR. BYRON WILLIAMS: I want to turn to -- back to page 5, just above regional hydrology. And that last paragraph, Mr. McCallum, you'll see Moody's describing what it characterizes is a credit support of rate setting tool, being Bonneville Power's use of its treasury payment probability tool where -- whereby BPA pro -- proposes rates at levels that it can -- can meet its US Treasury payments at a 95 percent confidence level based on its cash flows and reserves.

Do you see that reference, sir?

MR. JAMES MCCALLUM: I do.

DR. BYRON WILLIAMS: And suggesting that this approach should ensure a high probability of near-term payments to the treasury, and extremely high probability of near-term timely payments on non-federal debt service.

You see that reference, sir?

MR. JAMES MCCALLUM: I do.

DR. BYRON WILLIAMS: And, sir, when we see the language, "a cre -- credit supportive rate setting tool," I take it that's a rate setting tool that Moody's is appreciative of.

Is that how you would interpret that -- that phrase, sir?

MR. JAMES MCCALLUM: I would in -- I would interpret it that they regard this as credit supportive, yes. Amongst a few other attributes Bonneville Power has, which I'm happy to talk about.

DR. BYRON WILLIAMS: Its relationship with government, sir? It's --

MR. JAMES MCCALLUM: It's -- it's relationship with government is important, the fact that half the debt that it has effectively is subordinated legal requirement to subordinate payments on those debts to make sure that non-federal debt is paid. That's important to capital markets investors, and I think the one (1) that probably caught my eye the most was something called the "cost recovery adjustment clause," or CRAC.

I hope when they're using the cost recovery adjustment clause they're not saying we're on crack. But the cost recovery adjustment clause allows Bonneville Power, without having to go to its regulator, to increase its revenues by up to $400 million, which represents about 10 percent or 11 percent of their revenues, at least based as last year, in order to generate additional rate revenue to meet their obligations should they find they're falling below certain thresholds.

DR. BYRON WILLIAMS: And that was flagged in the evidence of Morrison Park.

You'll recall that, Mr. McCallum.

MR. JAMES MCCALLUM: I don't actually.

DR. BYRON WILLIAMS: Now, I have a few short snappers. It's correct to suggest that as an ordinary course of business Hydro does not pay dividends to the Province of Manitoba; correct?

MR. JAMES MCCALLUM: That's correct. There is no dividend policy at Manitoba Hydro.

DR. BYRON WILLIAMS: And also fair to say that there has not been an equity injection from the Province of Manitoba into Hydro's equity; agreed?

MR. JAMES MCCALLUM: I can't speak to the entirety of the sixty (60) -- six (6) odd year history of Manitoba Hydro, but of late, no. There's been no transfer of capital to Manitoba Hydro.

DR. BYRON WILLIAMS: And Ms. Carriere reluctantly confessed that she's been here since 1992,

at least, and there's been no provincial injection of
equity in the time that you've -- since at least 1992?
MS. LIZ CARRIERE: Not to my
knowledge.
DR. BYRON WILLIAMS: And, in essence,
Hydro's equity flows from revenues, including domestic
ratepayers' rates?
MR. JAMES MCCALLUM: Our -- our equity
flows from our net income each year, which we arrive
at by virtue of all of our revenues and all of our
costs, of course.
DR. BYRON WILLIAMS: And your largest
source of revenues are -- are domestic rates with
extra-provincial rates being number two, sir?
MR. JAMES MCCALLUM: Yes, those
account for the vast majority of our revenues.
DR. BYRON WILLIAMS: And domestic
ratepayers do not earn a return on that equity, as we
might understand a investor-owned company earning a
return on their equity in a corporation?
MR. JAMES MCCALLUM: Well, the -- the
ratepayers per se do not own Manitoba Hydro. Manitoba
-- you know, other than so far as they're also
taxpayers, of course. But Manitoba Hydro belongs to
the -- to the Government of Manitoba. So I don't know

that the comparison really to me makes of a bunch of sense. A -- an investor in a privately owned utility is the shareholder, and for whom the -- the net income, dividend, and return accrues.

DR. BYRON WILLIAMS: And I agree with you, sir, that the comparison makes no sense. And no dividends are paid by Manitoba Hydro to its ratepayers, as we might understand them being paid to a investor-owned utility?

MR. JAMES MCCALLUM: No, and -- and I think that the -- in -- in all utilities the owner and the customer are -- are different entities.

DR. BYRON WILLIAMS: This is a small question, on behalf of Mr. Harper, but I wonder if Manitoba Hydro can indicate how the cost of regulatory proceedings relating to Bipole III and Keeyask are amortized?

MS. SANDY BAUERLEIN: The costs of the regulatory proceedings would be included as part of the costs of the Bipole III, and would be amortized -- depreciated over the life of asset.

DR. BYRON WILLIAMS: And in terms of Keeyask, the same approach over the life time of that asset?

MS. SANDY BAUERLEIN: Same approach

for Keeyask. That is correct.

DR. BYRON WILLIAMS: Mr. Chair and members of the panel, my next questions are -- are on load forecast. And then I have some questions for Mr. Cormie, but my understanding is Mr. Cormie is not here today.

THE CHAIRPERSON: That's my understanding as well.

DR. BYRON WILLIAMS: I'm not sure in terms of the load forecast if -- if Ms. Morrison is the person responsible. I don't have a lot for her, but I do have some. So --

THE CHAIRPERSON: Okay. So you're suggesting we --

DR. BYRON WILLIAMS: -- I'm going to suggest that we --

THE CHAIRPERSON: -- may want to adjourn at this --

DR. BYRON WILLIAMS: Yeah, that was kind of -- I stumbled towards that suggestion. I apologize for that.

THE CHAIRPERSON: Okay. We'll adjourn until one o'clock, and then we'll have -- then resume. I guess, Mr. Williams, how long do you think you'll be this afternoon? And then I would ask Mr. Hacault. I understand there have been discussions about him perhaps starting this afternoon.

DR. BYRON WILLIAMS: Well, I had -- I wouldn't -- I would say, like, thirty (30) minutes to forty-five (45) minutes with -- on load forecast at -- at most. And then I had a number of questions for Ms. -- Mr. Cormie, but...

THE CHAIRPERSON: I -- I'm just wondering if Mr. Hacault has questions he can ask this panel, and then tomorrow you can ask Ms. -- my understanding is Mr. Cormie is back tomorrow -- available tomorrow and you could ask him the questions. I -- I quite frankly, would rather --

DR. BYRON WILLIAMS: Keep going.

THE CHAIRPERSON: -- keep going and -- and --

DR. BYRON WILLIAMS: And I just want to indicate that in terms of my timing, we -- we got rid of a lot of cross last night and in fairness to My Learned Friend Mr. Hacault, he would not have been aware of -- so, you know, if -- if we have any timing challenges, I'll suggest they're my fault and --

THE CHAIRPERSON: I'm -- I'm not -- I really don't care about fault right now. It's just, Mr. Hacault, can you start this afternoon, or would you rather break and start tomorrow?

MR. ANTOINE HACAULT: My preference would be to start tomorrow, because even with Mr. Williams there's some questions and some things that were done today, which in my questions I don't want to just, like, jump right in this afternoon, well, that I remember correctly that this was asked or not asked. But I can certainly start some questioning this afternoon. It would just --

THE CHAIRPERSON: Well, if -- if we could start -- if you have questions of this panel -- sorry. Ms. Ramage...?

MS. PATTI RAMAGE: I was going to say it's -- it's Manitoba Hydro's view that we're here, we're ready to go.

THE CHAIRPERSON: Yeah. If we -- if we could ask --

MS. PATTI RAMAGE: We can have Ms. Morrison up in five (5) -- in two (2) minutes if we wanted to do it now.

THE CHAIRPERSON: Okay.

MS. PATTI RAMAGE: But we don't want to -- to waste an afternoon, in terms of --

THE CHAIRPERSON: Yeah, I agree. Mr. Williams, how about if we deal with Ms. Morrison this afternoon?

DR. BYRON WILLIAMS: Okay.

THE CHAIRPERSON: And then, Mr. Hacault, we'll -- we'll start with you and go as far as you're comfortable with asking -- with this panel. And then if we have to bring additional people we'll -- we'll do that tomorrow. I'd like to -- I'd like to keep this thing moving, so.

DR. BYRON WILLIAMS: Okay. Thank you.

THE CHAIRPERSON: Okay. We'll adjourn till one o'clock. Thank you.

--- Upon recessing at 11:47 a.m.

--- Upon resuming at 1:04 p.m.

THE CHAIRPERSON: Good afternoon. Dr. Williams...?

CONTINUED BY DR. BYRON WILLIAMS:

DR. BYRON WILLIAMS: Yes. Good afternoon, and I'll note that Ms. DeSorcy was here two (2) minutes ago. I'm sure you'll see her step back in.

I'm deferring most of my questions for Mr. Cormie till tomorrow given that he's not here. I may have a couple of just very high level questions that I'm hoping Mr. Miles can help me with and then I'll have a few questions for Ms. Morrison.

Mr. Miles, I'd like to say it's nice to see you, but I think you're somewhere in the back row where I cannot see you. You're here though, sir?

MR. TERRY MILES: I am here. Listening intently, yes.

DR. BYRON WILLIAMS: Historically in terms of forecasting hydrological flows, historically, Mr. Miles, you'll confirm that the second year of the forecast used to be based upon median flow conditions; agreed?

MR. TERRY MILES: Yeah, I'd agree with that, yes.

DR. BYRON WILLIAMS: My understanding is that for the purposes of IFF16, Manitoba Hydro has changed its methodology for year 2, and now uses a full simulation of historic flows in the second years; agreed?

MR. TERRY MILES: That's my understanding, yes.

DR. BYRON WILLIAMS: So that the second year forecast is now produced in a similar manner as years 3 and later, and reflects the full possibility of the range of historic inflow conditions; correct?

MR. TERRY MILES: It -- it does. And I'd add -- add to this and Mr. Cormie can clarify if required for the record at some later -- later date.

That it also considers, if you will, the year event storage. So for example if we are in a bit of a wetter inflow year in year 1, and there's carryover storage into the next year, that would be reflected along with then the -- an average, if you will, of all the potential inflow cases in the following year.

And maybe I'll just add, and that's to reflect the fact that after year 1 inflow conditions aren't known and historically -- or from hydrologic record perspective, virtually any flow condition is possible from drought to flood in that second year of -- of record.

DR. BYRON WILLIAMS: And just so I understand that point, would I be correct in suggesting to you, sir, that neither IFF16 or MH16 Update assumed continued persistence in above-average water flow conditions occurring in the second year of the forecast?

In essence, the IFF assumes that each

of the historic flow conditions could occur in the second and subsequent years?

MR. TERRY MILES: I believe that's my understanding, yes.

MR. JOEL WORTLEY: Just perhaps with the -- the caveat that the MH16 Update would have assumed a reservoir level which is different than flows. This is your store water at the beginning of that '18/'19 fiscal year that was well above normal.

DR. BYRON WILLIAMS: Thank you. And we may have a couple questions more on that point for Mr. Cormie.

Ms. Morrison, welcome back, I wonder if we could turn to PUB minimum filing requirement 61, attachment 2, being the 2016/2017 DSM management plan.

Do you have that before you, Ms. Morrison?

MS. LOIS MORRISON: Yes, I see it. Thank you.

DR. BYRON WILLIAMS: And just to make sure we're on the same page. This is the 2016/'17 plan, not the 2017/'18 plan; understood?

MS. LOIS MORRISON: Yes, this is the -- oh, so this is the one year 2016/'17 --

DR. BYRON WILLIAMS: Demand-side

management --

MS. LOIS MORRISON: -- demand-side management plan, yes. Thank you.

DR. BYRON WILLIAMS: And going back to Rom -- page Roman Numeral IV.

Ms. Morrison, you'll see in essence the various electric DSM programs queued up in -- in terms of their levelized costs moving from left to right on this figure.

Is -- is that accurate?

MS. LOIS MORRISON: Yes, that's correct.

DR. BYRON WILLIAMS: And recognizing that DSM is at a time of change within the Corporation, the current state is that the cost of DSM opportunities vary considerably with some opportunities being economic and others not being economic; agreed?

MS. LOIS MORRISON: That would be correct.

DR. BYRON WILLIAMS: And Manitoba Hydro seeks to pursue all economic DSM opportunities with the economics being assessed against the marginal value of electricity; correct?

MS. LOIS MORRISON: That was the

position that Manitoba Hydro took in the preparation of the 2016 plan, yes.

DR. BYRON WILLIAMS: Okay, we'll come to 2017 in -- in just a moment.

And for the 2016 plan, we see an estimate of the average levelized marginal value being the dot -- the blue line just under $.08 cents per kilowatt hour; agreed?

MS. LOIS MORRISON: That's correct.

DR. BYRON WILLIAMS: And that was based upon the 2015 estimate of marginal costs; agreed?

MS. LOIS MORRISON: I believe that's correct.

DR. BYRON WILLIAMS: If you want to accept that subject to check and then I'll -- I'll provide you a reference in a couple moments if you'd like.

MS. LOIS MORRISON: I appreciate that. Thank you.

DR. BYRON WILLIAMS: And what we see here is the planned levelized total cost of the electric DSM opportunities ranging from 1.1 cents a kilowatt hour on the left-hand side to -- towards in excess of $0.13 a kilowatt hour on the right-hand side. Do you -- agreed?

MS. LOIS MORRISON: I agree but perhaps I should explain that the totality of the bar represents the levelized resource cost of those measures. And so what that reflects is on a per kilowatt hour basis the combined cost of the resource, plus any administrative costs that the Utility might incur in order to promote that product.

And that's, essentially, what you're doing is you are looking at that full cost from a societal perspective as to what both the customer and the Utility had to invest in order to achieve those energy savings on a per kilowatt hour basis.

DR. BYRON WILLIAMS: And so when -- what I believe you're telling the Board is that when you mesh all these opportunities together on a portfolio basis taking into account both the input of the Corporation, as well of -- of ratepayers, the levelized resource cost is $.04 cents?

MS. LOIS MORRISON: No, the levelized resource cost -- sorry, Mr. Williams, did you say levelized resource cost or levelized util -- sorry.

Yes. The -- if you look at the portfolio as a whole, the average is the $.04 cents a kilowatt hour, but each bar individually as a whole represents the levelized resource cost of that individual measure or program.

And in each of those -- for each bar you're looking at -- for each levelized resource cost you're looking at the cost of the measure, the installed cost of the measure from an incremental perspective, along with any of the administration costs the Utility will undertake to achieve those savings.

DR. BYRON WILLIAMS: And when we look at the portfolio LUC, which is held to equal 1.6 cents, do you see that on the right-hand side, Ms. Morrison?

MS. LOIS MORRISON: Yes, the 1.6 cents a kilowatt hour is the average cost or the portfolio cost associated with the levelized utility cost for the overall initiatives based upon Manitoba Hydro's costs solely.

DR. BYRON WILLIAMS: So it's based upon the Utility's investment on behalf of the ratepayer on a per unit basis level -- levelized over a fixed time period?

MS. LOIS MORRISON: That is correct.

DR. BYRON WILLIAMS: In essence, that is the cost to the Utility of acquiring the option?

MS. LOIS MORRISON: That is the cost of what the Utility has invested solely looking at the DSM programs. It does not include any associated reduction in revenues as a result of the energy efficiency savings.

DR. BYRON WILLIAMS: And we'll come to that in just a second.

In terms of the definition of "marginal cost" utilized here, it's defined, I'll suggest to you, as the cost or value to the system of deferring an increment of load growth to Manitoba Hydro's integrated system.

Would that be fair?

MR. TERRY MILES: No, the -- the marginal values that are talked about here or the marginal cost here is related to the value, if you will, of an incremental amount of energy in Manitoba Hydro's system and it's -- and it's evaluated basically based on an offsetting revenue in the export market.

DR. BYRON WILLIAMS: So it's -- this is focused on generation, I misspoke, Mr. Miles, thank you.

MS. LOIS MORRISON: Sorry, it does also include --

DR. BYRON WILLIAMS: And transmission --

MS. LOIS MORRISON: -- a transmission and distribution deferral benefit.

DR. BYRON WILLIAMS: Okay.

MR. TERRY MILES: That's correct.

(BRIEF PAUSE)

DR. BYRON WILLIAMS: Just to walk this through, the assumption undertaken here is that marginal costs are, therefore, the benefit to the system of demand-side management savings; agreed?

MS. LOIS MORRISON: Yes.

DR. BYRON WILLIAMS: And if a DSM or demand-side management initiative with a levelized utility cost that is less than marginal cost is implemented, then Manitoba Hydro's costs will go down? Costs, agreed?

MS. LOIS MORRISON: It's -- if the bar is less than -- generally, yes. Assuming that... Yes, generally, yes.

DR. BYRON WILLIAMS: And as you indicated before, that does not necessarily mean that rates will be -- will go down as domestic load will also go down; agreed?

MS. LOIS MORRISON: That is correct.

DR. BYRON WILLIAMS: And it doesn't necessarily mean that total costs incurred by the customer will -- will go down as LUC does not account for costs incurred directly by the customer. Agreed?

MS. LOIS MORRISON: That is correct. And also, as you pointed out, if there are short-term impacts to rates they will -- there may be an increase in rates as a result of that investment.

DR. BYRON WILLIAMS: Now, you were -- right near the start of our conversation, Ms. Morrison, you indicated that this type of analysis went into the 2016/'17 one year DSM plan; agreed?

MS. LOIS MORRISON: In the preparation of this plan, we did a 15 year analysis. This represents -- we did a 15 year plan as we normally do and what this represent -- this chart was actually taken from that 2016/'17 15-year supplemental report and incorporated into the one year plan.

The one year plan is the -- represents the first year of that 15 year plan.

DR. BYRON WILLIAMS: And Ms. Morrison, if we went to the one year plan for 2017/'18, we would not see this same table; agreed?

MS. LOIS MORRISON: That is correct.

DR. BYRON WILLIAMS: And is that because the analysis is -- is based upon a different metric for '17/'18, or is it because you did not have updated information for the average levelized marginal value?

MS. LOIS MORRISON: The reason we did not -- we did not include this table in the 2017/'18 one year DSM plan is that we did not undertake a 15 year analysis or plan for '17/'18.

This is because we were aware that the Efficiency Manitoba legislation was being tabled and in our discussions with the provincial government, we were basically holding constant on the programs we had in place.

And so we went and undertook in our consultations to develop a one year plan, as we have in the past, and that one year plan then became the new plan and we are simply carrying forward the -- what was developed under the 2016/'17 15 year plan until Efficiency Manitoba can come forward with a revised, updated long-term plan.

DR. BYRON WILLIAMS: And just the looking to that average levelized marginal value of 7.7 cents -- and if you need a reference or you can accept it subject to check, being Coalition first round 132(h) -- that -- that estimate was derived from the 2015 export price forecast. Agreed?

MS. LOIS MORRISON: That's correct.

DR. BYRON WILLIAMS: And I'll suggest to you that since that forecast there have been at least three (3) updates to the export price forecasts being July 2016, January 2017 used in IFF16 and July 2017 used in the IFF16 Update.

Will you accept that subject to check?

MR. TERRY MILES: Yeah, I would accept that subject to check, yep.

DR. BYRON WILLIAMS: And it would be fair to suggest, Mr. Myles, that in each of those updates there were lower export prices as compared to the 2015 export price forecast; agreed?

MR. TERRY MILES: That's agreed for the generation component and as Ms. Morrison indicated, there's also the transmission/distribution component which there may have been some changes to over that time as well.

DR. BYRON WILLIAMS: Okay. To the extent that generation component comprises a significant part of the estimate of marginal costs, that would tend to drive the estimated marginal costs lower, sir?

MR. TERRY MILES: That's correct.

DR. BYRON WILLIAMS: And that figure is currently being updated, Mr. Miles, I believe, from your conversation with Mr. Peters last week?

MR. TERRY MILES: Yes, it is.

DR. BYRON WILLIAMS: And Ms. Morrison, assuming for a moment that the average level -- levelized marginal value is less than 7.7 cents, would that lead to the inference that there may be programs that are not economic anymore?

MS. LOIS MORRISON: Under the total resource cost test, yes, there were -- there could be some programs that would no longer be economic under a lower marginal value.

DR. BYRON WILLIAMS: Thank you. Mr. Miles, I don't know if this is getting into Mr. Cormie's territory or -- or not and, Ms. Morrison, I think I'm moving to the -- to this part of the field, but if -- so, Mr. Miles, I'll ask you to let me know if you can answer this or not.

But, when we look at the 2015 export price forecast, it would be accurate to suggest that the generation component of marginal costs included a value for capacity; agreed?

MR. TERRY MILES: I believe that's correct, yes.

(BRIEF PAUSE)

DR. BYRON WILLIAMS: And again, noting that this is based on 2015, that -- the capacity value was based on the market value for capacity as it was estimated in the electricity export price forecast for MISO, the mid-continent independent system operator for that marketplace?

MR. TERRY MILES: That's correct, yes.

DR. BYRON WILLIAMS: And so, Mr. Miles, or Ms. Morrison, I'm not sure who this goes to; probably Mr. Miles.

Sir, in terms of the next estimate of marginal value prepared by Hydro, would you anticipate that it would include some capacity costs?

MR. TERRY MILES: I'll -- I'll say they we're revisiting the capacity assumption and will address it in the updated marginal values.

DR. BYRON WILLIAMS: Not that I'm getting antsy to see the results, Mr. Miles, but when is that coming?

MR. TERRY MILES: Very soon. I can't

give an exact time, but it is -- it will be -- it will be within the next week.

DR. BYRON WILLIAMS: And when you revisit that estimate, sir, will -- would you anticipate that would be a best estimate or a policy driven estimate?

MR. TERRY MILES: I -- what do you mean by that, Mr. Williams?

DR. BYRON WILLIAMS: I'll perhaps explore that with Mr. Cormie tomorrow.

Ms. Morrison, to the extent that there -- perhaps were in the realm of the hypothetical here and -- and Ms. Ramage can chastise me if -- if need be, but to the extent that there are -- in the event that there are not capacity costs as part of the estimate of annual levelized marginal value, would we expect that that would drive it further down?

MR. TERRY MILES: If -- I'd suggest if you move any component of the -- of value that's in the marginal cost, it would lower the value, of course.

DR. BYRON WILLIAMS: And that will tend to make more programs uneconomic, Ms. Morrison?

MS. LOIS MORRISON: If you're speaking specifically to the capacity value, being a winter capacity value, then certain programs that have higher capacity savings may become less economic but programs that are primarily energy based and are economic today would continue to be economic.

DR. BYRON WILLIAMS: Thank you and I -- I think the rest of my questions are probably better left to Mr. Cormie. And I thank the panel for its time on this.

THE VICE-CHAIRPERSON: Just before we leave load forecast and, Ms. Morrison, and I should have asked you this last Thursday when you were on, it's relating to the population growth that's going into the load forecast and the fact that there was a difference between the Daymark estimate of population and the estimate that you were using. I believe it was in Mr. Peters book of documents, volume 4 on page 20.

And I think I heard you say that one (1) of the reasons was the provincial nominee program; that you hadn't taken that into consideration. So I just wanted to check the time frame with you because my recollection is that provincial nominee program started in the -- the late '90s early 2000, so it's been around for quite a while.

So, I just wanted to check why -- why

that would have been part of the discrepancy?

MS. LOIS MORRISON: So this chart speaks to forecast error. So the difference between actual population and forecast population based on a time frame. And so it's comparing year-to-year.

So the forecasts that were ten (10) years ahead would not have necessarily anticipated the substantive uptake that Manitoba realized in the -- now, I'm forgetting the acronym meaning.

The Manitoba nominate -- provincial --

THE VICE-CHAIRPERSON: Provincial nominee.

MS. LOIS MORRISON: Provincial nominee program. And so what you'll see is that because they didn't anticipate maybe even the program coming in because it was announced in I believe it was 1999, 1998 --

THE VICE-CHAIRPERSON: 1996 it was announced.

MS. LOIS MORRISON: Sorry. So -- so they would -- they -- they may not have anticipated in their forecast, first off, the fact that there was a program coming and then, secondly, what the uptake of that program would be.

And so because it had such a

substantive uptake in Manitoba, we would expect that the popul -- that the population forecasts that were prepared in that earlier timeframe, looked at today, you would expect there to be a -- a greater differentiation because they wouldn't have anticipated it.

Similar to a forecast on the load side where we were forecasting fifteen (15) years out and then we brought in our demand-side management program initiatives. That forecasts, you know, in the five (5) to ten (10) years before would not have anticipated those programs coming in and so you have to adjust for that.

So, as part of our rebuttal that we'll be filing, we are reproducing this report -- this table and -- and I will acknowledge that Manitoba Hydro produced this table for Daymark. And it was after looking at this that we realized that we should have -- be accounting for the provincial nominee program in this analysis. And so we -- as part of our rebuttal are reproducing this table showing the percentage error in consideration of the provincial nominee program being brought in to that analysis.

THE VICE-CHAIRPERSON: Thank you.

THE CHAIRPERSON: Thank you. I

believe, Mr. Hacault, would you begin your cross-examination.

CROSS-EXAMINATION BY MR. ANTOINE HACAULT

MR. ANTOINE HACAULT: It looks like I had a bad connection anyways. Good afternoon, members of the Board, all those present from Manitoba Hydro, the viewers.

The first area I would like to explore arises out of a number of discussions related to how we include projections or don't include projections in the integrated financial forecasts and, more recently, the latest one.

Is any -- and this can be answered by anyone. Is there any uniformed test which gets applied by the Corporation?

MS. LIZ CARRIERE: I'm sorry, Mr. Hacault, I am not clear on what you're asking for.

MR. ANTOINE HACAULT: I'll drill down and make my question, hopefully a bit clearer.

Is there, for example, a level of certainty, such as P50, which is used as a standard for all assumptions and projections in the future?

MS. LIZ CARRIERE: I would say that with the exception of the load forecast who characterize their -- their forecast because they can do statistical analysis on historical information, that they -- that the load forecast is the only forecast that would ascribe any kind of probability to it or likelihood of outcome.

For the remainder of the forecast, it's Manitoba Hydro's best estimate of the future direction given the assumptions that are known at a particular point in time. I don't know many forecasters or analysts that would go so far as to ascribe any kind of certainty without doing, you know, the probabilistic analysis, if it were even possible.

MR. ANTOINE HACAULT: Okay. Let me drill down a little bit more.

Over the years I've understood after the first two (2) years of water flows, we do some kind of an analysis of where we think the waterfalls are going to be.

Is that a different metric and a different level of reasonableness or certainty?

MS. LIZ CARRIERE: You're talking about the water flows that impact the first two (2) years of the forecast?

MR. ANTOINE HACAULT: After that.

MS. LIZ CARRIERE: After that? Well,

it's -- currently it's based on 102 years of flow record data.

MR. ANTOINE HACAULT: And what do you do with those 102 years, do you pick an average median?

MS. LIZ CARRIERE: Well, we run --

MR. ANTOINE HACAULT: Help the Board understand, please.

MS. LIZ CARRIERE: I might get Mr. Miles to help me with this. It's his area of expertise but, essentially, we run all of the flow records through each and every year of the forecast and come up with base -- export revenues and generation costs, such as your fuel and -- and your thermal charges, based on the water flow condi -- conditions in each and every flow record.

So that -- you, essentially, come up with a hundred and two (102) estimates of revenue and generation costs, and those are averaged to arrive at the revenues and costs that -- that are put into the integrated financial forecast.

MR. ANTOINE HACAULT: And could you also explain to the Board -- I think it would be useful. And when I say the public -- the "Board", the Public Utilities Board members, remind us how you approach deciding what appropriate interest rate forecasts are.

They change quite often but how do you make a decision as to how you're going to forecast what interest rates are going to do over the IFF20.

MS. LIZ CARRIERE: Well, we have a number of source forecasts from large national banks and -- and some consultants, economic consultants that provide us with forecasts of interest rates out over time; typically of about six (6) to eight (8) of those -- those types of forecasts. And we take those forecasts, as they are, and apply a simple average to those forecasts.

MR. ANTOINE HACAULT: And did Manitoba Hydro apply the same methodology to determine the spread that it could expect by using a 20 year watum -- weighted average term for the debt versus bringing it down to twelve (12)? Did it use averaging from six (6) or eight (8) forecasts?

MS. SUSAN STEPHEN: Yes, we did for the Government of Canada bond rates, we used consensus forecasts for a five (5) year, for a ten (10) year, and for thirty (30) year bonds, and in addition to using the consensus for those bonds, we also developed our credit spreads for five (5), ten (10) and thirty

(30) year bonds as well.

And we took a weighting of them to come up with a twelve (12) year weighted average term.

MR. ANTOINE HACAULT: Okay. And am I right in understanding that what's happened -- and maybe I'm not going to explain it correctly, is that all of those forecasts ended up being wrong over a period of five (5) or six (6) months.

We thought there was going to be a one point six point (1.6.) (sic) spread and that actually reduced to about .8 or .9 spread. Is that right?

MS. SUSAN STEPHEN: Well, as we discussed last Thursday during my presentation, interest rates, the levels themselves, as well as the term differential or the yield curve can change.

And from the time that we prepared our forecast in April, we saw the Bank of Canada raise rates in July which had a dramatic impact on that -- that term differential. So the five (5) year, as we talked about the other day, the five (5) year rate went up and the thirty (30) year rate went down slightly, reducing that -- that differential.

MR. ANTOINE HACAULT: And did all of those forecasts expect the long term rates to increase in April? And what happened to the thirty (30) year rate between the April forecasts and the last number that you gave us for a thirty (30) year term?

MS. SUSAN STEPHEN: The thirty (30) year forecast, we are currently just under where we forecast the thirty (30) year rate to be.

On -- on the five (5) year, we are approximately thirty (30) to thirty-five (35) basis points above the forecast level.

MR. ANTOINE HACAULT: So in April you were forecasting that you could get thirty (30) year terms at 3.05 percent?

MS. SUSAN STEPHEN: Subject to check, I can dig that out if you'd like.

MR. ANTOINE HACAULT: As long as it's not disclosing any confidential information if you can let us know what that was, that would be great.

Perhaps going to your slide 64 of I think it's Manitoba Hydro 68 would assist.

MS. SUSAN STEPHEN: Thank you, that's helpful. So on this slide you can see that the thirty (30) year forecast rate we had forecasted at 3.55, and we had forecast the five (5) year rate at 1.95.

So you can see at the beginning of the year we were very -- on an actual basis very close to our forecast rates were but throughout the space of time between April and now, the market has reacted differently in terms of the level of the interest rates and the term spread.

MR. ANTOINE HACAULT: So am I reading this graph correctly that in the space of the time that starts -- I'm looking at the bottom left-hand corner -- March 31, 2017, until today there was, essentially, two (2) points were -- were going down to 3 percent rates for the thirty (30) year all-in rate?

MS. SUSAN STEPHEN: Yes, that's correct. I believe today it's 3.02.

MR. ANTOINE HACAULT: And the assumptions that you've built into your forecasting assumes that the thirty (30) all-in forecast rate is going to stay at 3.5 until March 31st of 2018.

Am I reading that graph right?

MS. SUSAN STEPHEN: Yes, you are reading that correctly.

MR. ANTOINE HACAULT: And then we see that there's an assumed step up for the year following which would be March 31, 2018 to March 31, 2019?

MS. SUSAN STEPHEN: That's correct.

MR. ANTOINE HACAULT: And are you able to give us an approximate number? Is it about 3.8 that you're assuming is going to be the cost of that debt, the thirty (30) year all-in debt as of March 31, 2018?

MS. SUSAN STEPHEN: That's correct.

MR. ANTOINE HACAULT: And we've talked a lot -- a lot about what if the interest rates are higher than the projected estimates, but I haven't heard much discussion about what happens if the rates stay between 3 and 3.5 percent. There's not much analysis of that done. Is that correct?

MS. SUSAN STEPHEN: Well, the assumption is is that we are in an upward moving interest rate environment at the moment. As I mentioned, the Bank of Canada has raised rates twice this year already, and it's anticipated that they will raise rates in 2018 again.

What we have seen, and we talked about the flattening of the yield curve, the compression of that term differential, inflation has not yet surfaced to a great degree in Canada, which is why the thirty (30) year bond rates are still at lower levels. Once we start to see signs of inflation, the thirty (30) year rates will start to creep up.

MR. JAMES MCCALLUM: And --

MS. SUSAN STEPHEN: And these are historical --

MR. JAMES MCCALLUM: Go ahead.

MS. SUSAN STEPHEN: These are historically low levels. I think there's much more potential for upside risk to interest rates than there is for downside. Thank you.

MR. JAMES MCCALLUM: And -- and Mr. Hacault, we -- we certainly present sensitivity tables that show the reaction to a 1 percent increase and a 1 percent decrease to -- to interest rates. I think the point we've tried to make in terms of understanding sensitivity, and risk, and the importance of getting this one (1) rate increase right, as Ms. Patti Ramage -- Ms. Ramage spoke to in her introductory remarks is the in -- inability to go back in time and -- whereas the ability to adjust going forward, if, as we move through the future, in the future, I think we will all concede is unknowable.

As we move through the future and come back to this Board regularly to discuss everything that has changed, we have the opportunity to adjust. But -- but insofar as interest rates begin increasing from multigenerational year lows, as most observers and pundits, and experts are saying they will, if they increase more quickly, then we will certainly find we have not, you know, done the right thing. If we don't take deliberate action today.

MR. ANTOINE HACAULT: I don't mean to be sarcastic about my next comment, but in previous rate applications, there was the same type of warning and concern, and in fact, rates continued to stay historically low, so I guess we were just lucky in being wrong as it relates to interest? Is that right?

MR. JAMES MCCALLUM: Well, I -- I guess, Mr. Hacault, and I hope you similarly don't take sarcasm from this, but if you run across Portage Avenue and don't get hit by a car, it doesn't mean you're safe.

MR. ANTOINE HACAULT: I'll try running around really quick.

MS. LIZ CARRIERE: Mr. Hacault, you're -- I -- you're absolutely light -- right, and we can be wrong. Our interest rates may be lower. But if -- if the PUB -- it will be so gracious as to award us 7.9 percent, and I was thinking about this this morning as -- as we were being crossed by Mr. Williams, and he pointed out that we don't pay dividends.

So, any rate that it was -- it was awarded to us -- and if we are wrong in these forecasts, the revenue isn't going anywhere. It's not going to a -- a shareholder that's earning a 10 percent rate of return. It's staying in retained earnings, and it's there for the ratepayers' benefit in the future.

MR. ANTOINE HACAULT: Thank you for that comment, and we will get into a discussion of -- to whether or not there's been an analysis as to which pockets it's better in, either the consumers or Manitoba Hydro, but that'll be another subject that I'll broach.

I want to -- I got detracted a bit from the tests that we're applying in -- in the IFF projections. So we've covered load forecasts, water flows, interest rates. I've heard various ways the forecasting is described as it relates to other items. I believe I've heard best efforts, best view, best estimate.

How do we come to any level of knowing whether we do have it right this time as opposed to any other of the hearings that happened every two (2) years, with greater certainty? What kind of level of certainty are we looking at when we're doing best estimate?

MS. LIZ CARRIERE: I think every forecast we put out is going to be best estimate, but there are things that cannot be anticipated. I -- I am not sure of anyone who would put money down on knowing where interest rates are going, where exchange rates are going, but our forecast certainly do our bests. That's part of the reason why we look at sensitivities.

We understand the variability in our earnings related to certain forecast assumptions, and that's -- that's why we put those out there. We're -- we're saying that our earnings can -- can vary from what you see in the one (1) single line of net income, or retained earnings, or equity ratio, be whatever you're looking at. It can vary from that, and it will. We're not guaranteeing a hundred percent accuracy, or even 50 percent accuracy, because that's what we know today.

The other -- the other thing we look at is the uncertainty analysis, and we haven't had a -- a great deal of time to talk about that. But we're looking at what can happen under a hundred and two (102) different water flow records over a twenty (20) year period of time. And based on that, you can see that there is significant variation in our earnings levels.

This isn't something that's new. It's

-- it's something that we have been dealing with as a Utility since our inception, and we are simply, you know, subject to a lot of variability in -- in our water flows, which make -- which are really a driver, and many, many other factors, because this is a very complex business. And I will be the first to acknowledge that our forecasts do not provide any certainty, because they can be affected so -- by so many different factors.

And this is -- this is really why we -- we need to have a sufficient reserve or retained earnings base to rely on. Because we don't know what's going to happen in the future, we need to have a sufficient, strong financial position to rely on to be able to withstand all these different factors that can affect our net income.

MR. ANTOINE HACAULT: So my understanding what you're trying to communicate to the Board is that you want a pre-fund negative uncertainty, which you can't predict?

(BRIEF PAUSE)

MS. LIZ CARRIERE: I'm not exactly sure what that means.

MR. ANTOINE HACAULT: Am I understanding you correctly that you wish ratepayers to pre-fund negative uncertainty, which you can't predict?

(BRIEF PAUSE)

MS. PATTI RAMAGE: Mr. Hacault, you repeated the same words. I think --

THE CHAIRPERSON: Yeah, I -- I was just --

MS. PATTI RAMAGE: -- Ms. Carriere --

THE CHAIRPERSON: -- I was just about to --

MS. PATTI RAMAGE: -- was looking for an explanation.

CONTINUED BY MR. ANTOINE HACAULT:

MR. ANTOINE HACAULT: Well, let's take it in little bites. As I understand it, your last response, the Corporation is not guaranteeing that it has any certainty in its forecast.

Do I get that right?

MS. LIZ CARRIERE: That's correct.

MR. ANTOINE HACAULT: And the

Corporation is saying, We want additional money from the ratepayers because of potential negative risks. Is that correct?

MS. LIZ CARRIERE: That's one (1) of the factors, yes.

MR. ANTOINE HACAULT: So I suggested to you in my first sentence what the Corporation is asking its ratepayers to do is to pre-fund negative risks, which it can't predict with any certainty. Isn't that correct?

MS. LIZ CARRIERE: Where -- I think we're asking for a rate increase in -- for our 2000 -- to confirm 2017/'18 and '18/'19, and what that does is it addresses our negative cash flow, our defic -- cash flow deficiency problem, and it sets us on a path to -- to building our financial strength. It -- it doesn't solve everything. It's still going to take us a while to get there, but this is a two (2) year rate application, and we can adjust going forward.

So in terms of pre-funding risks, I can't say that, you know, we're -- essentially we're talking about two (2) years here, so I can't say that we are pre-funding risks. We're just taking the right steps towards addressing that.

(BRIEF PAUSE)

MR. ANTOINE HACAULT: I'll move on for now. I guess the record will speak for itself as far as the reasons that were raised in the application and the purpose of this particular increase. I'll leave it at that.

I do want to address the whole issue of the size of the increase that's being asked for, and do that in the context of the position of the Corporation back in the NFAT. And I apologize in advance for not having the extract distributed in advance. It's the same volume that I had referred to in my prior book of documents.

And it -- the discussion is on the very same day, and it's a discussion that occurs -- if you can maximize the page -- is occurring between Mr. Orle and Mr. Rainkie, who was then the chief financial officer of the Corporation, and was, I would suggest, the lead witness on those types of issues.

I would direct your attention to the bottom of that first page, which starts the question by Mr. Orle, and if we continue to the top of page 489, we see Mr. Orle is introducing a discussion with respect to smoothing. That's at line 3.

And Mr. Orle, at lines 6 to 9, is asking Mr. Rainkie on behalf -- who's answering on behalf of the Corporation:

"Can you tell me what you mean by smoothing? How would you go about smoothing out rates?"

And for the record tomorrow, I'll produce an extract of that -- the next four (4) or five (5) pages, but Mr. Rainkie talks about net costs having gone up by $100 million a year.

Have we reached that kind of magnitude in this rate hearing, costs on balance going up $100 million a year?

MR. JAMES MCCALLUM: From what point to what point? Or is this between an old forecast and a current forecast?

MR. ANTOINE HACAULT: From the IFF that was the basis for NFAT, and this new IFF. I think it was IFF14 was for the NFAT.

(BRIEF PAUSE)

MR. ANTOINE HACAULT: Sorry, it may have been IFF13. I stand to be corrected.

MS. LIZ CARRIERE: I can't recall.

I'm not sure what day this is, March 21st. I believe it still would have been based on an IFF12. I think -- subject to check, I think we are talking about $100 million. We've got an increase in -- in capital costs in the billions of dollars. We've got, you know, fifty (50) -- probably about 40 percent relative to the 2012 forecast reduction in -- in export -- export prices, and lower load, which means we have a smaller base over which to spread costs, so we probably are talking in the neighbourhood of $100 million a year.

MR. ANTOINE HACAULT: And have your interest costs increased also, or is it -- sorry, you always raise the other ones, but you never talk about the interest cost, which is the offsetting factor?

MS. LIZ CARRIERE: No, you're right. We've been very fortunate that interest rates have -- have gone down since NFAT, but I would still say that our -- our overall revenue requirement has gone up.

MR. ANTOINE HACAULT: Okay.

MR. JAMES MCCALLUM: It -- it clearly has, and it's gone up on a per unit basis.

MR. ANTOINE HACAULT: And the Corporation, at least in the NFAT, was saying, If we have $100 million increase, we wouldn't come to this Board asking for an increase of 100 million, we'd be looking at a 4 percent increase, which would increase the revenue by about 50 million.

And if you can continue scrolling down, please, Kristen. And Mr. Rainkie explains why the Corporation would tare -- take a view which is not simply overreacting on short-term cost changes. If you can flip to the next page, please.

MR. JAMES MCCALLUM: I might have missed the question?

MR. ANTOINE HACAULT: That's the position of Mr. Rainkie as stated on the record.

MR. JAMES MCCALLUM: Well, I, you know, having not had an opportunity to read the transcript in entirety, I don't -- I don't know what he was specifically responding to.

MR. ANTOINE HACAULT: Fair enough. And -- and I apologize to -- in starting this line of questioning and not having this distributed in advance, and -- and you weren't there, but there are other members of this panel who were there.

I be -- I believe Ms. Carriere was there on the same panel at the same time as Mr. Rainkie. So it -- well, the question is, I can see, unfair to you, but not unfair to others who were there on that same day.

MS. LIZ CARRIERE: Well, I still haven't read the -- the transcript, and I -- I -- I'll fully admit my -- I don't remember things from three and a half (3 1/2) years ago, as precisely is what you're suggesting.

MR. ANTOINE HACAULT: And if you go through the next four (4) or five (5) pages, I would suggest that the position of the Corporation was that it would follow rate-making principles and smooth any such increase over time instead of doing large, lumpy increases.

And you may have comments on that tomorrow to suggest that is not what the Corporation was saying, but Mr. Orle actually put a number, which wasn't too far from what we're looking at, if you look at the bottom of this particular page.

MS. PATTI RAMAGE: If I could interject, it might be helpful if we got a question here as opposed to a review of the transcript.

CONTINUED BY MR. ANTOINE HACAULT:

MR. ANTOINE HACAULT: Mr. Orle is putting to Mr. Rainkie this scenario that he just mentioned, at 4 percent increases, and that there were factors that he wasn't anticipating, and to meet that, you'd have to go up to 8 percent increase.

I'm suggesting to you that the Corporation was saying that it would not ask for the 8 percent increase, but it would smooth that out. Do you agree or disagree?

MS. PATTI RAMAGE: I'm still having trouble with whether -- what the question is. Are you asking for what Mr. Rainkie said at the time? Because if that's the case, I think the panel needs to read the full transcript, not guess based on the excerpt in front of us. And I'm not really sure why we need to confirm what a transcript says.

So maybe you could be more specific in what you're looking for?

MR. ANTOINE HACAULT: Well, I thought that, given that there wasn't -- Mr. Rainkie is speaking on behalf of the Corporation. Ms. Liz Carriere is here today. She speaks on behalf of the Corporation. I thought Ms. Carriere could confirm for the Corporation -- what the Corporation's position was. If she saying she can't confirm that today, I guess I can't have an answer to my question.

THE CHAIRPERSON: I guess the problem I have is the transcripts confirm the question. You know, if Mr. Rainkie said that, Mr. Rainkie said it.

I don't think we need any other confirmation.

I guess we're -- we're running into a problem, and the problem is -- and it -- much of it emanates -- emanates from the panel, that Mr. Hacault has agreed to proceed prior to being able to distribute his -- his materials so that you can read them and -- and get prepared.

I -- I guess the question, Mr. Hacault, is if -- if your questions are going to be based on the materials, then I would think that -- and -- and the panel needs to review the materials, I -- I don't know how we would proceed now, and whether it would be better just to adjourn so that you can provide them the material so that they can review it and get prepared for the hearing, because right now, they're being asked to confirm something Mr. Rainkie said.

They don't need to do it. We've got a transcript that says what Mr. Rainkie said. If the question is: This is -- this is the position of Manitoba Hydro before, what is your position now or how does it change, I think they could probably answer that. But in terms of simply confirming what he said, we can all read the transcript and see what Mr. Rainkie actually did say.

MR. ANTOINE HACAULT: I'll move on --

THE CHAIRPERSON: Okay.

MR. ANTOINE HACAULT: -- because the purpose of the questions was to confirm the Corporation's position with respect to smoothing out the program, so I --

MS. PATTI RAMAGE: I didn't get that that was the question. I thought it was confirming what Mr. Rainkie said at the time, and our concern -- or my concern certainly is we need context. The -- the reality is, a lot of these questions are hypotheticals put back then, so we need to see what Mr. Rainkie was answering.

And I completely agree, Mr. Chair, it is what it is. But if Mr. Hacault would like to ask the panel what their position is today, they're quite capable --

THE CHAIRPERSON: Yeah --

MS. PATTI RAMAGE: -- of answering that.

THE CHAIRPERSON: And I -- I suspect we will get there. I -- I don't want to presume or suggest to Mr. Hacault how he put in his case. If there's another line of questioning you care to go into, please do it. If -- if the questions relating to the transcript are in relation to Hydro's positions, I think that the panel should have the opportunity to review the transcript, sort of an abundance of fairness to them.

MR. ANTOINE HACAULT: As I said, I'll move on, and -- so that Ms. Carriere and others have a chance to look at the transcript.

CONTINUED BY MR. ANTOINE HACAULT:

MR. ANTOINE HACAULT: Following the whole issue of rate smoothing, and this can be anyone on the panel here today, does anybody know whether the top ten (10) consumers of Manitoba Hydro, as to whether they have operations outside of Manitoba?

MS. LOIS MORRISON: Yes, we are aware that the -- the top consumers have operations outside of Manitoba.

MR. ANTOINE HACAULT: Thank you. Is the Corporation aware of how the cost of power to those plants outside of Manitoba compares to the Manitoba cost if we assume increases to date? That's excluding the 7.9 percent.

MS. LOIS MORRISON: We have not undertaken a detailed analysis of all of the operations of all top consumers outside of Manitoba and looked at the electricity rates within their --

within those respective jurisdictions.

When I referred to those top consumers having operations outside of Manitoba, some of those operations are not the same specific product or -- or activity that is performed in Manitoba, and so we would have to look at each location -- and there are a number -- and determine whether or not they're directly comparable, and then look at the energy rates in those areas specifically, and we have not undertaken that.

MR. ANTOINE HACAULT: Okay. And is it fair to suggest, then, that the Corporation does not know how the cost of power for those plants outside of Manitoba for the top ten (10) consumers will compare, and those outside jurisdictions, to the cost of power in Manitoba six (6) years from now, if we embark on this 7.9 percent increase rate plan?

(BRIEF PAUSE)

MS. LOIS MORRISON: We can draw some conclusions that there are a number of the other jurisdictions that our top consumers are operating in that are also facing or anticipating electricity rate increases.

So, Mr. Hacault, you are correct to a certain extent that we cannot specifically say what the impact to their operations costs will be compared to the other jurisdictions. But I also cannot state what the impact to their costs will for be other variables that influence their unit production costs. There'll be many other care -- factors that go -- that are jurisdiction-specific that will affect their unit costs to production, and we have not undertaken analysis of that either.

MR. ANTOINE HACAULT: And has Manitoba Hydro inquired of the top ten (10) consumers to determine whether those consumers have to compete for capital as between jurors -- jurisdictions for any upgrades, expansions, or maintenance of their plants?

MS. LOIS MORRISON: Yes. We've had a number of conversations with our top consumers, and as with most multinational companies, when they are making capital investments, they are putting forward their business case, and the parent will look at the best business case and choose to invest in those opportunities. So we are aware that that's what most of our top consumers will be assessed against.

MR. ANTOINE HACAULT: And would -- I'm being -- I'm not asking you to -- to disclose any confidential information, but would the rate of return on investment for that competing capital be as short as one (1) year in some instances?

MS. LOIS MORRISON: In our discussions with top consumers, they do typically -- depending, of course, on the nature of the project and what the objectives of that project are, they typically do seek to achieve a return on their investment within one (1) year.

MR. ANTOINE HACAULT: Okay. So just to put that into context, and this is a hypothetical number, if one (1) corporation's rates were to increase by $3 million, the company, if we're assuming a one (1) year return on its investment, is fighting for competing capital on the basis that unless they can demonstrate they can make a $3 million profit in the next year, they won't get that capital, is that how I'm to interpret that one (1) year, what they call ROI, return on investment?

MR. JAMES MCCALLUM: But I think we're -- we're maybe confusing a whole bunch of things here, so I'll maybe make one (1) statement and then seek, Mr. Hacault, to have you unpack your questions a little bit so we can help the panel.

But as to a -- an investment, it really

depends on the type of investment and the horizon of it that governs what a company looks to, in my experience. In looking at a -- a large-scale investment, say, a -- a new mining operation.

For example, they will be looking out at the rate of return that they are able to make on that investment taken over anywhere from twenty-five (25) to fifty (50) years. And -- and the adequacy and likelihood of that rate of return for that period of time will be an important determinant of whether they allocate their capital to one (1) project in Manitoba, or a project in another jurisdiction.

MR. ANTOINE HACAULT: Thank you. Do you have anything else you want to add, Mr. McCallum?

MR. JAMES MCCALLUM: I'll await your next question.

MR. ANTOINE HACAULT: But it wasn't in response to a question, sir. That's -- I'm asking if you want to add something, feel free to add.

MR. JAMES MCCALLUM: I was aiming for clarity.

MR. ANTOINE HACAULT: Thank you. So getting back to my question, Ms. Morrisey (sic), am I at -- right in understanding with respect to a particular improvement or refurbishment in a plant, if they're competing for capital on a return rate of one (1) year, it's basically saying, used with my example, that, we'll give you $3 million in capital provided you can show you can make $3 million return in the next year on that investment?

MR. JAMES MCCALLUM: No, that -- that -- I -- maybe I wasn't clear enough in my answer. I don't know that most companies would think that way. You're comparing an investment, a one (1) time expenditure of -- of capital, for the return on that investment, which is best measured over time.

So it's not -- a company would -- unless their -- their desired rate of return was a hundred percent, which is a very high rate of return. Most companies' internal hurdle rates are not anywhere near 100 percent, otherwise, they'd never invest anything.

They look to, you know, if it's an investment designed at savings, or an investment designed for increased revenue, they look at that contribution taken over many years. I think what Ms. Morrison was speaking to was -- was a payback period on a fairly discrete investment.

MS. LOIS MORRISON: Yeah. Maybe to put some qualification around it, when we speak to our top consumers, generally, we're speaking about energy efficiency investments, and that's typically what we've been speaking to them about. And so when we talked to them about an opportunity to reduce their energy costs and what they're willing to invest in that -- that initiative, they will typically look to a one (1) to two (2) year payback on that investment.

But we're typically looking not at a large-scale fundamental change to their operations when we're having these types of discussions. As Mr. McCallum pointed to, if, say, a mining operation is seeking to do additional expansion or even locate into the Province, they are not looking at an analysis that's saying they have to be paid back on that initial investment within one (1) year.

It's the difference between -- you -- and that's why when I qualified my answer, it depends on the type of project that they're looking at to the level of investment that's required, and -- and the return that they're expecting on that investment.

MR. ANTOINE HACAULT: Okay. So let me break that down into little snippets. Thank you very much for trying to answer my question.

The answer you gave, as I understand it, Ms. Morrison, was on the basis of your interaction with those companies as to whether or not they wanted to invest in a DSM initiative. Your conversations didn't go further into other short-term improvements. Is that correct?

MS. LOIS MORRISON: We did not speak to any specific initiatives. What we did speak to was just their general rule of thumb that when they are assessing projects or expansions, of what they're looking for.

But they did qualify it also, the same as I did, that it really depends on the nature of the project, what the expected long-term benefits are of that project, if there's environmental considerations. There's a number of things that go into the -- their assessment of a project goes beyond simply a one (1) year payback.

One (1) year payback is one (1) consideration or one (1) measure that they'll use in assessing a project. As Mr. McCallum pointed out, they will also look at the internal rate of return, and they'll seek a certain level of that.

MR. ANTOINE HACAULT: And I would suggest to you, Ms. Morrison, that some of these DSM programs would have required one (1) time investments of more than $3 million, for which the company was expecting a one (1) year or a hundred percent rate of return. Do you agree or disagree?

MS. LOIS MORRISON: On that initiative, I would disagree. For those initiatives where we have worked with larger customers, not only top consumers, but larger customers, where there is a $3 million or a larger scale investment, they have been willing to entertain a longer-term payback or a -- what they've focussed on in those project is -- projects are is an internal rate of return on that investment.

So they are willing to look at a longer period of time not specifically tied to a one (1) year payback. So in that case, they were not expecting a $3 million return within one (1) year of investing the $3 million.

MR. ANTOINE HACAULT: And if you're suggesting to this Board that it was longer than one (1) year, would it be longer than five (5) years? Again, it would depend on the project, wouldn't it?

MS. LOIS MORRISON: It is project-specific, and I do not have the details on -- at the top of mind as to what the payback periods were for those specific projects for those customers that we've dealt with that were that much larger.

MR. ANTOINE HACAULT: I would suggest to you that the hurdle rate, or the time period was, in all cases, less than twenty-five (25) years. Would you agree for your DSM programs?

MS. LOIS MORRISON: Yes, the timeframe that the customer was ret -- returning their benefit was less than twenty-five (25) years.

MR. ANTOINE HACAULT: I would suggest to you in most instances, it was less than ten (10) years?

MS. LOIS MORRISON: I cannot confirm that.

(BRIEF PAUSE)

MR. ANTOINE HACAULT: Now when we're talking full return on capital in twenty-five (25) years, how does that compare to lowering interest rates on their -- a small portion of their Hydro bill by, say, 3 percent over thirty (30) years?

What's the -- what's the difference in discount rate between the 3 percent over thirty (30) years and a DSM investment that they're willing to make based on competition for internal capital?

MR. JAMES MCCALLUM: I'll -- I'll be

honest, you've -- you've lost me, Mr. Hacault.

MR. ANTOINE HACAULT: Now as I understand the Company's position, I'll take it in little bites.

If this Company ends up paying another three or $5 million a year, and that goes into Manitoba Hydro's coffers, it's going to save the Corporation with respect to that $3 million an average rate of about 2 1/2 percent.

Am I getting that right?

MR. JAMES MCCALLUM: To the extent we receive thr -- well, I -- I'm sorry, Mr. Hacault, I'm having trouble trying to understand where we're going here.

MR. ANTOINE HACAULT: Okay, I'll try and break it down further.

If we compare an increase at 4 percent with an increase at 7.9 percent, the Company is going to be putting into Manitoba Hydro's coffers more money.

Do we get that right so far?

MR. JAMES MCCALLUM: That is correct. We will collect more revenue in that year.

MR. ANTOINE HACAULT: And then I'm using the example that for top consumers which are about a third -- or sorry, 25 percent of your domestic revenue base, it wouldn't be unreasonable to suggest that one (1) of those top consum -- ten (10) consumers would be paying at least $3 million more on its Hydro bill when you compare a 3.95 percent increase versus a 7.9 percent increase.

Are you following me, sir?

MR. JAMES MCCALLUM: Well, I am although I would -- and we don't talk to specific customers but the -- $3 million would be, you know, really maybe say for one (1) customer far beyond the actual increase to them.

MR. ANTOINE HACAULT: I'm not going to get specific because there are customer -- but there are customers that would be experiencing that level of additional increase with respect to your proposed plan, wouldn't they?

MR. JAMES MCCALLUM: And I was just saying we shouldn't use the plural in saying that.

MR. ANTOINE HACAULT: Now let's change that to a six (6) year time period as opposed to just one (1) year, because your plan is for six (6) years.

Then does that and -- uncategorize every consumer in the top ten (10) consumers? Every top consumer would be expected to pay at least $3 million more on its annual bill?

MR. JAMES MCCALLUM: I don't have an answer to that in front me.

THE CHAIRPERSON: Sorry, Mr. -- Mr. Hacault, are you saying $3 million between year one (1) and year six (6)? Or $3 million every year?

MR. ANTOINE HACAULT: At the end of the six (6) year time period, I'm suggesting to this Corporation that after six (6) consecutive 7.9 percent increases, the annual additional payments --

THE CHAIRPERSON: Will be more than in year one (1).

MR. ANTOINE HACAULT: Will be $3 million more than in year one (1).

THE CHAIRPERSON: Okay so that -- that changes your pool of customers. I don't know by how many but --

MR. JAMES MCCALLUM: And -- and neither do I. I would -- I would an -- anticipate that it would bring more than one (1) into that pool. The first year I think roughly brings one (1) into that pool and, you know, the more -- the more years you can -- that quantum of dollars taken over six (6) years will start to capture smaller customers. I mean it just, kind of, math.

CONTINUED BY MR. ANTOINE HACAULT:

MR. ANTOINE HACAULT: But the point is, the Corporation hasn't even done that analysis, has it, as to what it's going to be taking out of the top ten (10) consumers pockets of it plan -- if it's plan gets implemented?

MR. JAMES MCCALLUM: No. What I said is I didn't have it in front of me.

MR. ANTOINE HACAULT: Are you saying there's a document that exists that says that you've analyzed the impact on the ten (10) top consumers in this province of taking out as much money as you're going to be taking out on this six (6) years plan with 7.9 percent increases?

(BRIEF PAUSE)

MR. JAMES MCCALLUM: Yep -- pardon me. I mean, yes, I --I -- and I'm going from recollection. I don't know that we have all of our top consumers but we have looked at the aggregate impact on individual customer electricity bills taken over five (5) or six (6) years of these rate increases.

But it's -- it's -- I think to -- to -- it -- it -- this is a -- a mathematical exercise. If you take somebody's bill this year, and I don't have the figure right front of me, but you can -- you can compound it by 7.9 percent for any number of years and subject to any change in their usage in between, we can calculate what their bill will be.

I don't think there's any -- certainly any secret in this, other than we just don't like to talk about specific customer bills for obvious reasons.

MS. PATTI RAMAGE: I'm just going to jump in.

Mr. Hacault, if you would like numbers like that, we may be up to prepare something, but it -- it can't release any customer information.

MR. ANTOINE HACAULT: I'm not asking for release of cus -- customer information.

As I gather from your response, what the Company is -- could produce, and has looked at, is the numerical effect of the increases.

Is that correct?

MR. JAMES MCCALLUM: Oh yes, Mr. Hacault, it's really at the bottom of every single one of our integrated financial forecasts is accumulative rate impact. And so, you know, taken over -- taken over seven (7) years, inclusive of the 3.36 in -- you know, interim that compounds to a 63 percent cumulative rate increase.

So if somebody's bill was $1000, their bill would be $1600. If somebody's bill was $1 million, their bill would be 1.6 million.

MR. ANTOINE HACAULT: And of what I'm understanding is that the Corporation hasn't done an in-depth analysis of the economic impact of those increases on the business plans of its top consumers.

Is that correct?

MR. JAMES MCCALLUM: Well, it -- that is correct in that we don't -- we're not equipped with the tools and information to do that.

In order to do that, I would need to know the profitability and cost structure of the entire operation. I'd need to know their ability to increase the prices for their goods. I'd need to know their ability to reduce costs elsewhere.

I mean, it's a tall -- tall order of me.

MR. ANTOINE HACAULT: Thank you, sir.

Move on to one (1) or two (2) subjects. I don't know whether it's an appropriate time to break for a bit, or...

THE CHAIRPERSON: I guess the question

is how long you think you would be going on. If it -- if you think it's more than half hour --

MR. ANTOINE HACAULT: I think it's more than half an hour.

THE CHAIRPERSON: Okay we'll -- we'll break for 15 minutes. Thank you.

--- Upon recessing at 2:29 p.m.
--- Upon resuming at 2:54 p.m.

THE CHAIRPERSON: Ms. Ramage...?

MS. PATTI RAMAGE: We're plugging through these. We have an additional undertaking -- response to an undertaking to file. It's transcript page 1,193, Undertaking Number 5, and it's Manitoba Hydro to provide its most current analysis to support the O&A costs in the '17/'18 year forecast, as well as the '18/'19, including the VDP information. And that should be Manitoba Hydro Exhibit 78.

THE CHAIRPERSON: Thank you.

--- EXHIBIT NO. MH-78: Response to Undertaking 5

THE CHAIRPERSON: Mr. Hacault...?

CONTINUED BY MR. ANTOINE HACAULT:

MR. ANTOINE HACAULT: Yes, thank you, Mr. Chairman.

I'll start my questioning with respect to a table or a figure that's at page 15 of 78 of the rebuttal evidence of Manitoba Hydro.

First, am I correct in understanding that this table is based on Manitoba Hydro 16 without all the update information? Including the interim.

MR. JAMES MCCALLUM: No, this is a -- this is -- includes the update. It includes the interim awarded under order 80/'17. And then we're running a forecast based on MH-15 rate increases of 3.95 percent per year, for the year 2018 through to 2027. And we're also including the assumption of a twenty (20) year weighted average term to maturity --

MR. ANTOINE HACAULT: Okay.

MR. JAMES MCCALLUM: -- subject to check with my colleague Ms. Carriere.

MR. ANTOINE HACAULT: And with respect to that, there's two (2) collateral documents that have been produced, which we would request be also updated. It would be PUB Minimum Filing Requirement 55, and Mani -- MIPUG First Round Interrogatories 14B, as in 'Bob'. Those have not been updated with the background information. Could we have that updated, please.

MS. PATTI RAMAGE: Yes. And I can advise we can get that back very quickly. That was something Mr. Bowman had spoken to Ms. Carriere with -- off the record, so we were anticipating that, and have something ready to go. So we can get it back at the end of this afternoon if --

THE COURT CLERK: Is that an undertaking?

MS. PATTI RAMAGE: I don't think it needs to be at this point, although it may be helpful for the record. Let's call it --

THE CHAIRPERSON: If for the record --

MS. PATTI RAMAGE: -- an undertaking so we know what we file -- why we're filing something.

(BRIEF PAUSE)

MS. PATTI RAMAGE: It's an update to PUB-MFR-55 and an update to MIPUG-Manitoba Hydro First Round 14B -- is it First Round?

MR. ANTOINE HACAULT: Correct.

MS. PATTI RAMAGE: First Round 14B.

--- UNDERTAKING NO. 6: Manitoba Hydro to provide updates to PUB-MFR-55 and MIPUG-Manitoba Hydro First Round 14B

CONTINUED BY MR. ANTOINE HACAULT:

MR. ANTOINE HACAULT: Thank you very much for that.

As a precursor to a couple questions in the DSM area, Kristen, could you bring up PUB book of documents, the first book, page 212. Thank you.

Ms. Morrison, could you please explain this graph to the Panel and what it represents.

(BRIEF PAUSE)

MS. LOIS MORRISON: I did not prepare this chart so I'm sure someone will provide me with assistance as I go through it.

But what this chart represents is Manitoba Hydro's projection for firm energy, if you're looking at the bars -- sorry, if you're looking at the line, the line, the solid line, is Manitoba Hydro's projection for firm energy and the dotted line would be Manitoba Hydro's projection for firm energy reduced for the anticipated savings under the DSM program.

The bars would represent -- the dark blue bars would represent the projection for peak, total peak, and the -- if you were to look at the bars in their total that would be the projection for peak.

The blue -- light blue shading on the bars would represent the reduction to that peak as a result of anticipated savings through DSM programs, producing a net peak, which would be represented by the solid blue bar by itself.

MR. ANTOINE HACAULT: Thank you.

MS. LIZ CARRIERE: I'm sorry, I'll just clarify. It was my team that prepared that graph with Ms. Morrison's data.

Can you just confirm for me what -- this was in the book -- book of documents and it's -- it's clearly says, IFF14. Was this from NFAT?

MR. ANTOINE HACAULT: I'd have to look at the Board index but what I wanted --

MS. LIZ CARRIERE: No, it wouldn't have been from NFAT --

MR. ANTOINE HACAULT: No, I think --

MS. LIZ CARRIERE: -- so I'm not sure what the source of this is.

MR. ANTOINE HACAULT: I think it was

from the -- the rate application but that isn't -- this was more a line of questioning to try and inform the Board as to the -- the level of savings that prior plans were looking at.

And as I understand it, if the Board looks at the light blue, they're getting an idea of the type of resource that DSM might represent in Hydro's planning; is that correct?

MS. LOIS MORRISON: Assuming this is based on the IFF14, this would have been -- what we would have been projecting under the, I believe, the '14/'15 DSM plan, subject to check.

So, it would represent what we were anticipating to see in terms of energy and demand reduction on our system and, therefore, would be netting down our overall projection for load going into the future.

MR. ANTOINE HACAULT: And I can confirm having looked at the index, and you can check also, it was part of the 2015 rate application materials.

Could we turn to Manitoba Hydro's presentation which was marked as Exhibit 68 and, in particular, at slide 5. Thank you.

If I go on the right-hand side of the

graph I see a box that says Asset Management and under that there are three (3) arrows, one (1) of which is major projects.

What's included in major projects?

MS. LIZ CARRIERE: That would be Keeyask, MMTP and Bipole III.

MR. ANTOINE HACAULT: So the Minnesota -- Manitoba/Minnesota transmission line, if we're breaking down the acronym MMMP -- T rather.

MS. LIZ CARRIERE: Yes, apologies.

MR. ANTOINE HACAULT: Now, in previous hearings, and some members of the board wouldn't have been part of this, there was talk of an integrated resource plan.

Could someone take the time to explain to this Board with DSM being in mind how DSM is considered a resource in an integrated resource plan.

MR. TERRY MILES: Okay, tag, I'm it. So in -- in -- in an integrated resource plan. Do you want -- can you provide some context on what you mean by "integrated resource plan," or what your perspective is --

MR. ANTOINE HACAULT: Well, let's take it in little bites. Mr. Miles, since you're the elected one I'll pick on you.

The purpose of the general -- the questions that I'm going to ask is to help the Board understand what an integrated resource plan is, number 1; and number 2, how demand-side management is a resource in that plan, which gets considered, amongst all other resource, including major generation stations like Keeyask.

So can you start, firstly, with what an integrated resource plan is.

MR. TERRY MILES: Okay. Well, an -- an integrated resource plan would be a plan, a perspective, a position that would discuss and talk about a number of aspects related to resource planning, generation planning, transmission planning, and otherwise that would put together an aggregate perspective -- I'll be as sort of brief as I -- as I can but...

Put together an aggregate perspective of the need for new resources, the supply of new resources, the cost of those different perspectives and discuss, if you will, the alternatives. Probably the perspectives on those alternatives, and what might be considered as reasonable plans for moving forward with a range of alternatives.

And in the end, you would end up with

likely some recommendations. It -- probably in the near term, midterm and long-term around resource decisions, around all of those -- all of those pieces, the associated risks with those. And -- and any other considerations that you would make around policies, et cetera that might drive choices for those.

So, at a high level that's what I would consider an integrated resource plan. You would probably add or I would add to that, probably where Mr. Hacault was going on, is that you would tend to assess then all the different options, if you will, on somewhat of a level playing field and start from a clean slate and then build the slate out in to the future, with the various options that you could consider.

MR. ANTOINE HACAULT: So can you explain your last sentence by using, for example, Pointe du Bois retrofit increasing, you know, redoing the three (3) -- three (3) units as opposed to the four (4) units and increasing -- or maintaining the capacity of that generating station versus, for example, deciding to spend on DSM programs.

MR. TERRY MILES: Well, I think from that perspective, Mr. Hacault, you're getting way down into the weeds, and -- and I'd -- I'd suggest that's part of a little more around sustaining capital and maintaining the resources that we have as opposed to selecting and considering, if you will, all options that are potentially available for that moving forward.

So, Pointe du Bois would be an existing generating station where we would have significant investment, if you will, in the existing capital, all the structures that are there and now you're talking about doing an incremental investment in that facility to -- to live out really the useful life of that facility -- or the remaining life of that facility.

MR. ANTOINE HACAULT: I didn't intend to get into details that wouldn't help understand. I thought perhaps that bit of discussion between a decision as to whether or not under a new slate you would look at DSM spending, say, if you're going to spend $1.2 billion on that versus $1.2 billion somewhere in generation.

How do you deal with those two (2) resources when you talk about DSM and generation?

MR. TERRY MILES: Well, currently in our -- in our plan, we don't put those two (2) options, if you will, on the -- on the table together. We have our DSM program and maybe Ms. Morrison can --

can weigh in at some point here, but we have our sustaining resources that we have and we have our DSM program that's essentially part of our long-term plan that's been incorporated into that, recognizing the value of both of those.

And I think historically DSM has represented a valuable component to our work and it has been integral, if you will, almost like a base to our overall planning over the long term. For the last -- as long as I've been in anyways in resource planning at Manitoba Hydro.

MS. LOIS MORRISON: I can add to the conversation a little bit. A very -- quite a few years ago we used to provide our resource planning department with two (2) to three (3) options for investing in demand-side management. And they would be represented as different levels of investment. They would have a different cost and a different savings projection.

So just to make them very easy say, level 1 would be projected to say, of a hundred gigawatt hours at a cost of a hundred dollars. Level 2 or -- a million-dollars. Level 2 would be 200 gigawatt hours at $2 million and -- or $250 million and level 3 would be 300 gigawatt hours at the cost of, say, $4 million.

And those analyses would go into the resource planning group and they would look at which one was most economic. Now because of the way we design our programs -- when we design our programs, we are looking at the marginal values that are provided by the resource planning group. And so, we are doing an assessment pre before it even gets to resource planning as to determine whether or not it's economic.

And so what we were finding is that because we were doing that pre-assessment by the time it came back from resource planning, they were telling us, well, Level 3 is most economic. Like, it -- it's the best option.

So over time what evolved was that because of the way our processes were set up, we were no longer providing resource planning with numerous options because of the fact that we were using their marginal values to -- in order to design the programs.

So essentially, as Mr. Miles spoke to, at this point in time leading up to the preparation of the 2016/'17 long-term plan for DSM, we were providing them with what we felt to be as our base DSM plan, which was the -- you know, what -- what -- what is the most ec -- what meets the thresholds for the -- being economic under the total resource class test; what provides the best balance across different customer groups, recognizing that we wanted to make sure that any programming that we did provide did touch on, or at least serve, all residential groups in terms of offerings for residential customers, commercial customers, industrial customers, and particularly with a focus on offering something for low-income customers. So these were the things that went into developing our based DSM plan.

Now, as I mentioned, we have not done that since the '16/'17 year. And so the 2016/'17 long term DSM plan is our most current plan.

MR. ANTOINE HACAULT: Am I understanding Mr. Miles and yourself to explain that the system that currently is being used by Manitoba Hydro in its planning does not treat DSM as a separate resource that starts on that same playing field with other resources?

MR. TERRY MILES: You know, I think in -- in Manitoba Hydro system because of our link to the -- to the export market as well, is that there's inherently been value in -- in reducing, if you will, Manitoba load, and then having programs like DSM that do that and extracting a value from the -- from the marketplace.

And that's helped, if you will, to likely advance the -- the things like DSM over and above our system, which in the long term have that deferral benefit on our resources as we go forward.

More recently, I think as the value in export market is decreasing, in -- it is now opening up that question as to what is the appropriate value or what value might we look at. So historically because of -- I believe and -- and maybe Ms. Morrison will add to this as well, is the -- how much DSM was achievable, if you will, and our -- our system has changed over the last number of -- number of years.

And we've always been -- or I think historically, we've been able to incorporate the amount of DSM that was -- that was basically achievable from the programs and market programs that we have as a base in -- in our overall plan. So we were able to extract value from that without a lot of consideration of the impact on other resources in -- in the system.

So, when you get to the point where those decisions now are -- are less obvious, I think you have to look more closely now at those incremental differences between potential options and -- and I think that's more where we're -- where we are now in our world, and we have to look at that more specifically, and I think that's -- that's where we are in terms of looking at the broader DSM implications on our plan.

And I think likely a lot of the questions and maybe some of the concerns that have been raised by a number in this -- in this process.

MR. ANTOINE HACAULT: I -- not sure if I didn't ask my question clearly enough, so I will try and break it up in one (1) or two (2) little pieces.

Firstly, am I correct in recalling that the Public Utility Board, as a result of the NFAT review, was recommending that DSM be assessed as a separate resource in an integrated resource plan.

Do I have that right?

(BRIEF PAUSE)

MR. TERRY MILES: You know, I think I'd have to look at the specific wordings of the recommendations as to how those were worded and who that was a recommendation to.

My -- I -- I know that there is a recommendation that refers to integrated resource planning -- it was a recommendation of the province of Manitoba as in -- has integrated resource planning been a cornerstone of their energy planning and policy in the province.

I'm not sure that was directed specifically at -- at Manitoba Hydro but I'd have to revisit specifically those recommendations.

MR. ANTOINE HACAULT: That's fine. I think the -- we've got that letter on the record, so we can refer to -- to that on the record.

But in integrated resource planning if we started with a clean slate, as you described initially, am I correct that you might approach DSM as a separate resource and decide whether or not and to what extent you use that as a resource as opposed to a new generating station?

MR. TERRY MILES: So I suppose that that was an option, on going forward, we could -- we could do that. Yes.

MR. ANTOINE HACAULT: Thank you. The next subject which I'd like to have some high-level discussions just to clean up some of the discussions which were occurring as depreciation.

Now depreciation -- and anybody can answer this -- this is a non-cash item. Correct?

MS. SANDY BAUERLEIN: Depreciation itself is a non-cash item. The expenditure to build or construct the asset requires the cash.

MR. ANTOINE HACAULT: Thank you for that.

And the expense, as was explained in some previous responses, is recovered in rates through depreciation which shows up as an expense in the revenue requirement exercise. Correct?

MS. SANDY BAUERLEIN: Correct. The cost to construct an asset is depreciated over the life of the asset and recovered -- or in -- in revenue requirement to depreciation expense.

MR. ANTOINE HACAULT: And you've used that it's recovered over the life so that if we have a component of the generating station that has a sixty (60) year life, there would be a sixty (60) year depreciation table applied to that asset, and over those sixty (60) years the cost would be recovered through depreciation in rates. Correct?

MS. SANDY BAUERLEIN: There would be a depreciation rate established for that component grouping. Again, when you build -- when you construct an asset a pro -- there's a project that usually has multiple asset component groups which will be recovered over various different time frames. And those different components within that overall asset, some might have shorter lives, some might have longer lives but they -- those costs are eventually recovered through the depreciation.

MR. ANTOINE HACAULT: And irrespective of whether it's the average service life method or the equal group life method, both methods have the same life for the asset. Correct?

(BRIEF PAUSE)

MS. SANDY BAUERLEIN: They have the same service life, yes. I'll -- I'll agree with that.

MR. ANTOINE HACAULT: And until the Corporation transitioned to IFRS, the Corporation used the average service life method over that time -- or over a number of decades, but it was a CGAAP version of that average service life; is that correct?

MS. SANDY BAUERLEIN: The average service life method is a method that takes the average service life for a component group of assets, and it takes that over the average service life of the asset. And so, under Canadian GAAP it was the level of component grouping that is different than under international financial reporting standards.

MR. ANTOINE HACAULT: And just to be clear, in response to my question, it was this average service life method under CGAAP that was used for decades by Manitoba Hydro, for example, that applied to the Limestone facilities and all the other facilities that Manitoba Hydro built. Correct?

MS. SANDY BAUERLEIN: We use the average service life method while the Corporation was under Canadian Generally Accepted Accounting Principles which prior to up -- which is what the Corporation was using up until 2014/'15 when it was required to transition to International Financial Reporting Standards.

MR. ANTOINE HACAULT: And I take it then you're agreeing that that is the method that was used for decades?

MS. SANDY BAUERLEIN: Yes.

MR. ANTOINE HACAULT: Okay. And the discussion, which I won't get into, is that there was a direction by the Public Utilities Board for the Corporation to produce an average service life method that was compliant with IFRS standards.

And that's what's still outstanding, correct?

MS. SANDY BAUERLEIN: The Corporation had the -- a -- for the directive, we were to -- we are still compliant with the directive. The directive said we could defer the difference between the Canadian GAAP average service life method and the IFRS equal life group method until such time as the Corporation was able to provide an IFRS average service life depreciation study.

MR. ANTOINE HACAULT: Mr. Chairman, members of the Board, I think the balance of my cross-examination would be better conducted with the book that I was proposing to have distributed.

I don't want to get into the same situation as I did with the transcript, so, I would propose that I would resume tomorrow morning after Dr. Williams who is going to be asking questions of Mr. Cormie.

THE CHAIRPERSON: That's fine. We appreciate you proceeding, Mr. Hacault, and I -- I assume that you'll be distributing the information in relation to the transcript and other matters to Manitoba Hydro as soon as possible so they can review it prior to any further cross-examination by you tomorrow?

MR. ANTOINE HACAULT: Correct.

THE CHAIRPERSON: Thank you. Okay we'll adjourn until 9:00 a.m. tomorrow morning. Thank you.

--- Upon adjourning at 3:24 p.m.

Certified Correct

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Cheryl Lavigne, Ms.